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Study on ELD Effectiveness: Scope and Exceptions

Katherine Salès, Shailendra Mudgal, Valerie Fogleman

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Abstract

The Environmental Liability Directive (ELD) requires operators whose activities cause an imminent threat of, or actual, environmental damage, to prevent or remediate the damage. There are three categories of environmental damage; land, water, and protected species and natural habitats damage, each with a “significance threshold”.

Strict liability is imposed for all environmental damage caused by activities listed in Annex III; fault-based liability is imposed for non-Annex III activities, but only for biodiversity damage. The ELD has resulted in a complex patchwork of liability laws across the EU with various degrees of stringency due, among other things, to optional provisions in the ELD.

This study analyses six key issues: the extent to which strict liability should be applied; the categorisation of environmental damage; the significance thresholds for land and water damage; the optional defences; the exclusion for marine and nuclear Conventions and, potentially, other international instruments.

The study focuses on the simplification, streamlining and harmonisation of the complexities of the ELD, taking into account the mandatory criteria for Commission evaluations (relevance, effectiveness, efficiency, EU-added value, and coherence). Based on the analysis, the study suggests options that the European Commission may wish to consider as a priority in a possible future revision of the ELD.

La Directive sur la Responsabilité Environnementale (DRE) exige des exploitants dont les activités causent un dommage environnemental ou une menace imminente d'un tel dommage de prévenir ou réparer ce dommage. Il existe trois catégories de dommages environnementaux : les dommages aux sols, aux eaux et aux espèces et habitats naturels protégés, chacun ayant un « seuil de gravité ».

La responsabilité sans faute s'impose à tous les dommages environnementaux causés par les activités visées à l'Annexe III ; la responsabilité sans faute s'applique aux activités non visées à l'Annexe III, mais uniquement en ce qui concerne les dommages à la biodiversité. La DRE a donné lieu à une mosaïque complexe de lois sur la responsabilité à travers l'UE avec différents degrés d'exigence en raison, entre autres, des dispositions facultatives de la DRE.

Cette étude analyse six questions clés: la mesure dans laquelle la responsabilité sans faute doit être appliquée; la catégorisation des dommages environnementaux, les seuils de gravité pour les dommages affectant les sols et les eaux, les défenses optionnelles; l'exclusion des Conventions maritimes et nucléaires et, potentiellement, d'autres instruments internationaux.

L'étude met l'accent sur la simplification, la rationalisation et l'harmonisation de la complexité de la DRE, en tenant compte des critères obligatoires pour les évaluations de la Commission (pertinence, efficacité, efficience, valeur ajoutée de l'UE et cohérence). Sur la base de cette analyse, l'étude suggère des options que la Commission européenne pourrait envisager comme une priorité dans une éventuelle révision future de la DRE.

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Executive summary

This study on ELD Effectiveness: Scope and Exceptions analyses the following six fundamental issues in the implementation of the Environmental Liability Directive (ELD, 2004/35/CE):

- The scope of strict liability;
- The scope of environmental damage;
- The appropriateness of the “severity / significance thresholds” for land and water damage;
- The application of the permit and state-of-the-art defences;
- The application of the marine and nuclear international Conventions specified in Annexes IV and V of the ELD; and
- The possible eligibility and/or need to incorporate other international instruments into Annexes IV and V.

The legal analysis was carried out by examining and analysing the ELD, other European Union (EU) environmental legislation, legislation that transposed the ELD into the national law of Member States, existing environmental legislation in Member States, the International Maritime Organisation (IMO) Conventions and other marine Conventions, nuclear Conventions, relevant environmental law of non-EU States such as the USA, and various books, articles and other commentaries. The analysis also drew on the summaries prepared for the European Commission on the transposition of the ELD into the national law of 27 Member States.¹

The empirical analysis was carried out through a literature review, an expert/stakeholder consultation, and, whenever possible, case overviews for each of the above six issues. It also takes into account the 2013 study on Implementation challenges and obstacles of the ELD, which included an empirical analysis and already identified obstacles to the effective implementation of the ELD, reports prepared by Member States and submitted to the European Commission pursuant to Article 18(1) of the ELD, the training materials developed for the Commission,² and the results of the 2nd ELD Stakeholder Conference of 11 June 2013.³

Emphasis was placed on the five mandatory criteria to be considered in Commission evaluations (relevance, effectiveness, efficiency, EU-added value, and coherence), and harmonisation, streamlining and simplification of the ELD regime. Based on the study, suggestions are made to the European Commission on options which the Commission may wish to give priority in a possible future revision of the ELD.

¹ See BIO Intelligence Service (2013), Implementation challenges and obstacles of the Environmental Liability Directive, Final report prepared for European Commission – DG Environment, Annex – Part A: Legal analysis of the national transposing legislation. In collaboration with Stevens & Bolton LLP. Available at <http://eldimplement.biois.com/>; Stevens & Bolton LLP, Study on Analysis of integrating the ELD into 11 national legal frameworks, Final Report prepared for the European Commission – DG Environment (2013).

² See http://ec.europa.eu/environment/legal/liability/eld_training.htm

³ 2nd ELD Stakeholder Conference Brussels, Evaluating the experience gained in the ELD implementation, 11 June 2013. Available at http://ec.europa.eu/environment/legal/liability/eld_conf_11_06_2013.htm

Analysis of the scope of strict liability

The liability system under the ELD is two-fold. Strict liability is imposed on Annex III operators for damage caused by their activities to land, water, and species and natural habitats protected by the Birds and Habitats Directives and, at the option of Member States, nationally-protected species and natural habitats (biodiversity damage). Fault-based liability is imposed on non-Annex III operators for biodiversity damage. The two-fold approach is based on the tort concept in which “dangerous activities” are subject, in some Member States, to strict liability whilst “non-dangerous activities” are subject to fault-based liability.

Most Member States adopted the two-fold approach whilst some transposed the ELD more stringently by: including additional activities in Annex III; extending strict liability to biodiversity damage from non-Annex III activities; or extending the definition of an operator to all (economic) operators in combination with non-transposition of Annex III.

The Commission may wish to consider as an option for priority in a possible future revision of the ELD, extending strict liability to non-Annex III activities, either only for biodiversity damage or for all environmental damage. The extension of strict liability for biodiversity damage would further a basic objective of the ELD: reducing the loss of biodiversity in the EU. Studies show that biodiversity is damaged by agriculture, forestry, fisheries, and alien species,⁴ as well as other non-Annex III activities. Extending strict liability would not conflict with existing national legislation due to the absence of legislation imposing strict liability for biodiversity damage in most Member States. The extension would, thus, fill a gap in Member State national legislation.

Extending strict liability to non-Annex III activities that cause land and water damage could make the ELD more effective, and would promote the polluter pays principle because it would make it more likely that polluters would pay the cost of remediating environmental damage caused by their activities. Deletion of Annex III would also simplify and streamline the ELD by removing the need to determine whether new versions of legislation in Annex III exist and whether an activity is subject to the detailed legislation in Annex III.

The Commission may, alternatively, wish to consider as a priority in a possible future revision of the ELD, extending the list of activities in Annex III to include additional activities such as the pipeline transport of dangerous substances, mining, and invasive alien species.

The spill of oil from a pipeline in *Coussouls de Crau*, France, into a Natura 2000 area highlighted the need for strict liability for environmental damage from pipelines. Adding the transport of substances by pipelines outside installations to Annex III would further the polluter pays principle by internalising the cost of remediating damage as well as furthering the ELD’s objective to halt the loss of biodiversity in the EU.

Many, but not all, mining activities are subject to Annex III legislation. This legislation is generic rather than specific to mining. In view of the environmental damage caused by the Talvivaara mine in Finland in 2012, the Commission may wish to consider as a priority in a possible future revision of the ELD, extending Annex III specifically to mining or to other activities associated with mining.

The Commission may also wish to consider as a priority in a possible future revision of the ELD, adding activities concerning invasive alien species to Annex III. Doing so would assist in preventing harm to human health and property, and in halting the loss of biodiversity in the EU.

⁴ See Sub-Group on the Scope and Objectives of the No Net Loss Initiative, Working Group of No Net Loss of Ecosystems and their Services, Scope and Objectives of the No Net Loss Initiative, p. 13, para 37 (final version, 12 July 2013). Available from http://ec.europa.eu/environment/nature/biodiversity/nnl/index_en.htm

The study does not make any recommendations on shale gas operations due to the Commission's Recommendation that "Member States should apply the provisions on environmental liability to all activities taking place at an installation site including those that currently do not fall under the scope of [the ELD]"⁵.

The study does not suggest that the Commission considers as a priority in a possible future revision of the ELD, reducing the scope of Annex III; doing so would not further the polluter pays principle.

Analysis of the scope of environmental damage

The ELD divides environmental damage into three categories: land, water, and biodiversity damage. The administrative legislation for environmental damage in most Member States, however, does not differentiate between damage to land, water, or fauna and flora (or biodiversity). Instead, it imposes liability for the prevention and remediation of the risk of, or actual, damage (harm) to human health and the environment. The categorisation of environmental damage in the ELD also differs from other EU legislation, which generally refers to harm to human health and the environment, resulting in a further divide between the ELD and other environmental legislation. Further, legislation in most Member States does not exclude air because the "environment" to which it refers includes air.

Most Member States impose liability for remediating contaminated land (especially contamination by historic pollution), as well as water, particularly groundwater. Some Member States impose liability for remediating environmental damage in general, including land, water, and flora and fauna. A limited number of Member States impose liability for restoring flora and fauna dependent on the aquatic environment. Some Member States impose liability for restoring protected species and natural habitats if they are damaged by an illegal act or following a conviction. Only Germany imposes liability for complementary remediation, but only for biodiversity, not water, damage.

Due to the above differences, the legislation that transposed the ELD into the national law of Member States frequently creates a divide between national legislation for the remediation of land and water damage. There is generally no divide between the ELD and national legislation imposing liability for preventing and remediating biodiversity because such legislation is minimal or non-existent in most Member States.

The categorisation of environmental damage in the ELD has led to a complex liability system. The Commission may wish to consider as a priority in a potential future revision of the ELD, revising the categorisation to simplify and streamline the ELD to make it more effective.

The Commission may also wish to consider as a priority in a possible future revision of the ELD, including air damage in the ELD. Although air cannot be remediated in the same way as land and water, that is, by removing pollutants, measures can be carried out to prevent harm to human health from airborne pollutants (e.g. by extinguishing a fire) as well as preventing other types of environmental damage.

Although including flora and fauna that is not protected by legislation would fill a gap because most national legislation does not include such liability, extending the ELD to include such damage would be difficult due to the need to establish significance thresholds. An extension for landscapes, seascapes, cultural buildings and ancient monuments would also cause problems in determining significance thresholds. Further, no Member State has included them in its transposing legislation.

⁵ Commission Recommendation of 22 January 2014 on minimum principles for the exploration and production of hydrocarbons (such as shale gas) using high volume hydraulic fracturing, section 12.1 (C(2014) 267/3).

Analysis of the appropriateness of the significance thresholds for land and water damage

The ELD must contain “significance thresholds” for each of the three categories of environmental damage because it imposes liability if, and only if, the significance threshold is exceeded.

The thresholds for an imminent threat of, and actual, environmental damage are, however, problematic due to the often lengthy assessment needed to establish whether they have been exceeded, particularly for water and biodiversity damage. Further, the ELD defines an “imminent threat” narrowly. The potential thus arises that operators are not notifying competent authorities when their activities cause an imminent threat of, or actual, environmental damage because it is impossible to know if the damage is subject to the ELD.

The Commission may wish to consider as a priority in a possible future revision of the ELD, lowering the threshold for an imminent threat of environmental damage. Such a revision would not lower the threshold for long-term remedial measures because an operator is not required to carry these out until the competent authority has determined the nature and extent of the measures to be carried out. The revision would not, therefore, lower the threshold for primary, complementary or compensatory remediation, because they apply only to long-term remedial measures.

The ELD does not specify the degree of harm to human health that exceeds the threshold for land damage. The transposing legislation has resulted in overlaps with existing legislation, especially in Member States that already had well-developed regimes to remediate contaminated land when they transposed the ELD. Many of these regimes include the remediation of groundwater pollution.

The Commission may wish to consider as a priority in a possible future revision of the ELD, defining land damage to include groundwater damage (and, perhaps, other water damage) due to the close relationship between them. The development of EU-wide “trigger levels” for soil pollutants (that is, concentrations of chemicals at which soil or water must be remediated) does not appear to be a priority because a substantial number of Member States have adopted varying levels. Any EU-wide level would, therefore, be at variance with at least some existing levels. It would also be difficult, if not impossible, to establish a single level for a chemical across the EU due to differences including the mineralogy of soil, depth of water tables, and background levels of contaminants.

Raising the remediation standard for land to a comparable level for water and biodiversity damage would necessitate re-defining the term “land damage”. Such a re-definition would, however, necessitate differentiating soil from groundwater, which could lead to problems in implementing and enforcing the ELD due to the close relationship between the two types of environmental media. The Commission may wish to consider as a priority in a possible future revision of the ELD, examining the relationship between land and groundwater (and other waters) in respect of liability for preventing and remediating damage to them as a preliminary task in this respect.

The definition of water damage in the ELD refers to criteria concerning the status of surface and ground water bodies in respect of a key objective of the Water Framework Directive (2000/60/EC); reaching good water status by 2015. The definition is, thus, based on the management plan for waters in the EU. In a somewhat similar manner, the definition of water damage for marine waters is based on the management plan for achieving or maintaining good environmental status of marine waters by 2020.

It is questionable whether a significance threshold for the ELD should be based on a management plan for achieving an objective. The threshold for a liability regime should be easy to understand and quick to determine. The Commission may, thus, wish to consider as a priority in a possible future revision of the ELD, revising the threshold for water damage.

The Commission may also wish to consider as a priority in a possible future revision of the ELD, clarifying or revising the definition of water damage. Some Member States have interpreted the definition to refer to water bodies; others have interpreted it to refer to waters under the Water Framework Directive. Both interpretations cause problems. In particular, the water body approach results in the ELD not applying to many areas of the EU due to the large size of water bodies, and non-application of the ELD to unclassified waters and water bodies with the lowest status.

Analysis of the application of the permit and the state-of-the-art defences

Fourteen Member States adopted the permit defence with no exceptions. Fifteen Member States adopted the state-of-the-art defence with no exceptions. Some Member States adopted variants whilst others did not adopt either defence. The permit defence has been used only once according to the Article 18(1) Member State reports; no Member State has used the state-of-the-art defence.

Whilst a revision of the ELD would make the defences mandatory and help create a level playing field across the EU, it would lower the high level of protection of the environment in Member States that have not adopted the defences or that have adopted variants of them on the basis of reasonableness. There is, thus, a strong argument against such a revision because it would be contrary to Article 191(2) of the TFEU.

Another way of helping to create a level playing field would be to delete the defences from the ELD. Rather than being contrary to Article 191(2), this approach would accord with it because it would promote the polluter pays principle. Such a revision would also be effective from the law and economics approach.

Including the defences as mitigating factors was rejected during the legislative history of the ELD. Whilst some Member States have transposed the ELD to include mitigating factors, it would further differentiate the ELD from existing national legislation in Member States that do not have such considerations. It could thus lead to less application of the ELD than at present which would not further the objectives of the ELD.

A further option would be to include the defences as exemptions. As with making the defences mandatory, however, such a revision would lower the high level of protection of the environment in Member States that have not adopted the defences or that have adopted variants of them on the basis of reasonableness. There is thus a strong argument against such a revision because it would be contrary to Article 191(2) of the TFEU.

The research carried out in the framework of this study found many other reasons why the defences should not be made mandatory or be revised as either mitigating factors or exemptions. A particular criticism against retaining the defences is that both defences, in particular the permit defence, favour large companies and, thus, disfavour SMEs. We recommend, therefore, that the Commission may wish to consider as a priority in a possible future revision of the ELD, deleting the optional defences.

Analysis of the application of the international Conventions and instruments listed in Annexes IV and V of the ELD

The ELD is unclear whether the marine and nuclear Conventions are excluded entirely if an incident occurs in a Member State in which the relevant Convention has been implemented or whether the ELD is excluded only to the extent that environmental damage is not covered by the Convention. The Commission may wish to consider as a priority in a future possible revision of the ELD, clarifying the extent of the exclusion.

The research identified the following key reasons for considering the deletion of the exclusions.

- The Conventions are compensation regimes and, thus, less proactive than the ELD in remediating environmental damage.
- Their primary focus is human interests; biodiversity damage is a secondary concern;
- They do not include complementary or compensatory remediation.
- Their coverage of environmental damage may be limited to pure economic loss, in which case they do not cover primary remediation.
- The term “incident” in them is arguably higher than the significance threshold in the ELD.
- They limit liability, which is contrary to the polluter pays principle. They do, however (unlike the ELD), impose mandatory financial security to ensure compensation for claims (which may be limited to claims for bodily injury, property damage and economic loss).

Further the exclusion for the Conventions means that the marine shipping and nuclear sectors are subject to less liability under the ELD than other industrial sectors, in particular, energy sectors.

There is a paradox in the Annexes IV and V Conventions in that compensation is available for minor environmental damage because it can be fully reinstated, but is not available for severe irreparable damage because it is impossible to reinstate it. This paradox means that the Conventions apply to less environmental damage than the ELD, in particular, the most severe environmental damage.

The decision makers under the Conventions raise issues. The entity that decides whether the 1992 Fund Convention covers a claim is the Fund, not a competent authority, leading to an argument that the decision maker is acting, at least in part, on behalf of commercial interests not the public. Further, the decision maker concerning the significance threshold and the extent of environmental damage under the nuclear Conventions is a court; it is thus impossible to define these fundamental issues with any clarity.

A further reason for considering whether to revise the exclusion for the Annex IV Conventions to include the remediation of environmental damage in the marine environment would be to help resolve the conflict between application of the IMO Conventions and the ELD if a claim for environmental damage exceeds the limit of liability in the Convention. That is, it is not unforeseeable that a case may arise such as that which arose under the Waste Framework Directive following the oil spill from the *Erika*, in which the Court of Justice of the European Union concluded that a public authority was entitled to reimbursement for costs incurred in remediating oil pollution by the seller-charterer of the *Erika* when the authority’s claim exceeded the limit of liability of the relevant Convention. These conclusions were followed by the French Cour de cassation.

One overriding reason for considering whether to delete the exclusions is the absence of liability for pure ecological damage, which is contrary to the fundamental principle of the ELD and prohibits the effective prevention and remediation of biodiversity in the marine and coastal environment of the EU. Our research indicated that a major, if not the main, reason why the marine Conventions do not include pure ecological damage is that it was considered difficult to quantify the damage in monetary terms. If the main reason for the IMO having decided not to expand the Conventions to include compensation for pure ecological damage was the lack of methodologies to quantify it, that reason no longer exists. As part of the introductory studies for the ELD, the Commission commissioned studies to assess and quantify environmental damage. The methodologies are sufficiently sophisticated to include “pure” environmental damage as a separate head of liability under the Conventions in the knowledge that such damage is quantifiable. Adopting the separate

head of environmental damage, through for instance a revision of the IOPC Fund's Claims Manual, would lessen the gap between the Conventions and the ELD.

Opinion is polarised, however, as to whether the ELD should be revised to remove the exclusions, especially for the Annex IV Conventions. The many complex issues surrounding the relationship between the IMO Conventions and the ELD mean that any potential revisions to their exclusion from the ELD must be carefully considered and made if, and only if, the reasons for doing so override the reasons for retaining the exclusion.

The Commission may wish to consider as a priority in a future possible revision of the ELD, entering into discussions with the IMO to clarify the scope of the Conventions and their overlap (or not) with the ELD with a view to resolving their extent in respect of the ELD.

The Commission may also wish to consider as a priority in a possible future revision of the ELD, clarifying the scope of cover for environmental damage provided by the nuclear Conventions. Discussions with the nuclear insurance pools would be necessary to ensure the continued provision of insurance if the exclusion is removed.

Additional reasons for considering whether to delete the exclusions for the nuclear Conventions are the wide range of liability limits and other variances in them across the EU. Further, the amount of compensation payable by the public under the nuclear Conventions increased following their revision after Chernobyl, which is contrary to the polluter pays principle. Still further, not all Member States have signed or ratified the Conventions, leading to different levels, standards and scopes of liability across the EU.

The Commission may also wish to consider as a priority in a future possible revision of the ELD deleting Article 4(3) concerning the limitation of liability for the LLMC and CLNI Conventions. These Conventions cover only claims for bodily injury, property damage and economic loss; there is no need for them to be mentioned in the ELD.

Analysis of the possible incorporation of other international instruments into Annex IV or V

The study does not suggest that the Commission as a priority in a possible future revision of the ELD, considers whether to exclude the following international instruments from the ELD: the Offshore Protocol to the Barcelona Convention for the protection of the marine environment and coastal region of the Mediterranean; the Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters; and the Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety. The last two have not entered into force, none of the instruments is as broad as the ELD, and they set guidelines, not binding rules, which could lead to parties to them adopting limited liability only.

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Résumé

La présente étude sur l'Efficacité de la DRE : Champ d'application et Exceptions analyse six questions fondamentales dans le cadre de la mise en œuvre de la Directive sur la Responsabilité Environnementale (DRE, 2004/35/CE). Ces questions sont :

- Le champ d'application de la responsabilité sans faute ;
- Le champ du dommage environnemental ;
- La pertinence des seuils de gravité pour les dommages affectant les sols et les eaux ;
- L'application des exceptions pour respect de l'autorisation d'exploitation et pour risque de développement (au regard de l'état des connaissances scientifiques et techniques au moment où l'émission ou l'activité a eu lieu) ;
- L'application des Conventions internationales maritimes et nucléaires citées dans les Annexes IV et V de la DRE ; et
- La possible éligibilité et/ou nécessité d'intégrer d'autres instruments internationaux dans les Annexes IV et V.

L'analyse légale a consisté en l'examen et l'analyse de la DRE, d'autres législations environnementales de l'Union européenne (UE), les législations ayant transposées la DRE dans le droit national des Etats membres, la législation environnementale en vigueur dans les Etats membres, les Conventions de l'Organisation maritime internationale (OMI) et d'autres Conventions maritimes, les Conventions internationales nucléaires, d'autres législations environnementales pertinentes d'Etats autres que ceux de l'UE tels que les Etats Unis, ainsi que de nombreux ouvrages, articles et autres commentaires. Cette analyse s'est également appuyée sur les résumés préparés pour la Commission européenne relatifs à la transposition de la DRE dans le droit national de 27 Etats membres.⁶

L'analyse empirique a été réalisée à travers l'examen de la littérature disponible, la consultation d'experts et de parties prenantes et, lorsque cela était possible, la revue de cas pour chacune des six problématiques exposée ci-dessus. Cette analyse tient également compte de l'étude de 2013 sur les difficultés et obstacles à la mise en œuvre de la DRE, laquelle comprenait une analyse empirique et avait déjà identifié des obstacles à la mise en œuvre effective de la DRE, les rapports préparés par les Etats membres et soumis à la Commission européenne en vertu de l'Article 18(1) de la DRE, le support de formation développé par la Commission européenne,⁷ ainsi que les résultats de la 2^e Conférence des parties prenantes sur la DRE du 11 juin 2013.⁸

⁶ Voir BIO Intelligence Service (2013), *Implementation challenges and obstacles of the Environmental Liability Directive, Final report prepared for European Commission – DG Environment*. En collaboration avec Stevens & Bolton LLP. <http://eldimplement.biois.com/>; Stevens & Bolton LLP, *Study on Analysis of integrating the ELD into 11 national legal frameworks, Final Report prepared for the European Commission – DG Environment* (2013).

⁷ Voir http://ec.europa.eu/environment/legal/liability/eld_training.htm

⁸ 2^e Conférence des parties prenantes sur la DRE, Bruxelles (2nd ELD Stakeholder Conference), *Evaluating the experience gained in the ELD implementation*, 11 juin 2013. Disponible sur http://ec.europa.eu/environment/legal/liability/eld_conf_11_06_2013.htm

L'accent a été mis sur les cinq critères obligatoires pris en compte lors des évaluations réalisées par la Commission européenne (pertinence, efficacité, efficience, valeur ajoutée de l'UE et cohérence), ainsi que l'harmonisation, la rationalisation et la simplification du régime de la DRE. Sur la base de la présente étude, des options sont suggérées à la Commission européenne que celle-ci pourrait choisir de définir comme prioritaires lors d'une éventuelle révision future de la DRE.

Analyse du champ d'application de la responsabilité sans faute

Le régime de responsabilité établi par la DRE est double. La responsabilité sans faute s'impose aux exploitants des activités visées à l'Annexe III de la DRE pour les dommages causés par leurs activités aux sols, eaux, espèces et habitats naturels protégés par les Directives Oiseaux et Habitats et, à la discrétion des Etats membres, aux espèces et habitats protégés au niveau national (dommage à la biodiversité). La responsabilité pour faute s'impose aux exploitants d'activités non visées à l'Annexe III de la DRE pour tout dommage à la biodiversité. Cette double approche se fonde sur les principes de responsabilité civile en vertu desquels les « activités dangereuses » sont soumises, dans certains Etats membres, à une responsabilité sans faute et les « activités non dangereuses » à une responsabilité pour faute.

La plupart des Etats membres ont adopté cette double approche bien que certains aient transposé la DRE de manière plus stricte, notamment en incluant des activités supplémentaires au sein de l'Annexe III, en étendant la responsabilité sans faute pour dommage à la biodiversité à des activités n'étant pas listées à l'Annexe III ou en élargissant la définition d'exploitant à tout exploitant (économique) en le conjuguant à la non-transposition de l'Annexe III.

La Commission pourrait envisager comme option prioritaire, dans le cadre d'une éventuelle révision future de la DRE, d'étendre la responsabilité sans faute aux activités non listées à l'Annexe III, pour les dommages causés à la biodiversité uniquement ou bien pour tout dommage environnemental. L'extension de la responsabilité sans faute aux dommages causés à la biodiversité renforcerait un des objectifs premiers de la DRE : réduire la perte de biodiversité au sein de l'UE. Des études montrent que la biodiversité est détériorée par l'agriculture, l'exploitation forestière, la pêche et les espèces exotiques,⁹ ainsi que par des activités non visées à l'Annexe III. Etendre la responsabilité sans faute ne serait pas en conflit avec les législations nationales existantes étant donné l'absence, dans la plupart des Etats membres, de législation imposant une responsabilité sans faute pour les dommages causés à la biodiversité. Un tel élargissement permettrait ainsi de combler un vide présent dans le droit des Etats membres.

Etendre la responsabilité sans faute aux activités non visées à l'Annexe III pouvant causer des dommages aux sols et aux eaux permettrait de rendre la DRE plus efficace et favoriserait la mise en œuvre du principe « pollueur-payeur ». Une telle extension tendrait en effet à assurer le paiement par les pollueurs des coûts de réparation des dommages causés par leurs activités. La suppression de l'Annexe III pourrait aussi simplifier et rationaliser la DRE, en mettant fin à la nécessité de déterminer s'il existe de nouvelles versions des législations visées à l'Annexe III et si une activité est soumise à la législation détaillée qui y figure.

La Commission pourrait, de manière alternative, envisager comme une priorité, dans le cadre d'une éventuelle révision future de la DRE, d'élargir la liste des activités de l'Annexe III afin d'y inclure des activités supplémentaires telles que le transport par canalisation de substances dangereuses, les activités minières, et les espèces exotiques envahissantes.

⁹ Voir Sub-Group on the Scope and Objectives of the No Net Loss Initiative, Working Group of No Net Loss of Ecosystems and their Services, Scope and Objectives of the No Net Loss Initiative, p. 13, para 37 (final version, 12 July 2013). Disponible sur http://ec.europa.eu/environment/nature/biodiversity/nnl/index_en.htm

Le déversement de pétrole d'une canalisation dans la plaine des Coussouls de Crau en France, une zone Natura 2000, a démontré la nécessité d'une responsabilité sans faute pour les dommages environnementaux causés par les canalisations. Ajouter à l'Annexe III le transport de substances par canalisation en dehors des installations renforcerait le principe « pollueur-payeur », en internalisant les coûts de réparation des dommages, et réaffirmerait l'objectif de la DRE d'enrayer la perte de biodiversité au sein de l'UE.

De nombreuses activités minières (mais pas toutes) sont soumises à l'Annexe III de la DRE. Cette législation est générique plutôt que spécifique à l'activité minière. Compte tenu du dommage environnemental causé par l'accident de la mine de Talvivaara en Finlande en 2012, la Commission pourrait envisager comme une priorité, dans le cadre d'une éventuelle révision future de la DRE, d'élargir l'Annexe III pour y inclure l'activité minière ou d'autres activités liées à cette dernière.

La Commission pourrait également envisager, dans le cadre d'une éventuelle révision future de la DRE, l'inclusion des activités concernant les espèces exotiques envahissantes au sein de l'Annexe III. Cela contribuerait à renforcer la prévention contre les atteintes à la santé humaine, à la propriété ainsi qu'à la perte de biodiversité dans l'UE.

Cette étude ne fait aucune recommandation quant à l'exploitation du gaz de schiste, eu égard à la Recommandation de la Commission selon laquelle « les Etats membres devraient appliquer les dispositions sur la responsabilité environnementale à toutes les activités menées sur le site d'installation, y compris celles ne relevant pas actuellement du champ d'application de la [DRE] ». ¹⁰

Cette étude ne suggère pas que la Commission considère comme une priorité, dans le cadre d'une éventuelle révision future de la DRE, de réduire le champ d'application de l'Annexe III. En effet, cela ne renforcerait pas le principe « pollueur-payeur ».

Analyse du champ du dommage environnemental

La DRE divise le dommage environnemental en trois catégories : les dommages aux sols, aux eaux et à la biodiversité. Cependant, dans la plupart des Etats membres, le régime de droit administratif applicable aux dommages à l'environnement ne distingue pas entre les dommages aux sols, aux eaux ou à la faune et la flore (ou à la biodiversité). Ce régime impose à la place une responsabilité pour la prévention et la réparation du dommage, ou d'une menace imminente de dommage, à la santé et à l'environnement. Cette catégorisation du dommage environnemental dans la DRE se distingue également des autres législations de l'UE, qui font généralement référence à l'atteinte à la santé humaine et à l'environnement, ce qui constitue une différence supplémentaire entre la DRE et les autres législations environnementales. De plus, la législation nationale de la plupart des Etats membres n'exclut pas l'air, « l'environnement » auquel ces lois font référence incluant cet élément.

La plupart des Etats membres ont un régime de responsabilité pour la remédiation des sols pollués (en particulier dans les cas de contamination par pollution historique), ainsi que des eaux, notamment les eaux souterraines. Certains Etats membres établissent un régime de responsabilité afin de réparer le dommage environnemental en général, en ce inclus les dommages aux sols, aux eaux, à la faune et à la flore. Un nombre limité d'Etats membres imposent un mécanisme de responsabilité visant à restaurer la flore et la faune qui dépendent d'un environnement aquatique.

¹⁰ Recommandation de la Commission du 22 janvier 2014 relative aux principes minimaux applicables à l'exploration et à la production d'hydrocarbures (tels que le gaz de schiste) par fracturation hydraulique à grands volumes, section 12.1 (C(2014) 267/3), adoptée le 25 janvier 2014.

Certains Etats membres exigent de restaurer des espèces protégées et des habitats naturels s'ils subissent un dommage causé par un acte illégal ou à la suite d'une condamnation. Seule l'Allemagne impose une réparation complémentaire, mais uniquement pour les dommages à la biodiversité et non ceux affectant les eaux.

Compte tenu des différences mentionnées ci-dessus, les législations ayant transposé la DRE dans le droit national des Etats membres créent fréquemment une division avec la législation nationale pour la réparation des dommages aux sols et aux eaux. Il n'y a généralement pas de fossé entre la DRE et la législation nationale établissant la responsabilité pour la prévention et la réparation des dommages à la biodiversité, une telle législation étant minimale ou non existante dans la plupart des Etats membres.

La catégorisation des dommages à l'environnement au sein de la DRE a créé un système de responsabilité complexe. La Commission pourrait envisager comme une priorité, dans le cadre d'une éventuelle révision future de la DRE, la révision de cette catégorisation en vue de simplifier et rationaliser la Directive afin de la rendre plus effective.

La Commission pourrait également envisager comme une priorité, dans le cadre d'une éventuelle révision future de la DRE, l'inclusion du dommage à l'air dans la Directive. Bien que les dommages à l'air ne puissent pas être réparés de la même manière que les dommages aux sols et aux eaux, c'est-à-dire en éliminant les polluants, des mesures peuvent être mises en œuvre afin de prévenir de possibles atteintes à la santé humaine par les polluants atmosphériques (par exemple, en éteignant un feu) et prévenir d'autres types de dommages à l'environnement.

Bien que l'inclusion de la flore et de la faune non protégées par la législation permettrait de combler un vide puisque la plupart des législations nationales n'incluent pas un tel régime de responsabilité, l'extension du champ d'application de la DRE à de tels dommages pourrait s'avérer difficile en raison de la nécessité d'établir des seuils de gravité. L'élargissement du champ aux paysages terrestres et marins, édifices culturels et monuments historiques, serait également source de problème quant à la détermination de seuils de gravité. De plus, aucun Etat membre n'a inclus ces dommages dans sa législation transposant la Directive.

Analyse de la pertinence des « seuils de gravité » pour les dommages affectant les sols et les eaux

La DRE doit énoncer des « seuils de gravité » pour chacune des trois catégories de dommage environnemental puisqu'un exploitant voit sa responsabilité engagée si, et seulement si, le seuil de gravité est atteint.

Les seuils applicables à un dommage environnemental ou à une menace imminente d'un tel dommage sont cependant problématiques : une longue évaluation est souvent nécessaire afin d'établir si ces seuils ont été dépassés, en particulier pour les dommages aux eaux et à la biodiversité. De plus, la DRE définit une « menace imminente » de manière assez stricte. Il est ainsi possible que les exploitants ne notifient pas les autorités compétentes lorsque leurs activités causent un dommage environnemental ou une menace imminente d'un tel dommage car il est impossible de savoir si le dommage est soumis à la DRE.

La Commission pourrait envisager comme priorité, dans le cadre d'une éventuelle révision future de la DRE, l'abaissement des seuils pour une menace imminente de dommage environnemental. Une telle révision n'abaisserait pas les seuils pour les mesures de réparation à long terme étant donné qu'un exploitant n'est pas tenu de mettre en œuvre ces mesures tant que l'autorité compétente n'a pas déterminé la nature et l'étendue des mesures devant être réalisées. La

révision n'abaisserait donc pas les seuils pour les mesures de réparation primaire, complémentaire ou compensatoire, puisqu'elles ne s'appliquent qu'aux mesures de réparation à long terme.

La DRE ne précise pas le degré d'atteinte à la santé humaine qui excède le seuil de gravité pour les dommages aux sols. Les lois de transposition ont donné lieu à un chevauchement avec les législations existantes, en particulier dans les Etats membres qui disposaient déjà de régimes bien développés pour la remédiation des sols pollués au moment de la transposition de la DRE. Nombreux sont ces régimes qui incluent une réparation pour les pollutions des eaux souterraines.

La Commission pourrait envisager comme une priorité, dans le cadre d'une éventuelle révision future de la DRE, de définir les dommages aux sols de façon à y inclure les dommages aux eaux souterraines (et éventuellement, d'autres dommages aux eaux) étant donné la relation étroite existant entre ces deux types de dommages. Le développement à l'échelle de l'UE de « niveaux de déclenchement » pour les polluants des sols (c'est-à-dire les concentrations de substances chimiques à partir desquelles les sols ou les eaux doivent être remédiés) n'apparaît pas comme une priorité, un nombre conséquent d'Etats membres ayant adopté des niveaux différents. Il y aurait donc nécessairement une contradiction entre des niveaux de déclenchement adoptés à l'échelle de l'UE et certains de ceux qui existent déjà. Il serait aussi difficile, voire impossible, d'établir un niveau unique pour une substance chimique à travers l'UE en raison de différences quant à par exemple la minéralogie du sol, la profondeur des nappes phréatiques, et les niveaux de fond des contaminants.

Relever le niveau de réparation pour les dommages aux sols à un niveau comparable à celui existant pour les dommages aux eaux et à la biodiversité nécessiterait de redéfinir le terme « dommages aux sols ». Une nouvelle définition nécessiterait cependant de distinguer le sol des eaux souterraines, ce qui pourrait poser problème dans la mise en œuvre et l'application de la DRE étant donné la relation étroite existant entre ces deux milieux. La Commission pourrait envisager comme une priorité, dans le cadre d'une éventuelle révision future de la DRE, l'examen, à titre préliminaire, de la relation existant entre les sols et les eaux souterraines (et autres eaux) en ce qui concerne la responsabilité pour la prévention et la réparation de ces dommages.

La définition du dommage aux eaux dans la DRE fait référence aux critères relatifs à l'état des masses d'eaux de surface et souterraines, en lien avec un objectif clef de la Directive Cadre sur l'Eau (2000/60/EC) : parvenir à un bon état des eaux d'ici 2015. Cette définition est ainsi basée sur le plan de gestion des eaux dans l'UE. De façon quelque peu similaire, la définition du dommage aux eaux pour les eaux marines est fondée sur le plan de gestion afin de parvenir ou de maintenir un bon état environnemental des eaux marines pour 2020.

Il est permis de se demander si un seuil de gravité dans la DRE devrait être basé sur un plan de gestion visant à atteindre un objectif. Dans un régime de responsabilité, le seuil devrait être facile à comprendre et rapide à déterminer. La Commission pourrait ainsi envisager comme une priorité, dans le cadre d'une éventuelle révision future de la DRE, la révision du seuil de gravité pour les dommages aux eaux.

La Commission pourrait également envisager comme une priorité, dans le cadre d'une éventuelle révision future de la DRE, la clarification ou la révision de la définition du dommage aux eaux. Certains Etats membres ont interprété cette définition comme faisant référence aux masses d'eau ; d'autres l'ont interprétée par référence aux eaux définies dans la Directive Cadre sur l'Eau. Ces deux interprétations posent problème. En particulier, l'approche relative aux masses d'eau conduit à ce que la DRE ne s'applique pas à de nombreuses zones de l'UE en raison de la vaste étendue des masses d'eau, ainsi qu'à la non-application de la DRE aux eaux non classées et aux masses d'eau dans le moins bon état.

L'application des exceptions pour respect de l'autorisation d'exploiter et pour risque de développement

Quatorze Etats membres ont adopté l'exception de respect de l'autorisation d'exploiter sans aucune restriction. Quinze Etats membres ont adopté l'exception pour risque de développement sans restriction. Certains Etats membres ont adopté des variantes à ces exceptions et d'autres n'ont adopté aucune défense. L'exception pour respect de l'autorisation d'exploiter a été utilisée une seule fois seulement selon les rapports soumis par les Etats membres en application de l'Article 18(1) de la DRE ; aucun Etat membre n'a utilisé l'exception pour risque de développement.

Même si une révision de la DRE rendait ces exceptions obligatoires et contribuait ainsi à la création de règles égales à travers l'UE, cela aurait également pour conséquence d'abaisser le niveau élevé de protection de l'environnement dans les Etats membres qui n'ont pas adopté ces exceptions ou qui en ont adopté des variantes sur la base de leur caractère raisonnable. Il y a ainsi un fort argument contre une telle révision car cela serait contraire à l'article 191(2) du TFUE.

Une autre manière de contribuer à créer des règles égales à travers l'UE serait de supprimer les exceptions de la DRE. Cette approche serait conforme à l'article 191(2) car elle permettrait de promouvoir le principe « pollueur-payeur ». Une telle révision serait également efficace du point de vue de l'approche économique du droit.

L'inclusion de ces moyens de défense comme facteurs atténuants avait été rejetée au cours de l'historique législative de la DRE. Bien que certains Etats membres aient transposé la DRE en y incluant ces facteurs atténuants, cela contribuerait à accroître les différences entre la DRE et les législations nationales en place dans les Etats membres qui ne comprennent pas de telles considérations. Il en résulterait une application de la DRE moindre qu'à l'heure actuelle, ce qui ne serait pas de nature à promouvoir les objectifs de la Directive.

Une autre option serait de considérer ces défenses comme des exclusions. Cependant, tout comme le fait de rendre ces exceptions obligatoires, une telle révision abaisserait le niveau élevé de protection de l'environnement dans les Etats membre qui n'ont pas adopté ces exceptions ou qui en ont adopté des variantes sur la base de leur caractère raisonnable. Il y a ainsi un fort argument contre une telle révision car cela serait contraire à l'article 191(2) du TFUE.

Il résulte des recherches réalisées dans le cadre de cette étude qu'il existe de nombreuses autres raisons pour lesquelles ces exceptions ne devraient pas être rendues obligatoires ou révisées pour constituer des facteurs atténuants ou des exclusions. Une critique particulière contre le maintien des exceptions est que ces deux moyens de défense, en particulier l'exception pour respect de l'autorisation d'exploiter, favorisent les grandes entreprises et, par conséquent, défavorisent les PME. Par conséquent, la Commission pourrait envisager comme une priorité, dans le cadre d'une possible révision future de la DRE, la suppression des moyens de défense optionnels.

Analyse de l'application des Conventions internationales maritimes et nucléaires visées aux Annexes IV et V de la Directive

La DRE n'énonce pas clairement si les Conventions maritimes et nucléaires sont entièrement exclues lorsqu'un incident survient dans un Etat membre dans lequel la Convention en question est appliquée ou si la DRE est exclue seulement dans la mesure ou le dommage environnemental n'est pas couvert par la Convention. La Commission pourrait envisager comme une priorité, dans le cadre d'une éventuelle révision future de la DRE, la clarification l'étendue de cette exclusion.

Il résulte des recherches effectuées que les raisons suivantes justifieraient une suppression des exclusions.

- Les Conventions sont des régimes d'indemnisation et, de ce fait, sont moins proactives que la DRE quant à la réparation des dommages environnementaux.
- Leur attention première se porte sur les intérêts humains ; les dommages à la biodiversité ne représentent qu'un intérêt secondaire.
- Elles n'incluent pas de réparation complémentaire ou compensatoire.
- Leur couverture des dommages environnementaux peut être limitée à l'indemnisation du préjudice économique pur et, dans ce cas, ces Conventions ne prévoient pas de réparation primaire.
- Le terme « incident » dans ces Conventions apparaît plus strict que le seuil de gravité dans la DRE.
- Elles limitent la responsabilité, ce qui est contraire au principe « pollueur-payeur ». Contrairement à la DRE, elles imposent cependant une garantie financière obligatoire afin d'assurer l'indemnisation des demandes (qui peut être limitée aux demandes pour dommages corporels, dommages matériels et préjudice économique).

De plus, l'exclusion des Conventions signifie que les secteurs du transport maritime et nucléaire sont soumis à moins de responsabilité en application de la DRE que d'autres secteurs industriels, en particulier les secteurs de l'énergie.

Les Conventions des Annexes IV et V sont paradoxales dans ce sens que l'indemnisation est possible pour les dommages à l'environnement mineurs car ils peuvent être intégralement remédiés, mais elle n'est pas possible pour les dommages graves et irréparables car il est impossible d'y remédier. Ce paradoxe signifie que les Conventions sont applicables à beaucoup moins de dommages environnementaux que sous la DRE, en particulier en ce qui concerne les dommages environnementaux les plus graves.

Les décideurs dans le cadre des Conventions soulèvent des questions. L'entité décidant si la Convention de 1992 portant création du Fonds (FIPOL) couvre une plainte est le Fonds lui-même, non une autorité compétente, ce qui conduit à avancer l'argument selon lequel le décideur agit, au moins en partie, au nom d'intérêts commerciaux et non du public. En ce qui concerne le seuil de gravité et l'étendue du dommage environnemental sujet à indemnisation dans le cas des Conventions nucléaires, le décideur est un tribunal. Il est donc impossible de préciser ces questions fondamentales de manière claire.

Une raison supplémentaire justifiant d'envisager la révision de l'exclusion pour les Conventions de l'Annexe IV afin d'y inclure la réparation des dommages environnementaux à l'environnement marin serait de contribuer à résoudre le conflit entre l'application des Conventions IMO et de la DRE si une plainte pour dommages à l'environnement excède la limite de responsabilité de la Convention. La survenance d'une affaire telle que celle de l'*Erika* dans le cadre de la Directive-cadre sur les déchets n'est en effet pas inenvisageable. Dans cette affaire, la Cour de justice de l'Union européenne a conclu que l'autorité publique avait le droit au remboursement par le vendeur-affrètement de l'*Erika* des frais engagés pour la remédiation de la marée noire, lorsque la demande l'autorité excédait la limite de responsabilité de la Convention applicable. Ces conclusions furent suivies par la Cour de cassation française.

L'une des raisons principales en faveur de la suppression des exclusions est l'absence de responsabilité pour préjudice écologique pur, ce qui est contraire au principe fondamental de la DRE et empêche la prévention et la réparation efficaces des dommages à la biodiversité dans les environnements marins et côtiers de l'UE. Il résulte de nos recherches qu'une raison majeure, si ce n'est la principale, pour laquelle les Conventions maritimes ne couvrent pas le préjudice écologique pur est qu'il était considéré comme difficile de quantifier les dommages en termes monétaires. Si la raison principale ayant conduit l'OMI à ne pas étendre les Conventions pour y inclure

l'indemnisation du préjudice écologique pur était le manque de méthodologies permettant de quantifier un tel dommage, cette raison n'a plus lieu d'être. Dans le cadre des études préliminaires pour la DRE, la Commission a commandé des études pour évaluer et quantifier les dommages à l'environnement. Les méthodes sont suffisamment sophistiquées pour inclure les dommages à l'environnement « purs » comme une source distincte de responsabilité en vertu des Conventions, sachant qu'un tel dommage est quantifiable. L'adoption de cette catégorie distincte de "dommage à l'environnement", à travers par exemple la révision du Manuel des demandes d'indemnisation du FIPOL, réduirait l'écart entre les Conventions et la DRE.

Les avis sont partagés quant au fait de savoir si la DRE devrait être révisée afin d'éliminer ces exclusions, en particulier les Conventions listées à l'Annexe IV. Les nombreuses questions complexes qui entourent la relation entre les conventions de l'OMI et la DRE signifient que toute révision éventuelle quant à leur exclusion de la DRE doit être soigneusement examinée et effectuée si, et seulement si, les raisons de le faire l'emportent sur les raisons de maintenir l'exclusion.

La Commission pourrait envisager comme une priorité, dans le cadre d'une éventuelle révision future de la DRE, d'entamer des discussions avec l'OMI afin de clarifier le champ d'application des Conventions et leur recoupement (ou non) avec la DRE, en vue de résoudre la question de leur étendue par rapport à la DRE.

La Commission pourrait également envisager comme une priorité, dans le cadre d'une éventuelle révision future de la DRE, de clarifier le champ des dommages environnementaux couverts par les Conventions nucléaires. Si l'exclusion est supprimée de la DRE, il serait nécessaire de conduire des discussions avec les pools d'assurance nucléaire afin d'assurer qu'une telle assurance sera toujours disponible.

Les raisons supplémentaires justifiant d'envisager de supprimer les exclusions des Conventions nucléaires sont le large éventail de limites de responsabilité et autres divergences au sein de ces Conventions à travers l'UE. De plus, la part d'indemnisation à la charge du public en vertu des Conventions nucléaires a augmenté à la suite de leur révision après Tchernobyl, ce qui est contraire au principe « pollueur-payeur ». En outre, tous les Etats membres n'ont pas signé ou ratifiés les Conventions, ce qui conduit à des niveaux, normes et champs de responsabilité différents à travers l'UE.

La Commission pourrait également envisager comme une priorité, dans le cadre d'une éventuelle révision future de la DRE, de supprimer l'article 4(3) relatif à la limitation de responsabilité pour la Convention sur la limitation de la responsabilité en matière de créances maritimes et la CLNI. Ces Conventions ne couvrent que les demandes d'indemnisation pour dommages corporels, dommages matériels et préjudice économique ; il n'y a aucune raison qu'elles soient mentionnées dans la DRE.

Analyse de la possible éligibilité et /ou nécessité d'intégrer d'autres instruments internationaux dans les Annexes IV et V

La présente étude ne suggère pas que la Commission considère comme une priorité, dans le cadre d'une éventuelle future révision de la DRE, l'exclusion des instruments internationaux suivants du champ de la DRE : le Protocole Offshore de la Convention pour la protection de la mer Méditerranée contre la pollution (Convention de Barcelone), le Protocole sur la responsabilité civile et l'indemnisation en cas de dommages causés par les effets transfrontières d'accidents industriels sur les eaux transfrontières et le Protocole additionnel de Nagoya-Kuala Lumpur sur la responsabilité et la réparation relatif au Protocole de Cartagena sur la prévention des risques biotechnologiques. Les deux derniers Protocoles ne sont pas encore entrés en vigueur ; aucun des

instruments ci-dessus n'a un champ aussi vaste que celui de la DRE et ils établissent des lignes directrices, non des règles contraignantes, qui pourraient conduire des parties à ces instruments à adopter seulement une responsabilité limitée.

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List of acronyms

ASN	Autorité de Sûreté Nucléaire (French Nuclear Safety Authority)
BFO	Bunker Fuel Oil
Cedre	Centre de Documentation, de Recherche et d'Expérimentations sur les pollutions accidentelles
CERCLA	US Comprehensive Environmental Response, Compensation, and Liability Act
CJEU	Court of Justice of the European Union
CLC	International Convention of 27 November 1992 on Civil Liability for Oil Pollution Damage
CLNI 2012	Strasbourg Convention of 2012 on Limitation of Liability in Inland Navigation
CLNI	Strasbourg Convention on Limitation of Liability in Inland Navigation, 1988
COPE fund	Compensation for Oil Pollution in European Waters fund)
CPMR	Conference of Peripheral Maritime Regions of Europe
CSC	Convention of 12 September 1997 on Supplementary Compensation for Nuclear Damage
CSN	Spanish Nuclear Safety Authority
EDF	Electricité de France
EIA Directive	Environmental Impact Assessment Directive (2011/92/EU)
ELD	Environmental Liability Directive (2004/35/EC)
EU	European Union
EURATOM	European Atomic Energy Community
GMO	Genetically modified organism
HEI	Hellenic Environmental Inspectorate
HFO	Heavy Fuel Oil
HNS	Hazardous and Noxious Substances
HNS Convention	International Convention of 23 March 2001 on Civil Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea
IAEA	International Atomic Energy Agency
IED	Industrial Emissions Directive (2010/75/EU)
IFO	Intermediate Fuel Oil
IMO	International Maritime Organization
INES	International Nuclear Events Scale

IOPC Funds	International Oil Pollution Compensation Funds
IPPC	Integrated Pollution Prevention and Control
IRSN	<i>Institut de Radioprotection et de Sûreté Nucléaire</i> (French Institute of Radioprotection and Nuclear Safety)
ITOPF	International Tanker Owners Pollution Federation Limited
IUCN	International Union for Conservation of Nature
LLMC	Convention on Limitation of Liability for Maritime Claims, 1976
LLMC 1996 Protocol	Convention on Limitation of Liability for Maritime Claims, 1996 Protocol
LMOs	Living Modified Organisms
MAP	Mediterranean Action Programme
MCA	Maritime and Coastguard Agency
MDO	Marine Diesel Oil
MGO	Maritime Gas Oil
MSFD	Marine Strategy Framework Directive (2008/56/EC)
MWD	Mining Waste Directive (2006/21/EC)
NEA	Nuclear Energy Agency
NEBA	Net Environment Benefit Analysis
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Co-operation and Development
OSD	Offshore Safety Directive (2013/30/EU)
P&I Clubs	Protection and Indemnity Clubs
REMRED Project	REMédiation environnementale après une pollution majeure: que peut-on considérer comme Raisonnable, Equitable et Durable?
SDR	Special Drawing Rights
SEPA	Scottish Environment Protection Agency
SMEs	Small and Medium Sized Enterprises
SYKE	Finnish Environment Institute
TEIA Convention	Convention on the Transboundary Effects of Industrial Accidents
TFEU	Treaty on the Functioning of the European Union
UK	United Kingdom
UNECE	United Nations Economic Commission for Europe
USA	United States of America
WFD	Water Framework Directive (2000/60/EC)

Chapter 1: Context of the study, objectives and approach

This chapter presents the general context of the study, together with its objectives and the approach to carry out a thorough legal and empirical analysis of specific points related to the implementation and the effectiveness of the Environmental Liability Directive (ELD, 2004/35/EC).¹¹

1.1 Context of the study

The ELD imposes liability for the prevention and remedying of “environmental damage”, that is, damage to species and natural habitats protected by the Habitats and Birds Directives (biodiversity)¹² and, at the option of Member States, nationally-protected biodiversity, water (as defined by the Water Framework Directive (WFD, 2000/60/EC), and soil/land. The ELD is the first EU legislation that has its principal basis in implementation of the polluter pays principle.¹³

The ELD directed Member States to transpose the Directive into their national law by 30 April 2007. The transposition of the ELD into the national law of many Member States, however, was more prolonged and was not completed for all Member States until July 2010.

Pursuant to Article 18 of the ELD, Member States were directed to report to the Commission on the experience gained in the application of the Directive by 30 April 2013. Based on these Member States reports, the Commission will submit a report to the European Parliament and to the Council by 30 April 2014, evaluating the ELD and including, where appropriate, proposals for amendment.

In October 2010, the Commission had, in compliance with Article 14(2) of the ELD, presented a first report on the effectiveness of the Directive in terms of actual remediation of environmental damage and on the availability at reasonable costs and on conditions of insurance and other types of financial security.¹⁴ Additional studies on the ELD have since been published, including a study on “Implementation challenges and obstacles of the ELD” carried out by BIO in association with

¹¹ Directive 2004/35/EC of the European Parliament and the Council on environmental liability with regard to the prevention and remedying of environmental damage. OJ L 143/56 (30 April 2004).

¹² Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora. OJ L 206/7 (22 July 1992), as amended (Habitats Directive);

Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds. OJ L 207/7 (26 January 2010), as amended (Birds Directive).

¹³ See European Commission press release, Environmental Liability: Commission welcomes agreement on new Directive (IP/04/246, 20 February 2004). Available at http://europa.eu/rapid/press-release_IP-04-246_en.htm

¹⁴ Report from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions under Article 14(2) of Directive 2004/35/EC on the environmental liability with regard to the prevention and remedying of environmental damage. COM(2010) 581 final (12 October 2010). Available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0581:FIN:EN:PDF>

Stevens & Bolton LLP, published in May 2013,¹⁵ which identified certain obstacles to the effective implementation of the ELD, some of which are further analysed in the current study.

1.2 Objectives

The objective of this study is to investigate and analyse experience gained in the application of the ELD. The study aims to contribute to the Commission's evaluation due by 30 April 2014, by feeding input into the evaluation of the ELD, based notably on mandatory evaluation criteria.

The study focuses on six specific issues, addressed in the following chapters:

- The scope of strict liability;
- The scope of environmental damage;
- The appropriateness of "severity/significance thresholds" for water and land;
- The application of the permit and state-of-the-art defences;
- The application of nuclear and IMO international Conventions as specified by instruments listed in Annexes IV and V; and
- The possible eligibility and/or need to incorporate other international instruments into those Annexes.

In addition, the study analyses options for adaptation of specific ELD parameters (e.g. scope of liability, scope of environmental damage and scope of activities subject to the ELD) and provides recommendations as to which of the various options should be considered and, if so, given priority in a possible future revision of the ELD, based on environmental and economic arguments, especially the implementation and enforcement of the legislation transposing the ELD to date. In providing recommendations, the study considers the potential for harmonisation, streamlining and simplification of the ELD.

1.3 Approach

The analyses in this study are based on experience gained to date in the application of the ELD. The project team used an approach combining both a legal and an empirical analysis, which formed the basis of the conclusions and recommendations presented for each of the six specific points within the scope of the study, as indicated above.

In carrying out the study, the project team applied various methodologies including the traditional legal methodology and the law and economics methodology.

The study does not cover financial security issues or biodiversity damage, including the significance threshold for biodiversity damage; they were intentionally left out of its scope.

1.3.1 Legal analysis

The legal analysis was based on a review of relevant papers and publications, provisions in the national law of Member States, and relevant EU legislation. In particular, the review of national law of Member States included the legal analysis of the ELD transposing legislation of the EU Member States (except Croatia) included in the 2013 study on ELD implementation led by BIO (for 16

¹⁵ BIO Intelligence Service (2013), Implementation challenges and obstacles of the Environmental Liability Directive, Final report prepared for European Commission – DG Environment. In collaboration with Stevens & Bolton LLP. Available at <http://eldimplement.biois.com/>

Member States) and the legal analysis of the legislation transposing the ELD in the study carried out by Stevens & Bolton LLP (for 11 Member States).¹⁶

Through the literature review, the team identified relevant issues as regards to the scope and exceptions of the ELD and their relationship to the effectiveness of the implementation of the Directive, which are included in the overall legal analysis.

1.3.2 Empirical analysis

The empirical analysis was based on (i) a literature review, (ii) an expert/stakeholder consultation, and (iii) case studies (at least one for each of the six issues covered by the study). It aimed to fulfil the following objectives:

- To better understand the challenge that the scope and exceptions to the ELD have on its implementation and enforcement by (i) analysing Member State reports and other relevant literature, and (ii) collecting views and opinions on the ELD's scope and exceptions;
- To obtain opinions on which adaptations of scope and exceptions of the Directive would be more effective and efficient to tackle ELD implementation and enforcement issues; and
- To provide illustrative examples of a topic by relevant case analyses.

The literature review was notably based on the 2013 study on Implementation challenges and obstacles of the ELD, which included an empirical analysis and already identified obstacles to the effective implementation of the ELD, as well as Member States reports submitted pursuant to Article 18(1) of the ELD, the training material developed for the Commission¹⁷ and the results of the 2nd ELD Stakeholder Conference of 11 June 2013.¹⁸

In addition, out of some 50 contacted experts and stakeholders, about 30 agreed to be interviewed or provide written feedback in the framework of this study.

1.3.3 Overall analysis, conclusions and recommendations

Based on the legal and empirical analyses, the project team thoroughly assessed whether each of the six issues analysed should be given priority in a potential future revision of the ELD.

In order to properly feed into the evaluation of the ELD, the team based its assessment mainly on the five mandatory criteria to be considered in Commission evaluations, namely:

- Relevance: Do the (original) objectives (still) correspond to the needs within the EU?
- Effectiveness: To what extent did the intervention cause the observed changes/effects? Is it possible to measure how much change was due to the intervention? To what extent do the observed effects correspond to the objectives?

¹⁶ See Stevens & Bolton LLP, Study on Analysis of integrating the ELD into 11 national legal frameworks, Final Report prepared for the European Commission – DG Environment (2013)

¹⁷ See http://ec.europa.eu/environment/legal/liability/eld_training.htm

¹⁸ 2nd ELD Stakeholder Conference Brussels, "Evaluating the experience gained in the ELD implementation", 11 June 2013, http://ec.europa.eu/environment/legal/liability/eld_conf_11_06_2013.htm

- Efficiency: Were the outputs and effects achieved at a reasonable cost? Why was this possible? What made this possible? Is the overall cost proportionate to the results and impacts being achieved?
- EU-added value: What is the additional value resulting from the EU intervention(s), compared to what could be achieved by Member States at national and/or regional levels?
- Coherence: Does this intervention work together with other interventions which have similar objectives?

Furthermore, in drawing conclusions and recommendations the team paid particular attention to the following:

- The overall objective of ensuring the effectiveness of the ELD, and in particular the effectiveness of the prevention and remediation of environmental damage;
- The objective of achieving a level playing field for operators and financial security providers in the EU;
- The need to harmonise standards, scope and exceptions, where these have notably been shown to constitute challenges and obstacles to the effectiveness of the remediation of environmental damage; and
- The need for streamlining and simplification of the ELD.

The recommendations suggest practical measures to the Commission in the form notably of legal amendments, guidance and other measures which could be adopted to improve the effectiveness of the ELD.

The last chapter of the study includes conclusions and recommendations for all six specific points.

The study also includes various annexes, notably the status of signature and accession or ratification by EU Member States of international Conventions listed in Annexes IV and V to the ELD.

Chapter 2: Analysis of the scope of strict liability

In this chapter, the scope of strict liability under Annex III to the ELD is analysed and evaluated to determine whether Annex III should be extended to all professional activities, extended to include further specific activities, reduced to delete some activities currently included in Annex III, or left unchanged.

2.1 Legal analysis

The legal analysis analyses and evaluates the scope of strict liability by examining the reasons for its adoption in the ELD, its application to activities carried out under legislation listed in Annex III of the ELD, and how Member States transposed the liability systems into their national law. It then analyses the potential for simplification, streamlining and harmonisation.

2.1.1 Background to the adoption of strict liability and fault-based liability

In order to set the scope of strict liability in the ELD in context, the following is a brief history of its adoption and the application of Annex III.

Green Paper

In the 1993 Green Paper, the European Commission discussed liability systems for a proposed regime on remedying environmental damage. The Commission noted that a strict liability system would implement the polluter pays principle because it “guarantees that the cost of damage caused by an economic activity is borne by the operator”.¹⁹

The Commission also discussed the scope of strict liability for the proposed regime, noting the difficulties in deciding that scope because the “need for legal certainty conflicts with the need for flexible definitions that can take account of new technologies or other unforeseeable developments”.²⁰

Background study

As part of its review of the type of liability system to propose, and the scope of that system, the Commission directed the preparation of various background studies including a follow-up study to

¹⁹ Communication from the Commission to the Council and Parliament and the Economic and Social Committee: Green Paper on Remedying Environmental Damage. COM(93) 47 final, section 4.1.2 (14 May 1993).

²⁰ Communication from the Commission to the Council and Parliament and the Economic and Social Committee: Green Paper on Remedying Environmental Damage. COM(93) 47 final, p. 7 (14 May 1993).

the 1996 Study of Civil Liability Systems for Remedying Environmental Damage.²¹ This study examined existing environmental law in several Member States and non-EU countries. It reported that “strict liability is firmly established as the basis for all new legislation – fault-based liability is confined to an increasingly narrow, but nonetheless important, area concerning traditional damage [that is, claims for bodily injury and property damage]”.²²

The background study explained that:

“there has been no major change at national level in the boundary between strict and fault-based liability, except insofar as the existing trend towards greater reliance on strict liability has continued. Overall, public/administrative law regimes mostly rely on strict liability, whereas private/civil law mechanisms contain a mixture of strict and fault liability. In the case of civil law, countries remain divided between those which have adopted strict liability legislation in various forms and those which have not. Even where no such legislation has been passed, civil law generally includes substantial, and growing, elements of strict liability under traditional rules. There has also been little change in the types of activity covered by strict liability. In some countries, strict liability under civil law is confined to dangerous activities of various kinds; in others, it is wider. Public law regimes tend to apply irrespective of the nature of the activity, apart from some exemptions for private homeownership. There has been some change in the types of damage covered by strict liability, inasmuch as biodiversity damage is increasingly being addressed under that standard and a new area of debate has been emerging on the definition of harm in relation to contamination by genetically modified (GM) substances. On the whole, the division between countries applying strict liability and those retaining fault-based liability, for personal injury claims, has remained unchanged in recent years”.²³

In other words, the study found that:

- most countries impose strict liability for remedying environmental damage;
- most countries impose a mix of strict and fault-based liability for civil liability claims for bodily injury and property damage, with a trend towards strict liability; and
- some countries limit strict liability for bodily injury and property damage claims to specified dangerous activities whereas others do not do so.

White Paper

In the 2000 White Paper on Environmental Liability, the Commission commented that it favoured the introduction of a strict liability regime. The Commission reasoned that:

- recent national and international environmental liability regimes have tended to impose strict liability “because of the assumption that environmental objectives are better reached that way”;

²¹ McKenna & Co., Study of Civil Liability Systems for Remedying Environmental Damage (Contract B4/3040/94/000665/MAR/H1 (1996).

²² Chris Clarke, Update Comparative Legal Study, p. iv (Study Contract No. 201919/MAR/B3); see also Nicolas de Sadeleer, *Environmental Principles: From Political Slogans to Legal Rules*, pp. 49-52 (Oxford University Press, 2008) (discussing imposition of fault-based and strict liability for environmental damage).

²³ Chris Clarke, Update Comparative Legal Study, pp. iv-v (Study Contract No. 201919/MAR/B3).

- “it is very difficult for plaintiffs to establish fault of the defendant in environmental liability cases”; and
- a person who carries out an inherently hazardous activity should bear the risk if the activity causes damage rather than the victim or the general public.²⁴

In considering the activities to which strict liability would apply, the White Paper stated that:

“The objective of nearly all national environmental liability regimes is to cover activities that bear an inherent risk of causing damage. Many of such activities are currently regulated by Community environmental legislation, or Community legislation that has an environmental objective along with other objectives. A coherent framework for the liability regime needs to be linked with the relevant EC legislation on protection of the environment. In addition to ensuring restoration of the environment where this is currently not possible, the liability regime would therefore also provide extra incentives for a correct observation of national laws implementing Community environmental legislation. An infringement of such legislation would not only result in administrative or penal sanctions, but also, if damage results from it, in an obligation on the causer (polluter) to restore the damage or pay compensation for the lost value of the injured asset. This approach of a closed scope, linked with existing EC legislation, moreover has the advantage of ensuring an optimal legal certainty. The activities to be covered, with respect to health or property damage and contaminated sites, could be those regulated in the following categories of EC legislation: legislation which contains discharge or emission limits for hazardous substances into water or air, legislation dealing with dangerous substances and preparations with a view (also) to protecting the environment, legislation with the objective to prevent and control risks of accidents and pollution, namely the IPPC Directive and the revised Seveso II Directive, legislation on the production, handling, treatment, recovery, recycling, reduction, storage, transport, trans-frontier shipment and disposal of hazardous and other waste, legislation in the field of biotechnology and legislation in the field of transport of dangerous substances. In the further shaping of an EC initiative, the scope of activities will need to be defined with more precision, for instance by setting up a list of all the pieces of relevant EC legislation with which the liability regime should be linked. Moreover, some of these activities, such as activities with respect to genetically modified organisms (GMOs), are not dangerous per se, but have the potential, in certain circumstances, to cause health damage or significant environmental damage. This could be the case, for example, in the event of an escape from a high-level containment facility or from unforeseen results of a deliberate release. For this reason it is considered appropriate for such activities to come within the scope of a Community-wide liability regime. In these cases, the precise definition of the regime, for instance the defences to be allowed, might not be the same for all activities related to GMOs, but may have to be differentiated according to the relevant legislation and the activities concerned”.²⁵

²⁴ European Commission, White Paper on Environmental Liability. COM(2000) 66 final, pp. 16-17 (9 February 2000).

²⁵ European Commission, White Paper on Environmental Liability. COM(2000) 66 final, pp. 15-16 (9 February 2000) (emphasis added).

The White Paper referred to the activities regulated by EC (now EU) legislation as “potentially dangerous activities”,²⁶ that is, activities that pose a potential danger to bodily injury, property damage and contaminated land.

The Commission's view reflected the civil environmental liability law of Member States at that time. As indicated in the follow up study, civil liability systems in Member States such as Denmark, Finland, Germany, the Netherlands, and Sweden varied from “a traditional negligence test to those that have adopted statutory strict liability, either for all activities causing environmental harm or for various types of dangerous activity”.²⁷

The Commission considered that, in addition to the application of strict liability to harm from dangerous activities, fault-based liability for damage to protected species and natural habitats from “non-dangerous” activities should be introduced.²⁸ The Commission stated that:

“Activities carried out in conformity with measures implementing the wild birds and habitats directives which aim at safeguarding biodiversity would not give rise to liability of the person carrying out the activity, other than for fault. Such activities can, for instance, take place under an agri-environmental contract in accordance with the Council regulation on support for rural development. The State will be responsible for restoration or compensation of biodiversity damage caused by a non-dangerous activity, in case fault of the causer cannot be established”.²⁹

The Council Regulation to which the Commission referred provided support for rural development from the European Agricultural Guidance and Guarantee Fund (now the European Agricultural Guarantee Fund and the European Agricultural Fund for Rural Development), which finance payments to farmers under the Common Agricultural Policy.³⁰

The non-dangerous activities that the Commission had in mind, therefore, were farming activities that could cause harm to species and natural habitats protected under the Birds and Habitats Directives. The Commission thus recognised the delicate line between the receipt of payments for protecting biodiversity and liability for harming it.

Proposed Directive

The Proposed Directive retained the concept of a list of activities to which strict liability applied. This was despite the Commission having decided, in 2001, to abandon plans to propose liability for civil claims for bodily injury and property damage.³¹ The decision to confine strict liability to specified activities was thus in marked contrast to public / administrative liability systems in Member States for remediating environmental damage. At that time (and still), the vast majority of

²⁶ COM(2000) 66 final, Annex, p. 5.

²⁷ Chris Clarke, Update Comparative Legal Study, pp.27-28 (Study Contract No. 201919/MAR/B3).

²⁸ COM(2000) 66 final, Annex, p. 5 (23 January 2002).

²⁹ COM(2000) 66 final, p. 18 (footnote omitted).

³⁰ See Council Regulation No. 1257/1999 of 17 May 1999 on support for rural development from the European Agricultural Guidance and Guarantee Fund (EAGGF). OJ L 160/80 (26 June 1999).

³¹ European Commission, Environment Directorate General Working Paper on Prevention and Restoration of Significant Environmental Damage (Environmental Liability) (30 July 2001).

these systems were not confined to “dangerous activities”; strict liability tends to be imposed for all activities that cause such damage.³²

This does not mean that national and EU legislation did not include lists of “dangerous activities”. For example, lists of “dangerous” activities are included in civil liability regimes, such as Germany’s Environmental Liability Act 1991 (which imposes civil liability for bodily injury and property damage); regulatory regimes (such as the Integrated Pollution Prevention and Control Directive (now 2008/1/EC), and environmental assessment regimes (such as the Environmental Impact Assessment Directive (now 2011/92/EU)). Such legislation is not, however, a public / administrative liability regime like the ELD.

The explanatory memorandum to the Proposed Directive indicated the divergent views of industry and environmental non-governmental organisations (NGOs) towards the adoption of strict liability. Industry and professional associations “wished to see strict liability restricted to a limited number of activities (some industry representatives consider that there is no reason to depart from fault-based liability)”;³³ environmental NGOs considered that “the scope of strict liability is too limited (all potentially dangerous activities should be covered)”.³⁴

BirdLife International, WWF European Policy Office, EEB, and FOE Europe stated that activities that would fall outside Annex III were as follows.

“Small installations and many industries outside of the scope of the IPPC directive, such as most industries producing consumer goods.

- Mining activities not covered by IPPC or by the proposed mining waste directive (e.g. coal mining and the mining of lignite).
- Oil and gas drilling, as well as transport of oil and gas.
- Unclassified chemicals: most of the chemicals in use are not yet classified and hence fall outside the scope of the planned directive.

The directive fails to make a link to the planned reform of chemicals policy. Enlarging the scope to all marketed or produced chemicals would create a market incentive, to speed up registration.

- The directive will also not apply to the environmental impacts of products. As product liability mainly relates to ‘defective products’ and as it has no link to environmental damage, environmental liability could be an additional driving force for Integrated Product Policy. As in the case of ‘product safety’, the threat of liability will be a significant impetus for the development of a new approach, which will benefit the environment and encourage green product design”.³⁵

³² Chris Clarke, Update Comparative Legal Study, p. 30 (Denmark), p. 34 (Finland), p. 48 (Italy), p. 62 (United Kingdom) (Study Contract No. 201919/MAR/B3)

³³ Proposal for a Directive of the European Parliament and of the Council on environmental liability with regard to the prevention and remedying of environmental damage. COM(2002) 17 final, p. 27 (23 January 2002).

³⁴ COM(2002) 17 final, p. 28 (23 January 2002).

³⁵ Common Comments on the Commission Working Paper on the “Prevention and Restoration of Significant Environmental Damage” (13 September 2001) (endorsed by Birdlife International, WWF European Policy Office, EEB, FOE Europe). Available at ec.europa.eu/environment/legal/liability/pdf/wrkdoc_comments.pdf

2.1.2 Annex III of the ELD

The ELD retained the concept of a list of specified activities to which strict liability applies, with the imposition of fault-based liability for damage to protected species and natural habitats from non-specified activities.

Annex III of the ELD sets out EU legislation, pursuant to which activities that cause an imminent threat of, or actual, environmental damage are subject to strict liability.

The current EU legislation in Annex III is as follows:

- Operation of installations in pursuance of Industrial Emissions Directive (2010/75/EU) (superseding Integrated Pollution Prevention and Control (IPPC) Directive (2008/1/EC));
- Waste management operations in pursuance of Directive (2008/98/EC on waste, and Landfill Directive (1999/31/EC));
- Discharges to inland surface waters in pursuance of Dangerous Substances Directive (2006/11/EC);
- Discharges of substances into groundwater in pursuance of the protection of groundwater against dangerous substances Directive (2006/118/EC);
- Discharge or injection of pollutants into surface water or groundwater in pursuance of the WFD;
- Manufacture, use, storage, processing, filling, release into the environment and onsite transport of substances, preparations and products as defined by CLP Regulation (EC) No. 1272/2008, Dangerous Preparations Directive (1999/45/EC), Plant Protection Products Directive (91/414/EEC), and Biocides Regulation (EU) No. 528/2012;
- Transport by road, rail, inland waterways, sea or air of dangerous or polluting goods as defined by Road Safety Directive (94/55/EC) or Member State national legislation;
- Operation of installations in pursuance of the Air Framework Directive (2008/50/EC);
- Contained use, including transport, deliberate release into the environment involving and placing on the market of genetically modified micro-organisms as covered by Directive (90/219/EEC) on the contained use of genetically modified micro-organisms and Directive (2001/18/EC) on the deliberate release into the environment of genetically modified organisms;
- Regulation (EC) No. 1013/2006 on shipments of waste;
- Directive (2006/21/EC) on the management of waste from extractive industries; and
- Directive (2009/31/EC) on the geological storage of carbon dioxide.

The above list reflects the current versions of the Directives and Regulations, and thus differs from Annex III, which lists the versions that were in force in 2004 when the ELD was adopted. The Directives on the management of waste from extractive industries and the geological storage of carbon dioxide were added to Annex III when those Directives were adopted in 2006 and 2009, respectively.

2.1.3 Application of strict liability beyond Annex III

Most Member States transposed the ELD by adopting the scope of strict and fault-based liability set out in the ELD itself.

Some Member States exercised their right under Article 193 of the TFEU and Article 16(1) of the ELD to transpose the ELD more stringently. These Member States did so in three ways; they included additional activities in Annex III, they imposed strict liability for biodiversity damage from non-Annex III activities, or they extended the definition of an operator to all (economic) operators in combination with non-transposition of Annex III (see Table 1 below). In addition, Latvia introduced negligence-based liability for land and water for non-Annex III operators.

Table 1: Extension of strict liability beyond Annex III activities in EU Member States

Member State*	Extension of strict liability beyond Annex III activities
Belgium	The federal legislation on the prevention and remedying of environmental damage resulting from road, rail, water or air transportation added the transport of alien plant species and alien animal species as an Annex III activity The Brussels-Capital Region extended strict liability to the deliberate release into the environment, and the transport of, invasive alien species
Croatia	The transposing legislation does not enumerate Annex III activities but directs the Croatian Government to issue secondary legislation to identify activities to which strict liability applies. The Decree is expected to be issued in 2014
Finland	Strict liability exists for biodiversity damage from an activity related to damming or water abstraction
France	Not specifically extended, but, following the rupture of an underground pipeline that spilled crude oil into the <i>Coussouls de Crau</i> nature reserve in August 2009, the French Government adopted Decree No. 2012-615 to extend strict liability to the transport of oil by pipeline The Decree does not amend the French legislation transposing the ELD
Greece	Strict liability applies to non-Annex III activities in respect of biodiversity damage as well as Annex III activities
Hungary	Strict liability applies to non-Annex III activities as well as Annex III activities
Latvia	Strict liability applies to the operator of a petrol filling station or an oil storage facility and to the transportation of chemical substances or chemical products through pipelines The legislation that transposed the ELD imposes fault-based liability for land damage and water damage, as well as biodiversity damage, from non-Annex III activities
Lithuania	Lithuania has extended strict liability for activities beyond Annex III
Poland	Activities that require a permit to introduce gases or dust into the atmosphere are included in Annex III

Member State*	Extension of strict liability beyond Annex III activities
Spain	Spain extended strict liability to preventive measures and emergency remedial actions for non-Annex III as well as Annex III activities; negligence-based liability applies to remedial measures for non-Annex III activities
Sweden	Sweden imposes strict liability for non-Annex III activities Farmers, foresters, fishermen, reindeer herders and road keepers are liable for biodiversity damage only to the extent they are negligent in carrying out their operations

**Member States not mentioned in the table (Austria, Bulgaria, the Czech Republic, Cyprus, Denmark, Estonia, Germany, Ireland, Italy, Luxembourg, Malta, the Netherlands, Portugal, Romania, Slovakia, Slovenia, and the UK) did not extend strict liability beyond Annex III activities.*

Additional Annex III activities

The federal Belgian legislation on the prevention and remedying of environmental damage resulting from road, rail, water or air transportation added the transport of alien plant species and alien animal species as an Annex III activity. The Brussels-Capital Region added the deliberate release into the environment, and the transport of, invasive alien species. These provisions reflect the proposal submitted by the European Commission in 2013 to adopt a dedicated legislative instrument on invasive alien species.³⁶

The Finnish legislation transposing the ELD provides that an order to remedy biodiversity damage caused by an activity related to damming or water abstraction will be issued regardless of whether the damage is caused by negligence.

Poland includes activities that require a permit to introduce gases or dust into the atmosphere as an activity subject to strict liability.

France extended strict liability to the transport of oil in pipelines following the *Coussouls de Crau* oil spill, albeit that it did not do so by revising its legislation that transposed the ELD.³⁷ Latvia extended strict liability for the transport of chemicals and oil pipelines.

Strict liability for biodiversity damage

Greece extended strict liability (biodiversity damage) to non-Annex III activities. Therefore, all operators who cause an imminent threat of, or actual, damage to biodiversity in Greece are strictly liable.

Strict liability for environmental damage

Lithuania and Hungary extended strict liability for all three categories of environmental damage to non-Annex III activities. Therefore, all operators who cause an imminent threat of, or actual, land, water or biodiversity damage are strictly liable in those Member States.

³⁶ Proposal for a Regulation of the European Parliament and of the Council on the prevention and management of the introduction and spread of invasive alien species. COM(2013) 620 final (9 September 2013). Available from <http://ec.europa.eu/environment/nature/invasivealien/>

³⁷ Decree No. 2012-615 of 2 May 2012 (France).

Sweden extended strict liability for all three categories of environmental damage to non-Annex III activities, with an exception for biodiversity damage for farmers, foresters, fishermen, reindeer herders and road keepers; such persons are liable for biodiversity damage only to the extent that they are negligent in carrying out their operations.

Spain extended strict liability to preventive measures and emergency remedial actions for an imminent threat of, or actual, environmental damage from non-Annex III activities; negligence-based liability applies to remedial measures for non-Annex III activities.

2.1.4 Harmonisation, streamlining and simplification considerations

An analysis of the potential for harmonising, streamlining and simplifying the scope of strict liability in the ELD has various facets. The key facets are: whether the effectiveness of the ELD would be improved; whether the change would be in accord with the polluter pays principle; and whether the change would further the efficient implementation and enforcement of the ELD pursuant to the law and economics approach.

The analysis applies the above three criteria to the following options:

- Extending strict liability to all professional activities that cause environmental damage;
- Extending strict liability to all professional activities that cause biodiversity damage;
- Extending the list of activities currently included in Annex III to include specific dangerous activities such as the pipeline transport of dangerous substances, mining and shale gas exploration and exploitation;
- Leaving the list of Annex III legislation unchanged; and
- Reducing the list of Annex III legislation by indicating activities that should be removed.

2.1.4.1 Strict liability for all professional activities that cause environmental damage

The extension of strict liability for all professional activities would mean, in addition to revisions in the body of the ELD, changing the role of Annex III. That is, Annex III would no longer be required as a list of activities to which strict liability applied because strict liability would apply to all activities. Annex III would, however, still be relevant to the permit defence in those Member States that have adopted that defence because it lists activities to which that defence applies. Further, Annex III would still be relevant as a basis for mandatory financial security for specified activities in Member States that have adopted a mandatory financial security regime.

Due to the introduction of mandatory financial security being more stringent than the ELD, there would be no need for Annex III to remain in the ELD. Annex III would, however, need to remain if the permit defence is retained (see chapter 5) because the defence is limited to legislation in Annex III.

The imposition of strict liability for all activities that cause environmental damage would promote the polluter pays principle because it would make it more likely that polluters would pay the cost of remediating environmental damage caused by their activities.³⁸

Further, imposing strict liability for all activities would harmonise the ELD with national legislation because virtually no existing national legislation in Member States imposes fault-based liability for preventing and remediating land and water damage. Fault-based liability is virtually always confined to the remediation of historic contamination (generally with cut-off dates between fault-based liability and the introduction of strict liability).³⁹

The imposition of strict liability for preventing and remediating biodiversity damage from non-Annex III as well as Annex III activities would also further a basic objective of the ELD, that is, halting the loss of biodiversity in the EU. The extension of strict liability to all activities would not create a conflict between the ELD and existing legislation because most Member States have not enacted legislation that imposes liability for preventing and remediating biodiversity damage. The few Member States that have done so impose liability for remediating biodiversity damage caused by an unlawful act (or, in some Member States, following a conviction for an unlawful act). Such legislation imposes strict, not fault-based, liability.

Further, the application of fault-based liability to non-dangerous activities in the civil liability legislation in Member States would not be affected by such a change because the ELD does not apply to liability for bodily injury, property damage or economic loss. In this respect, the law and economics approach to strict liability and negligence considers that strict liability is more efficient in controlling hazardous activities when it is more important to do so due to their nature.⁴⁰

Kristel De Smedt discussed the application of strict and negligence standards to liability for remediating environmental damage in her study on the application of the law and economics approach to the ELD. She stated that, under strict liability, a business would always be liable for environmental damage caused by its activities. The business would, therefore, internalise the costs of preventing and remediating the damage in the cost of producing goods. She further stated that “one could conclude that a strict liability rule would be favoured in cases of environmental harm. This liability rule would give the injurer optimal incentives for precaution and result in an optimal activity level”. She cautioned that the consequences of introducing strict or negligence liability should be assessed carefully, however, because of the possible consequences on the production of goods such as medicines that benefit society.⁴¹ She further stated that “strict liability for dangerous activities might be useful, whereas a negligence rule might be sufficient for non-dangerous activities”.⁴²

³⁸ See OECD Analyses and Recommendations, Environment Directorate (OCDE/GD(92)81, 1992), Foreword section 1.1(c).

³⁹ See Stevens & Bolton LLP, Study on analysis of integrating the ELD into 11 national legal frameworks, Final Report prepared for the European Commission – DG Environment, pp. 21-22 (2013).

⁴⁰ See Kristel De Smedt, *Environmental Liability in a Federal System. A Law and Economics Analysis* (Intersentia, 2007), p. 212; Steven Shavell, *Strict Liability Versus Negligence*, *Journal of Legal Studies*, vol. 9, p. 1, 24 (1980).

⁴¹ Kristel De Smedt, *Environmental Liability in a Federal System. A Law and Economics Analysis* (Intersentia, 2007), p. 40.

⁴² Kristel De Smedt, *Environmental Liability in a Federal System. A Law and Economics Analysis* (Intersentia, 2007), p. 61. Professor De Smedt commented that the dual approach is followed by several European countries. As indicated above, a study of 27 Member States found that fault-based liability for remediating environmental damage is absent in virtually all those Member States.

Professor De Smedt concluded that “in broad lines, the combined strict liability / negligence regime that the Community has agreed upon in the ELD and its explicit obligations for the polluter to prevent damage and remedy environmental damage in Article 5 and 6 of the ELD, seems to be in line with the economic analysis of tort law, although it is deplorable that the Member States themselves do not have any direct responsibility towards prevention and restoration”.⁴³ As indicated in her statement, Professor De Smedt was referring to the split between strict and fault-based liability in tort law, not in public / administrative law.

Pål Wennerås considered the argument that strict liability results in over-deterrence and that application of a strict liability regime results in businesses paying twice; once to comply with the requirements of a command and control regime, and second to pay damages if required measures appear to be ineffective.⁴⁴ Mr Wennerås commented that, among the “several problems with [this argument]” is that it is based on experiences in the US tort system which, with its jury system and basis in tort, differs substantially from a public liability system in Europe”.⁴⁵ Mr Wennerås also commented that arguments that the external benefits of a discontinued activity are lost by the deterrent effect of strict liability are mistaken because “activity levels decrease because the external costs of the activity have not been internalised. The demand has therefore been artificially high, causing suboptimal activity levels. Hence, society does not in fact lose any external benefits, but gains a more efficient use of natural resources”.⁴⁶

Whereas application of the polluter pays principle favours an extension of the strict liability regime of the ELD and the law and economics approach notes more advantages than disadvantages, the extension would result in an extension of the ELD into the national law of Member States albeit above a significance threshold. The details of any proposal to extend the ELD in this way would, therefore, have to be studied in depth, particularly in respect of Member States that have well-developed liability systems for remediating land and associated groundwater damage. Even these Member States, however, are generally not as stringent as the ELD because they tend not to have provisions for notifying incidents involving environmental damage beyond those in the Industrial Emissions Directive, requirements to carry out preventive measures and emergency remedial actions, or provisions enabling the participation of interested parties.

2.1.4.2 Strict liability for all professional activities that cause biodiversity damage

In contrast to the well-developed liability systems in many Member States for remediating land and associated groundwater, and less well-developed systems for remediating water damage in general, liability for preventing and remediating damage to protected species and natural habitats tends to be much less developed – if it exists or is developed at all. Until Member States transposed the ELD into their national law, most did not have any existing legislation that sets out detailed criteria for liability for restoring biodiversity. Germany is an exception to this general rule although its legislation is less extensive than the ELD.

⁴³ Kristel De Smedt, *Environmental Liability in a Federal System. A Law and Economics Analysis* (Intersentia, 2007), p. 214.

⁴⁴ Pål Wennerås, *Permit Defences in Environmental Liability Regimes – Subsidizing Environmental Damage in the EC?*, 4 Yearbook of European Environmental Law, p. 149, 159 (Oxford University Press, 2004) (citing Lucas Bergkamp, *Liability and Environmental – Private and Public Law Aspects of Civil Liability for Environmental Harm in an International Context*, p. 236 (Kluwer Law International, 2001)).

⁴⁵ Pål Wennerås, *Permit Defences in Environmental Liability Regimes – Subsidizing Environmental Damage in the EC?*, 4 Yearbook of European Environmental Law, p. 149, 159 (Oxford University Press, 2004).

⁴⁶ Pål Wennerås, *Permit Defences in Environmental Liability Regimes – Subsidizing Environmental Damage in the EC?*, 4 Yearbook of European Environmental Law, p. 149, 160 (Oxford University Press, 2004).

The national legislation to prevent and remediate biodiversity damage focuses on penalties for unlawful damage to species and natural habitats under the Birds and Habitats Directives and nationally-protected species and natural habitats. There is, thus, no significance threshold for application of the national legislation; the applicable threshold is an unlawful act. Some Member States, such as Austria and the United Kingdom, have enacted legislation that imposes a requirement to restore damaged natural habitats. Such liability, however, tends to depend on a conviction for an unlawful act in damaging a protected species or natural habitat.⁴⁷ That is, there is a threshold for liability under national law but that threshold differs from the threshold in the ELD in that it does not include any significance criteria.

In 2002, when the Commission submitted the proposed Directive, it stated that:

“the Habitats and the Wild Birds Directives ... lack liability provisions applying the polluter pays principle and thus encouraging efficient preventive behaviour by private (and public) parties. Currently few, if any, Member States fill this void by imposing liability for biodiversity damage on private parties. Thus, Community action to protect and restore biodiversity is warranted on two main grounds: ensuring socially-efficient means are used to finance the remedying of damage to biodiversity in the Community and, by doing so, encourage efficient prevention”.⁴⁸

At that time, the EU had a goal of halting the loss of biodiversity by 2010. In June 2004, shortly after the adoption of the ELD, the Council emphasised the need to proceed quickly with actions if the 2010 target was to be met.⁴⁹

In mid-2006, the Commission stated that, whilst progress had been made, the target would be missed unless there was accelerated implementation at EU and Member State levels.⁵⁰

In March 2010, the Council conceded that the EU had failed to reach the target.⁵¹ Also in March 2010, the Environment Council committed the EU to a new target in a new biodiversity strategy, that is, halting the loss of biodiversity and ecosystem services in the EU by 2020, restoring them as far as possible, and increasing the EU’s contribution to avert global biodiversity loss.⁵²

In May 2011, the Commission adopted the new target date of 2020 to halt the deterioration in the status of species and habitats covered by the Birds and Habitats Directives and to achieve a significant and measurable improvement in their status.⁵³ The Commission stated that “biodiversity

⁴⁷ See Stevens & Bolton LLP, Study on analysis of integrating the ELD into 11 national legal frameworks, Final Report prepared for the European Commission – DG Environment, p. 19 (2013).

⁴⁸ European Commission Proposal for a Directive of the European Parliament and of the Council on environmental liability with regard to the prevention and remedying of environmental damage (COM(2002) 17 final, 23 January 2002), Explanatory Memorandum, pp. 5-6, section 3.

⁴⁹ Council of the European Union, Brussels European Council 17 and 18 June 2004, Presidency Conclusions, p. 10, para. 47 (10679/2/04, REV 2, 19 June 2004).

⁵⁰ See Communication from the Commission, Halting the loss of biodiversity by 2010 – and beyond; Sustaining ecosystem services for human well-being, p. 3, section 1. COM(2006) 216 final (22 May 2006).

⁵¹ Council of the European Union, Biodiversity: Post 2010; EU and global vision and targets and international ABS regime – Council conclusions, Annex 3, section e) (7536/10, 16 March 2010).

⁵² Council of the European Union, Press release, 3002nd Council meeting, Environment, 7 (7522/10 (Presse 67, 15 March 2010). Available at http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/envir/113373.pdf

⁵³ Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions, Our life insurance, our natural capital: an EU biodiversity strategy to 2020, Target 1, p. 5, section 3.1. COM(2011) 244 final (3 May 2011); see Valerie Fogleman,

loss [is] the most critical global environmental threat alongside climate change – and the two are inextricably linked”.⁵⁴ In June 2011, the Environment Council endorsed the new EU biodiversity strategy.⁵⁵ The EU has since declared that “[i]t is necessary to step up the implementation of the [EU Biodiversity] Strategy, and meet the targets contained therein in order to enable the Union to meet its biodiversity headline target for 2020”.⁵⁶

There is thus an excellent reason for considering whether to extend the scope of strict liability in the ELD to all activities that cause an imminent threat of, or actual, biodiversity damage. An extension would further a key purpose of the ELD in reducing the loss of biodiversity in the EU. As indicated above, Greece, Lithuania and Hungary have adopted this extension; Spain has partially adopted it, and Sweden has adopted it with exceptions for farmers, foresters, fishermen, reindeer herders and road keepers.

2.1.4.3 Extending the list of activities currently included in Annex III

The ELD does not extend strict liability to all activities that are dangerous to human health and the environment; its scope is limited to activities pursuant to specified EU environmental legislation listed in Annex III. Other dangerous activities that have been mentioned as possible extensions of Annex III include the transport of oil and chemicals in pipelines outside industrial installations, mining activities, the exploration and exploitation of shale gas, and activities concerning invasive alien species. As discussed below, Annex III legislation applies to some of these activities generically but not specifically.

Transport of oil and chemicals in pipelines

As discussed in section 2.2.2.1 below, the spill of oil from a pipeline in *Coussouls de Crau*, France, resulted in damage to land, water and biodiversity. If the operator had not remediated the damage, the issue would have arisen as to whether it had negligently carried out its activities due to the transport of oil by pipeline outside an industrial installation not being covered by legislation in Annex III. As indicated, France has extended strict liability to such damage, as has Latvia.

There is a good argument for the extension to be harmonised across the EU by revising the ELD because the transport of oil and chemicals in pipelines can cause significant environmental damage if a rupture occurs.

Mining activities

A review of EU environmental legislation in 2005 commented that “Mining has been specifically excluded from much of the environmental policy developed by DG Environment”. The review noted, in particular, the exclusion of mining from the IPPC Directive (then 86/61/EC) and the Seveso

Halting the Loss of Biodiversity in the European Union: An Achievable Goal?, KLRI Journal of Law and Legislation, vol. 2, pp. 99-181 (2012).

⁵⁴ Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions, Our life insurance, our natural capital: an EU biodiversity strategy to 2020, Target 1, p. 1, section 1. COM(2011) 244 final (3 May 2011).

⁵⁵ Council of the European Union, EU Biodiversity Strategy to 2020 – Council conclusions – 3103rd Environment Council Meeting, Luxembourg, 21 June 2001, para. 9. Available at http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/envir/122950.pdf

⁵⁶ Decision No. 1386/2013/EU on a General Union Action Programme to 2020 ‘Living well, within the limits of our planet’, Annex para 18, OJ L 354/171, L 354/179 (28 December 2013).

Directive (then 96/82/EC), as well as the application of the WFD only “in a generic sense” rather than specifically.⁵⁷

Whereas specific EU legislation may be lacking, much EU legislation in Annex III applies to many mining activities. Professor Scannell commented that “it is hard to think of any aspect of mining or mining waste, and its listed associated activities, for which the operator of a mine is not strictly liable under the ELD”.⁵⁸ She noted the following Annex III legislation that applies to mines:

- Industrial Emissions Directive (2010/75/EU) / IPPC Directive (2008/1/EC);
- Directive (2008/98/EC) on waste;
- Dangerous Substances Directive (2006/11/EC);
- Directive (2006/118/EC) on the protection of groundwater against pollution and deterioration;
- CLP Regulation (EC) No. 1272/2008;
- Dangerous Preparations Directive (1999/45/EC);
- WFD; and
- Mining Waste Directive (2006/21/EC).

This situation, in which there is generic, but not specific, legislation applicable to most (but not all, see section 2.1.1 above) mining activities also applies to other “dangerous” activities.

The Commission may thus wish to consider further whether there is a gap in Annex III for mining (and other “dangerous”) activities, or whether the generic legislation listed in Annex III is adequate to cover them. If, of course, Annex III is extended to include a specific industrial sector, this would change the nature of Annex III beyond its current listing of activities associated with EU legislation to a listing more akin to Annex II of the Environmental Assessment Directive (2011/92/EU).

Exploration and exploitation of shale gas

No specific EU legislation applies to the exploration and exploitation of shale gas. A study carried out for the Commission in 2011 reviewed the application of legislation to the exploration of shale gas in France, Germany, Poland and Sweden. The study found that general mining or hydrocarbons legislation regulating licensing and authorisation procedures for the exploration applied, with other legislation also playing a role.⁵⁹ EU legislation identified by the study, which is included in Annex III of the ELD, is as follows:

- Directive (2006/118/EC) on the protection of groundwater against pollution and deterioration;
- WFD; and

⁵⁷ Christian Wolkersdorfer, Rob Howell, Jaime M. Amezaga, Adeline Kroll, Adam P. Jarvis, Ben Rees, Erik Puura, Wiel M. H. Misere, Roy W. M. G. Wings, Peter Bajtoš, Leopold Weber, Blanka Sárváryne-Szentkatolnay, Carlo Alberto Garzonio, Paul L. Younger, *Contemporary Review of Mine Water Studies in Europe, Mine Water and the Environment*, vol. 24, p. 1 (2005).

⁵⁸ Yvonne Scannell, *The Regulation of Mining and Mining Waste in the EU*, *Washington & Lee Journal of Energy, Climate, and Environment*, vol. 3, pp. 177, 192-193 (2012).

⁵⁹ Philippe & Partners, *Final Report on Unconventional Gas in Europe* (Report prepared for the European Commission, TREN/R1/350-2008 lot 1, 8 November 2011), section 5.1.2, pp. 14-16.

- Mining Waste Directive (2006/21/EC).⁶⁰

Other EU legislation that may also apply to some aspects of the exploration and exploitation of shale gas, and which is also included in Annex III of the ELD, is as follows:

- Industrial Emissions Directive (2010/75/EU) / IPPC Directive (2008/1/EC);
- Biocides Regulation (EU) No. 528/2012; and
- Regulation (EC) No. 1013/2006 on transboundary shipment of waste within, into or out of the European Union.

As with mining, therefore, Annex III legislation applies generically to some aspects of the exploration and exploitation of shale gas although it does not apply specifically.

The 2011 study specifically examined the application of the ELD, concluding that liability for shale gas activities currently differs between strict liability for some Member States and fault-based liability in other Member States.⁶¹ In reaching these conclusions, however, the study referred to the differing transpositions of the ELD into the national law of Member States, not to the ELD itself. Some Member States transposed the strict liability provisions of the ELD more stringently than other Member States (see Table 1 above). The differences in the extension of strict liability to the exploration and exploitation of shale gas between Member States would, therefore, be harmonised only if strict liability in the ELD was extended beyond its current scope.

The EU has already considered applying the ELD to shale gas operations. In January 2014, the Commission issued a Recommendation that “Member States should apply the provisions on environmental liability to all activities taking place at an installation site including those that currently do not fall under the scope of [the ELD]”.⁶² The Commission recommended mandatory financial security for shale gas operations.⁶²

The Recommendation, and accompanying Communication, are part of the Commission’s wider initiative to put in place an integrated climate and energy policy framework for the period up to 2030.⁶³ Due to the Commission having already taken action regarding shale gas operations, this study does not include any recommendations concerning it.

Invasive alien species

Another potential addition to Annex III is the transportation and deliberate release into the environment of alien plant and animal species and their carcasses. The adoption of measures to prevent harm from invasive alien species is addressed in the Commission’s Proposal for a Regulation on the prevention and management of the introduction and spread of invasive alien species. As the explanatory memorandum to the Proposal notes, invasive alien species “are one of the major, and growing, causes of biodiversity loss and species extinction. [They] can be vectors of diseases or directly cause health problems (e.g. asthma, dermatitis and allergies). They can damage infrastructure and recreational facilities, hamper forestry or cause agricultural losses, to

⁶⁰ Philippe & Partners, Final Report on Unconventional Gas in Europe (Report prepared for the European Commission, TREN/R1/350-2008 lot 1, 8 November 2011), section 5.1.2, p. 101.

⁶¹ Philippe & Partners, Final Report on Unconventional Gas in Europe (Report prepared for the European Commission, TREN/R1/350-2008 lot 1, 8 November 2011), section 5.1.2, pp. 59-62.

⁶² Commission Recommendation of 22 January 2014 on minimum principles for the exploration and production of hydrocarbons (such as shale gas) using high volume hydraulic fracturing, section 12.1 (C(2014) 267/3).

⁶³ See Environment: European Commission recommends minimum principles for shale gas (IP/14/55, 22 January 2014).

mention but a few. [Invasive alien species] are estimated to cost the Union at least € 12 billion per year and damage costs are continuing to rise”⁶⁴.

As noted in section 2.1.3 above, Belgium (Federal State) has included the transportation of invasive plant and animal species as an Annex III activity. Belgium (Brussels-Capital Region) has included the deliberate release into the environment, and the transport of, invasive alien species.

There is an excellent argument that the proposed Regulation should be added to Annex III, when it is adopted, in order to assist in halting the loss of biodiversity in the EU.

2.1.4.4 Leaving the list of Annex III legislation unchanged

The ELD Article 18(1) reports indicate that Member States are not applying the ELD to many Annex III activities, particularly the Industrial Emissions Directive / IPPC Directive. Leaving the list of Annex III legislation unchanged and/or not extending strict liability to non-Annex III activities would not, therefore, achieve the fundamental purpose of the ELD that “an operator whose activity has caused the environmental damage or the imminent threat of such damage is to be held financially liable, in order to induce operators to adopt measures and develop practices to minimise the risks of environmental damage so that their exposure to financial liabilities is reduced” (ELD, recital 2).

In addition, leaving the list unchanged deters the advancement of the polluter pays principle on which the ELD is based.

In this respect, the Commission may also wish to consider whether the liaison between the ELD and the Industrial Emissions Directive should be clarified or revised. The Industrial Emissions Directive (arts 7, 22(1)) simply states that it is without prejudice to the ELD; there is no guidance (as there is for some other EU legislation),⁶⁵ as to how the ELD and the Industrial Emissions Directive should be implemented and enforced to complement each other (see section 0).

2.1.4.5 Reducing the list of Annex III legislation

Reducing the list of Annex III legislation when the ELD is not being applied in most Member States, as shown by the Article 18(1) reports, would not achieve the purpose of the ELD. It would thus be counter to the polluter pays principle and the law and economics approach to reduce the list for the reasons stated in section 2.1.4.4 above.

2.2 Experience gained regarding the appropriateness of the scope of strict liability

The scope of strict liability under the ELD was identified as a potential obstacle and challenge to the implementation of the ELD in a previous study published in May 2013 (“ELD Implementation

⁶⁴ Proposal for a Regulation on the prevention and management of the introduction and spread of invasive alien species, p.2. COM(2013) 620 final (9 September 2013).

⁶⁵ See, e.g., European Commission, Guidance on the interpretation of key provisions of Directive 2008/98/EC on waste, section 2.1, p. 40 (discussing relationship between Waste Framework Directive and End of Life Vehicles Directive (2000/53/EC) and Packaging Directive (94/62/EC), section 2.5, p. 44 (discussing relationship between the Waste Framework Directive and Regulation (EC) No. 1069/2009).

study”).⁶⁶ The study highlighted that some stakeholders considered the scope of strict liability under the ELD as too broad, while others considered it appropriate or too narrow.

Based on further analysis and consultation of stakeholders, this section will present:

- General considerations and diverging views in relation to the scope of strict liability; and
- Detailed analysis regarding certain activities not currently falling with the scope of Annex III to the ELD.

2.2.1 General considerations and diverging views

During the 2nd ELD Stakeholder Conference of June 2013, members of the stakeholders' group debating the extension of the scope of the ELD (Group two) were “unanimously” of the opinion that the current scope and system of strict liability based on Annex III to the ELD was appropriate.⁶⁷ However, this view is not shared by all experts and stakeholders consulted in the framework of this study.

In the ELD implementation study, it was found that, for at least one legal expert, the scope of Annex III is too narrow as many Annex III activities are subject to the Industrial Emissions Directive (Annex III.1), whereas 90% of economic activities are carried out by small to medium size companies (SMEs) and do not fall under Annex III. Information is not currently available to compare the number of ELD incidents caused by Annex III large companies and those caused by Annex III SMEs.

The Article 18(1) reports showed the following numbers of ELD incidents that fell under Annex III. Many ELD cases involve Annex III.2 (waste management operations), Annex III.7 (manufacture, use, storage, processing, filling, release into the environment and onsite transport of dangerous substances, preparations, plant protection product or biocidal products), and Annex III.8 (transport by road, rail, inland waterways, sea or air of dangerous goods or polluting goods). Most cases of damage in Italy were caused by activities under Annex III.2, as a consequence of waste management operations or discharges into water.⁶⁸ Other cases that occurred in Italy fell under the scope of Annex III.1, for damage to atmosphere for operation of installations subject to permit.⁶⁸ In Lithuania, a number of reported cases of damage to land fell under the scope of Annex III.7 activity.⁶⁹ Other illustrations include cases reported by Belgium (Federal State), where the professional activities of the liable parties could be classified as Annex III.8 activities, although “no cases of environmental damage fell under the ELD in Belgium but some cases fell into a broad application of the principles of the ELD”⁷⁰. Estonia reported a number of ELD cases involving Annex III.7.(a) and Annex III.6 activities. The Chemie-Pack incident in the Netherlands highlighted that the activity was covered by Annex III.7.(a), as dangerous substances were used and stored as defined in Council Directive 67/548/EEC (now Regulation No. (EC) 1272/2008). Some cases were also observed in Romania, covered by Annex III.8.(b), which occurred in 2008 and 2009. As for

⁶⁶ BIO Intelligence Service (2013), Implementation challenges and obstacles of the Environmental Liability Directive, Final report prepared for European Commission – DG Environment. In association with Stevens & Bolton LLP. Available at <http://eldimplement.biois.com/>

⁶⁷ 2nd ELD Stakeholder Conference, Brussels, June 2013, Summary report, available at http://ec.europa.eu/environment/legal/liability/pdf/eld_meetings/11_06_2013/Conference%20Report%20-%20final.pdf

⁶⁸ Report submitted by Italy under ELD Article 18(1).

⁶⁹ Report submitted by Lithuania under ELD Article 18(1).

⁷⁰ Report submitted by the Belgian Federal State under ELD Article 18(1).

Spain, a number of reported cases fell into the scope of Annex III.1, Annex III.8 and Annex III.9 activities.⁷¹

In summary, incidents involving Annex III operators fall under many categories in Annex III. There has, as yet, however, been no compilation of Annex III incidents that indicates the percentage involving large companies compared to SMEs. Further, such information would not be definitive because, for example, businesses may be carrying out preventive and remedial measures under the Industrial Emissions Directive instead of reporting the incidents as ELD incidents and carrying out preventive and remedial measures under the ELD (see section 3.1.3).

Further, the ELD Implementation study reported that in several cases the ELD could not be applied because the industrial activity which led to the imminent threat of, or actual, environmental damage was not covered by Annex III to the ELD or included in the ELD transposing legislation of the Member State. For instance, in France the *Coussouls de Crau* case (see below) did not fall within the scope of the ELD because transportation of oil by a pipeline is not an Annex III activity.⁷² Hence, France subsequently enacted legislation to impose strict liability on releases from oil pipelines.

It is important to note that Member States' reports submitted to the Commission pursuant to Article 18(1) of the ELD do not provide much information as to why a case was not treated under the ELD. As pointed out by one stakeholder,⁷³ it may be difficult to obtain proper and reliable information in Member States as to why environmental damage cases were not treated under the ELD (e.g., if not an Annex III activity), especially when a Member State has no information basis (e.g. via a database) that provides information on environmental damage cases. In addition, such cases may be treated in Member States under a liability regime different from the ELD, which are not limited to specified types of activities. This is often the case for water management regimes. In fact, it is reportedly not always clear to competent authorities whether an activity falls within Annex III to the ELD; in addition, these authorities are not always aware or do not have good knowledge of the ELD, which results in the non-application of the ELD.⁷⁴

2.2.1.1 General arguments for broadening or redefining the scope of strict liability

A number of consulted experts and stakeholders expressed the view that the scope of strict liability should be broadened or redefined.

Some experts⁷⁵ consider that the ELD does not work as effectively as it could, owing in particular to the fact that Annex III to the ELD is very limited (and should be viewed as a minimum), as it applies only to specific activities, and is combined with significance thresholds. It is also considered that the scope of strict liability under the ELD does not really work effectively, as the ELD has hardly

⁷¹ Report submitted by Spain under ELD Article 18(1).

⁷² This position was later validated by Environment Commissioner Stavros Dimas in an answer to a parliamentary question. See Parliamentary Questions, 18 January 2010, Answer given by Mr Dimas on behalf of the Commission. Available at www.europarl.europa.eu/sides/getAllAnswers.do?reference=P-2009-6130&language=EN

⁷³ Interview with Birgit Schmidhuber, from Justice & Environment, in the framework of this study.

⁷⁴ Interview with Stakeholder in the framework of this study.

⁷⁵ Interview, in the framework of this study, with Birgit Schmidhuber, from Justice & Environment, and Magdalena Bar, from environmental law firm Jendroška Jerzmański Bar & Partners. Environmental Lawyers.

been applied in most Member States, this owing to the significance thresholds being high, and not because Annex III is too limited.⁷⁶

Thus, some experts⁷⁷ expressed the opinion that the list of activities subject to strict liability should be broadened, not necessarily by adding activities to the current list of Annex III, but by having more all-encompassing categories/activities, with less criteria as to the activities included. Consequently, the view was expressed that the list of Annex III activities should be more open (although how it should be made more open remains to be debated) in order to include all dangerous activities, whether based on experience (e.g. activities that have already caused environmental damage, such as transport of dangerous substances by pipeline,⁷⁸ ruptures or drill-through being quite frequent incidents), as well as mining activities as a whole⁷⁹ and new activities such as shale gas.⁸⁰ One expert considered that the danger that may result from new activities such as shale gas is not currently fully embraced, and, in application of the precautionary principle, they should be included in the list of activities subject to strict liability.⁸¹ For another, it is necessary to ensure that Annex III keeps being extended to new activities subject to EU regulation.⁸² Addition of new activities to the Annex III to the ELD would render the ELD more effective as, regarding those, it may be difficult for administrative authorities to prove the operator committed a fault.⁸³

In addition, even within Member States the notion of “fault” can differ. In Poland for instance, the notion of “fault” is broader under civil law than under criminal law, but, until the transposition of the ELD, administrative authorities did not have to apply the concept of “fault”, as administrative sanctions were until now all based on strict liability. According to one expert, it would therefore be easier for administrative and/or environmental authorities to implement the ELD regime if all activities within its scope were subject to strict liability.⁸³ This echoes other opinions⁸⁴ that Annex III should never have been included in the ELD, as it was added when a civil liability regime was being contemplated, but was kept at the time of the shift to public law (administrative liability) whereas it should have been deleted, once a public law strict liability regime was adopted (as public law in this field generally applies strict liability). Hence, some experts are in favour of subjecting all activities falling within the scope of the ELD (that is, also those currently subject to strict or fault/negligence-based liability) to strict liability, the requirement being that the damage involved was significant and that some kind of causal connection to the liable party’s actions could be established (see chapter 4 on the appropriateness of the significance thresholds).⁸⁴

Although this solution would very likely be resisted, it would ensure a more effective implementation of the ELD as it would simplify the current “muddle”. In particular, it was observed that national legislation tends to apply strict liability for e.g. cases of contaminated land and water

⁷⁶ Interview with Hannes Descamps, researcher and lecturer at the Institute for environmental and energy law at Leuven University, in the framework of this study.

⁷⁷ E.g. Birgit Schmidhuber, from Justice & Environment, interviewed in the framework of this study.

⁷⁸ Interview, in the framework of this study, with Birgit Schmidhuber, from Justice & Environment, and with other stakeholders.

⁷⁹ Interview with Stakeholder in the framework of this study.

⁸⁰ Interview, in the framework of this study, with Birgit Schmidhuber, Justice & Environment, and Magdalena Bar, from environmental law firm Jendroška Jerzmański Bar & Partners. Environmental Lawyers.

⁸¹ Interview, in the framework of this study, with Birgit Schmidhuber, from Justice & Environment, and Sandy Luk, from ClientEarth.

⁸² Interview with Sandy Luk, from ClientEarth, in the framework of this study.

⁸³ Interview with Magdalena Bar, from environmental law firm Jendroška Jerzmański Bar & Partners. Environmental Lawyers, in the framework of this study

⁸⁴ Interview, in the framework of this study, with Chris Clarke, from University College London Centre (UCL) for Law and Environment, and with Sandy Luk, from ClientEarth.

pollution, as well as for harm to protected species and habitats, whether or not the activity is covered by Annex III, whereas the ELD would only apply fault-based liability in cases of biodiversity damage.⁸⁵ This is already the case in certain Member States: Hungary thus chose not to transpose Annex III into its national legislation in order to extend the scope of applicability of the liability system set forth by the ELD (see Table 1); consequently, all activities are subject to strict liability, which may explain the high number of cases (575 in total) of environmental damage in that country.⁸⁶ In this regard another expert highlighted that there is no real justification for the “double scheme” that the ELD creates, whereby the Directive covers all occupational activities in case of biodiversity damage (strict and fault-based liability), whereas it covers only those activities listed in Annex III (strict liability) for water and land damage; the inclusion of fault-based liability for biodiversity damage had reportedly to do with the political objective, at the time of adoption of the Directive, to stop the loss of biodiversity (animal and plant extinctions) by 2010. He further pointed out that the ELD includes many “civil law leftovers”, in particular the reference to fault-based liability, which should be left out of the Directive, as it is not up to competent authorities or national governments to decide whether an operator has been at fault or negligent: it is a judge’s prerogative.⁸⁷

Another view expressed is that the list of activities under Annex III to the ELD is already broad in scope because notably of item 7(b) which refers to the use of dangerous preparations: the term “use” is indeed very broad, as is the reference to “dangerous preparations” as they include all labelled products (e.g. cleaning products). Consequently, some experts consider that the ELD would benefit from a simpler definition of activities subject to strict liability, which could include every activity, to the exclusion of private (non-commercial or domestic) activities. Activities that cause environmental damage and that could be included in “private activities” include harm to, and the destruction of, protected natural habitat in order to increase the number of game birds that can be hunted.⁸⁸ It was also pointed out that the ELD may lack clarity as it refers to other pieces of EU legislation and concepts contained therein (e.g. “favourable conservation status”), which may provide a sense of comfort but may actually render the ELD less understandable.⁸⁷ Consequently, an expert recommended analysing Annex III in more depth as it is currently difficult to know precisely all instruments it refers to and if they do not overlap. He also underlined that the added value of a clear and short list of activities focussed for example on IPPC / Industrial Emissions Directive activities, could increase chances of having insurance available for operators.⁸⁷

Finally, it is also important to note that Member States have reported cases where environmental damage occurred as a result of occupational activities not necessarily listed in Annex III to the ELD, and hence not subject to strict liability, but to fault or negligence in relation to biodiversity damage. This is notably the case of Austria, where such a case occurred in the province of Lower Austria, or Cyprus, where biodiversity damage resulted from drainage pipes. Estonia also mentioned that there were cases of environmental damage not covered by the list of Annex III, but no specific information was provided. Other such cases occurred in Finland (mining activities). In Italy, out of the 17 ELD cases reported, three were caused by activities not included in Annex III, concerning

⁸⁵ Interview with Chris Clarke, from University College London Centre (UCL) for Law and Environment, in the framework of this study.

⁸⁶ Report submitted by Hungary under ELD Article 18(1).

⁸⁷ Interview with Hannes Descamps, researcher and lecturer at the Institute for environmental and energy law at Leuven University, in the framework of this study.

⁸⁸ Interview with Prof. Luc Lavrysen, Environmental law professor at Ghent University, in the framework of this study.

infrastructure construction, offshore drilling⁸⁹ and the sea carriage of passengers (Costa Concordia), respectively.⁹⁰

2.2.1.2 General arguments in favour of the *status quo*

According to the Common Forum on Contaminated Land in the European Union (“Common Forum”), the scope of strict liability is already broad and Annex III to the ELD covers a large scope of activities. Thus, it already covers all activities listed in Annex I to the Industrial Emissions Directive (2010/75/EU). Before considering “adding” new activities to the list of Annex III, the Common Forum considers that it would be more relevant first to ensure that this Annex is properly applied. This need for proper enforcement of strict liability under the ELD was also raised during the 2nd ELD Stakeholders Conference.

FERMA is also of the opinion that the current scope of strict liability is sufficient and should not be revised, at least yet: FERMA emphasised that application of the ELD dates back only to 2007 (although transposition of the ELD was completed in all Member States only in 2010), and it is therefore necessary to consolidate what already exists, through notably feedback of information on the practices of Member States (e.g. the tools developed by the UK, Spain (Mora) and France (Visual HEA), that for some allow a determination of costs of remediation).⁹¹ Similarly, Cefic believes the current scope of strict liability under the ELD is appropriate, at least as concerns the chemical industry.⁹² It considers that the scope of application of any strict liability system should be restricted and linked to activities involving particularly significant risks to the environment, and should as such maintain an exceptional character; it is hence of the opinion that the “positive list approach” of Annex III should be maintained.⁹³ In this regard, according to the Ad-Hoc Industry Natural Resource Management Group, the scope of strict liability under the ELD works effectively and is sufficient as they only target activities which have the greatest potential risk for environmental damage, including the manufacturing and use of hazardous substances; it also indicated that Member States have already in place specific liability regimes to address activities and that no new activities should be added to ELD Annex III.⁹⁴

During the 2nd ELD Stakeholder Conference, the opinion was expressed that, if needed, a possible extension should be discussed only on a case-by-case basis, such as was the case with transport by pipelines in France. Cefic also indicated that any extension of the list of operations in Annex III should be made on a case-by-case basis, with regards to the significant risks to the environment posed by the activity and insurance availability.^{92 93}

In addition, the Common Forum highlighted the necessity, before any revision to the ELD is adopted, to consider the provisions of other EU pieces of legislation (e.g., the IED). The objective – and interest – is indeed to avoid revisions in one Directive leading to revisions in others (domino effect) which could lead to incoherent provisions.⁹⁵ As to the NICOLE network⁹⁶, it considers that

⁸⁹ Offshore drilling is now covered by the ELD following the adoption of the Offshore Safety Directive (2013/30/EU), art 7 & recital 11.

⁹⁰ Report submitted by Italy under ELD Article 18(1).

⁹¹ Interview with Julien Bedhouche, from FERMA, in the framework of this study

⁹² Interview with Liesbeth Timmermans, from Cefic, in the framework of this study.

⁹³ Cefic Preliminary Views on: Key review points of the Environmental Liability Directive, 27 August 2013.

⁹⁴ Written feedback provided by Barbara Goldsmith, from the Ad-Hoc Industry Natural Resource Management Group, in the framework of this study.

⁹⁵ The Common Forum mentioned for instance that different EU legislation refer to contamination and related definitions and/or concepts, which may vary. Thus, it indicated that the ELD refers to significant pollution to land (in relation to risks to human health) and groundwater, while the Renewable Energy Directive

strict liability under the ELD does work, thanks to the existence of the permit and state-of-the-art defences, which provides legal certainty to operators. NICOLE supports simplification and standardisation of EU Directives in general, and notably the ELD: NICOLE considers that the ELD, and in particular Annex III, should be aligned with other EU legislation such as the IED, thus sharing the view of the Common Forum. It believes this would increase the effectiveness of the Directive.

However, it is important to note that some experts consider that the optional defences undermine the concept of strict liability.⁹⁷ Some nuance this statement, indicating that, although the existence of defences entails that there is no absolute channelling of liability, the permit and state-of-the-art defences are not undermining the concept of strict liability as they have a very narrow scope and the burden of proof lies on the operator.⁹⁸

As to some, but not all, sectors of the insurance sector, concerns were raised about extending the scope of strict liability, pointing out that the market developed as a response to the ELD, and an extension would possibly lead to higher premiums having to be paid by operators, as a limiting effect on the market capacity available. NICOLE highlighted that risk-assurance companies will likely include premium for significant increase of operational uncertainties.⁹⁹ For Insurance Europe, there would be no added value (for insurers) in extending the scope of strict liability under the ELD. Insurance Europe believes that strict liability should be reserved for highly dangerous activities (because of the high danger they pose), and any extension would dilute this purpose. Insurance Europe considers that the ELD insurance market is developing and growing, and extending the scope of strict liability could hinder this development by greatly increasing the frequency of related insurance claims. This increase can impact premium levels and possibly insurance market capacity.¹⁰⁰ Similarly, the Ad-Hoc Industry Natural Resource Management Group considers that amendments or premature changes to the liability scope and definition will likely affect liability parameters used in insurance market and stall further development of insurance products.¹⁰¹

Finally, FERMA further affirmed that better effectiveness of the ELD would not be achieved through a revision of the scope of strict liability, but rather through technical aspects and exchange of good practices. The numbers of registered ELD cases have been relatively low, in part a reflection of improving environmental risk management among European countries. It would for instance be relevant to have a register at EU level of all ELD/environmental incidents that occurred in the Member States,¹⁰² but this would also require a legal amendment of the ELD. Such registers already exist in some Member States, such as Bulgaria which created a register of operators falling within the scope of the national legislation transposing the ELD¹⁰³; Estonia also set up a register of

(2009/28/EC) defines what heavily contaminated land is (“unfit for the cultivation of food and feed due to soil contamination”), and the IED considers risks concepts, while the waste directives consider only hazards.

⁹⁶ The contribution to the ELD final report is a general expression of NICOLE views but does not necessarily reflect the opinion of all individual NICOLE members or member organisations.

⁹⁷ Interview with Sandy Luk, from ClientEarth, in the framework of this study.

⁹⁸ Interview with Hannes Descamps, researcher and lecturer at the Institute for environmental and energy law at Leuven University, in the framework of this study.

⁹⁹ Written feedback provided by NICOLE representatives in the framework of this study.

¹⁰⁰ Interview with Carmen Bell, from Insurance Europe, in the framework of this study.

¹⁰¹ Written feedback provided by Barbara Goldsmith, from the Ad-Hoc Industry Natural Resource Management Group, in the framework of this study

¹⁰² Interview with Julien Bedhouche, from FERMA, in the framework of this study.

¹⁰³ Report submitted by Bulgaria under ELD Article 18(1).

environmental liability cases, where information is available on cases of environmental damage and the threat of environmental damage.¹⁰⁴

2.2.2 Detailed feedback regarding certain activities

While some stakeholders consider that certain activities (not currently included or “new” activities) should be added to the list of Annex III, others are against it. These diverging opinions are summarised in the paragraphs below.

However, as a preliminary remark it is interesting to highlight that at the time of drafting the ELD, it was decided to include in Annex III only activities that were covered by substantive regulatory EU law: that is the reason why e.g. land damage under the ELD is related solely to human health (as there is currently no EU Soil Framework Directive), and pipeline transport of dangerous substances is not included in Annex III as there is no EU law regulating this activity. This is hence a strategic issue that should be addressed, namely whether to include in Annex III activities that are not covered by substantive EU regulatory law.¹⁰⁵ It is however noteworthy that the Environmental Impact Assessment Directive (2011/92/EU), for example, includes within its scope a wide range of activities, without referring to EU law.

2.2.2.1 Pipeline transport of dangerous substances

As previously mentioned, national legislation transposing the ELD may subject a broader list of activities to strict liability than the current list of Annex III (e.g. Hungary). This is notably the case with pipeline transport of dangerous substances. Under Polish law, this activity is subject to strict liability as the ELD transposing legislation does not refer, and hence limit strict liability, to “onsite” transport.¹⁰⁶ In France, this activity was added to the list of activities subject to strict liability following the *Coussouls de Crau* case.¹⁰⁷ In 2009, an underground pipeline transporting crude oil ruptured, resulting in a spill of over 4,000 m³ of oil in the *Coussouls de Crau* nature reserve, a Natura 2000 protected area located in the South of France. This accident resulted in severe pollution of land, water and impacted protected species and natural habitats.¹⁰⁸

Additional cases were reported of environmental damage caused by pipeline spills. However, little information could be retrieved on the incidents:¹⁰⁹

- In August 2013 in Born, Limburg (the Netherlands), an underground naphtha pipeline carrying benzene ruptured and 85,000 litres spilled into the surrounding environment, an industrial area.¹¹⁰ A sealing occurred a couple of days after the rupture. In the meantime, two workers were covered by the liquid while they were drilling in the area, which had to be removed by the fire brigade. The company owning the pipeline is the petrochemical

¹⁰⁴ Report submitted by Estonia under ELD Article 18(1).

¹⁰⁵ Interview with Chris Clarke, from University College London (UCL) Centre for Law and Environment, in the framework of this study.

¹⁰⁶ Interview with Magdalena Bar, from environmental law firm Jendroška Jerzmański Bar & Partners. Environmental Lawyers, in the framework of this study.

¹⁰⁷ Through Decree No. 2012-615 of 2 May 2012, amending Article R.162-1 of the French Environmental Code, which is the national provision transposing Annex III of the ELD.

¹⁰⁸ For more information on that case, see BIO Intelligence Service (2013), Implementation challenges and obstacles of the Environmental Liability Directive, Final report prepared for European Commission – DG Environment, Annex – Part B (case studies). In collaboration with Stevens & Bolton LLP. Available at <http://eldimplement.biois.com/>

¹⁰⁹ Interview with Stakeholder in the framework of this study.

¹¹⁰ See <http://www.nltimes.nl/2013/08/07/naphtha-leak-born/>

company Sabic. After the incident, a pool of about 50 square meters in size was observed around the hole in the pipe. It was reported that reparation measures of the pipeline were extremely difficult as naphtha is a highly flammable chemical and that once the leak would be plugged, soil would need to be excavated.¹¹¹ Nonetheless, no risk of explosion was declared. There was reportedly no biodiversity damage, but a canal was nearby, raising the issue of a potential impact on surface water (which apparently did not materialise).

- In Romania, a case was reported of diesel spilling into a river (also impacting the river banks) as a result of a ruptured pipeline. Although measures were taken in relation to the water pollution itself, no measures were undertaken to restore the river banks to baseline.
- In Latvia, an incident was reported in 2010 involving a spill of benzene that leaked into groundwater. Remedial measures were carried out to pump the contaminated groundwater, leaving it in an open storage tank until the diesel evaporated; the water was then returned to the groundwater table. Arguments for such “remediation” included apparently the fact that the area (an industrial one) was already very polluted.¹¹²

One issue that arises is that of harmonisation: if the activity of pipeline transport of dangerous substances is already subject to strict liability in certain Member States, and has already resulted in (and thus proven its potential for) significant environmental damage, why should it not be added to the list of activities of Annex III to the ELD so it applies to all Member States? Some experts and stakeholders have voiced their opinion in favour of such an extension (see previous paragraphs). Others are against such an extension, arguing that this activity is already subject in most EU Member States to a more stringent regime than the ELD, and hence do not need to be included in Annex III.¹¹³ However, if this is so (which cannot be entirely correct because no Member State imposes compensatory remediation, only Germany imposes complementary remediation for biodiversity (not water) damage, and many Member States do not have requirements to carry out preventive measures or emergency remedial actions), including pipeline transport of dangerous substances in Annex III to the ELD should not be an issue if it is then less stringent than existing national laws.

Cefic highlighted that a number of questions would have to be answered prior to any decision being made as to the inclusion of pipeline transport of dangerous substances in Annex III to the ELD. First, what is the activity under consideration: would it be proportionate to apply a strict liability regime to any type of pipeline (small and/or big, to deliver to consumers or industrial installations, etc.)? By reference to what legislation would the activity be defined?¹¹⁴ Determining additional factors, such as diameter, pressure, average flow, etc., could indeed be useful; however, nothing would prevent legislation from addressing and determining such factors. Cefic added that it should also be kept in mind that damage that results from such transport is often due to third party interference.¹¹⁴ In this regard, it must nonetheless be recalled that the ELD provides for a third party defence.

2.2.2.2 Mining activities

With regards to metals and minerals mining, Euromines is of the opinion that there is no need to broaden the list of Annex III regarding mining activities as the latter activities are already subject to the ELD and included within this Annex. Euromines pointed out that the mining sector is already covered by a number of EU laws and, as such, is subject to stringent legal requirements, in

¹¹¹ See <http://www.nltimes.nl/2013/08/07/naphtha-leak-born/>

¹¹² Interview with Stakeholder in the framework of this study.

¹¹³ Interview with Dominique Darmendrail, General Secretary of the Common Forum, in the framework of this study.

¹¹⁴ Interview with Liesbeth Timmermans, from Cefic, in the framework of this study.

particular through the Mining Waste Directive (MWD, 2006/21/EC on the management of waste from extractive industries)¹¹⁵ and the specific BREF document¹¹⁶ adopted in relation to that Directive. It further added that the MWD has a large scope as it includes the management of waste resulting from all types of mining and quarrying activities as well as all the relevant stages of mineral resources exploitation, namely prospecting, research, treatment and storage of mineral resources. It lays down a number of measures to ensure safe mining operations, including a compulsory financial guarantee, which has to be lodged by the project developer “prior to the commencement of any operations” to cover all planned obligations arising under the permit in case of bankruptcy, including the rehabilitation of the land affected by the waste facility at the end of the mine life. The ELD subjects to strict liability the management of extractive waste pursuant to the MWD (Annex III, point 13). Hence, according to Euromines, given the large scope of the MWD, the majority of mining activities are already covered by EU legislation and subject to strict liability under the ELD.¹¹⁷

Euromines further highlighted that it is always necessary to adopt a risk-based approach and strike a balance between the potential risks and the corresponding regulatory regime. In the “marginal” case of mining activities which may not be covered by the ELD because no mining waste is produced, processes used are generally mechanical, without the use of chemical substances, and actual risks of damage are rather limited.¹¹⁸ Since 2006, i.e. since the adoption of the MWD, there has apparently not been any reported damage related to such activities, with the possible exception of the operating Talvivaara mine case (see below), which remains isolated in comparison with the number of operations currently running in Europe.¹¹⁹ In addition, the Common Forum indicated, regarding what the term “mining activities” cover, that (i) the mineral ore treatment processing, often located close to the extraction areas, is covered by the ELD strict liability regime as Annex I to the IED refers to “production and processing of metals” (entry 2), and (ii) the extraction process of mining ores is covered by other national regimes (Mining Codes). However, it is important to note that mining is in general broader than just metal production.

Euromines also emphasised that, should the scope of strict liability be broadened, it would mechanically require additional financial security coverage. Euromines is also of the opinion that insurance under the ELD should not become mandatory, in order to provide operators with greater flexibility and diversity when choosing the most suitable mix of instruments (insurance and/or alternative financial security instruments) to cover environmental liability.

However, as described in section 2.2.1.1 above, some experts and stakeholders consider that mining activities should be added to Annex III.¹²⁰ In Member States’ Article 18(1) reports submitted to the Commission, some Member States specifically referred to cases involving mining operations

¹¹⁵ The MWD notably imposes (i) compulsory requirements to ensure a safe management of extractive waste (through waste management plans) and the implementation of a major-accident prevent and information policy, and (ii) a financial guarantee that would cover any damage should it occur.

¹¹⁶ BREF, Management of Tailings and Waste-Rock in Mining Activities, July 2009. Available at http://eippcb.jrc.ec.europa.eu/reference/BREF/mmr_adopted_0109.pdf. Review of the MTWR BREF started in December 2013.

¹¹⁷ Interview with Emmanuel Katrakis, from Euromines, in the framework of this study; Euromines’ official answer provided in the framework of the Study to explore the feasibility of creating a fund to cover environmental liability and losses occurring from industrial accidents (BIO, 2013) (Fund study, see <http://eldfund.biois.com/>).

¹¹⁸ Euromines’ official answer provided in the framework of the Study to explore the feasibility of creating a fund to cover environmental liability and losses occurring from industrial accidents (BIO, 2013) (Fund study, see <http://eldfund.biois.com/>).

¹¹⁹ Interview with Emmanuel Katrakis, from Euromines, in the framework of this study.

¹²⁰ Interview with Stakeholder in the framework of this study.

not covered by Annex III to the ELD. Thus, Finland mentioned biodiversity damage as a result of mining operations (unauthorised soil and rock samples and excavations) carried out by the mining firm Mawson Ltd, although no specific information is provided on this case.¹²¹ However, it does not refer to the Talvivaara mine case.

Further, although EU legislation has strengthened the regulation of mining activities, there have been huge spills associated with mining at Doñana, Spain (1998); Baia Mare, Romania (2000); and at the Talvivaara mine, Finland (2012). Although the Doñana and Baia Mare cases occurred before the MWD or the ELD came into force, they illustrate environmental damage that may be caused by mining activities:

- The Aznalcollar mine toxic spillage occurred in the Doñana National Park in Spain in April 1998.¹²² The incident happened after a containment wall of the storage reservoir for mining residues burst. Sludge and waters spilled into the River Agrio and River Guadiamar, spreading over land and affecting crops and vegetation. The spill significantly affected fauna of the two rivers as well as the local economy in the region; and
- The Baia Mare Aurul gold mine is located in North Western Romania. On 30 January 2000 a dam containing toxic waste from the mine burst and released 100,000 cubic meters of waste water.¹²³ The waste water contained free cyanide and cyanide complexes, which leaked into the Lapus and tributaries of River Tisza (Hungary).¹²⁴ Extensive damage was reported to the rivers' ecosystems and flora and fauna. The cyanide spill caused interruption in the water supply for 24 localities. It also caused inconvenience to citizens and supplementary costs to the sanitary and industrial sectors. Dead fish were observed, although phytoplankton and zooplankton were regenerated within 16 days to 60% of their original quantity.¹²⁵ Finally, a large amount of dead fish was also observed in former Yugoslavia in the Tisza River.

Issues regarding mining activities may be further illustrated by the following two cases:

- Scottish Coal case; and
- Talvivaara mine in Finland.

Scottish Coal

The Scottish Coal case involves the disclaimer of contaminated land and environmental permits by the liquidators of Scottish Coal, which is in insolvency proceedings. The permits are for carrying out operations at Scottish Coal's open cast mining sites to protect the environment from water pollution. In addition, Scottish Coal is obliged under planning law to restore the sites when mining ceased. The costs are substantial. Even after selling some sites, Scottish Coal must still spend £478,000 (EUR 576,420) each month for water pollution measures at the remaining sites, with the result that all funds in the insolvency estate will be gone in between 20 and 22 months without paying any creditors. Complying with planning requirements to remediate its sites will cost about £73 million (EUR 88 million).

¹²¹ Report submitted by Finland under ELD Article 18(1).

¹²² See http://ec.europa.eu/environment/legal/liability/pdf/biodiversity_main.pdf

¹²³ <http://reliefweb.int/sites/reliefweb.int/files/resources/43CD1D010F030359C12568CD00635880-baiamare.pdf>

¹²⁴ <http://www.eea.europa.eu/data-and-maps/figures/spread-of-the-cyanide-spill-from-baia-mare>

¹²⁵ <http://reliefweb.int/sites/reliefweb.int/files/resources/43CD1D010F030359C12568CD00635880-baiamare.pdf>

At the hearing in the lower court, Lord Hodge had agreed that the liquidators could disclaim the land and permits but did so because the court had to reach a decision that did not affect “referred matters”, that is, matters that had not devolved to Scotland under the Scotland Act 1998. Whereas environmental law had devolved, insolvency law had not. The court considered that it was bound, therefore, to construe the relevant environmental law, the Water Environment (Controlled Activities) (Scotland) Regulations 2011, narrowly so as not to create a new liquidation expense that would rank ahead of the claims of preferential creditors. In the absence of this constraint, Lord Hodge would have construed the environmental law broadly in conformity with EU law, as set out by the Court of Justice of the European Union.

On appeal to the Inner House, Lord Justice Clerk Lord Carloway upheld an appeal by the Scottish Environment Protection Agency, concluding that the liquidator did not have the power to disclaim the land and permits. The public will, however, have to pay a large part of the environmental costs because the remaining assets of Scottish Coal cover only a small proportion of Scottish Coal’s environmental liabilities.

Talvivaara mine

On 4 November 2012, a leak occurred in gypsum pond No. 1 in the Talvivaara mine in Eastern Finland.¹²⁶ There had been two previous leaks in the pond. At the time of the incident, the pond contained some five million m³ of water with metal content and gypsum sediment. About 1.2 million m³ of this waste water leaked out of the pond, around 240,000 m³ of which spilled outside the mine area,¹²⁷ in surrounding rivers and lakes. An investigation by the Finnish Environment Institute (SYKE) found in the released waste waters high levels of aluminium, cadmium, nickel, uranium and zinc.¹²⁸ The operator began building the Kortelampi safety dam in order to prevent water bearing metals from leaking outside the mine area; it also began the neutralisation of the water that had escaped from the gypsum pond and initiated monitoring of the environmental impact.¹²⁹

On 8 November 2012, officials at the Talvivaara mine declared they were hopeful to plug a leak in a gypsum waste pond.¹³⁰ However, a day after this announcement, another leak was reported. After another announcement on 14 November that the leakage was blocked, the leakage of the safety dam was reported and over 10,000 kilos of nickel as well as unknown amounts of uranium escaped the mine.

The Finnish Safety Investigation Authority found the causes of the accident to be as follows:

“The causes of the accident are the structure used in the gypsum pond and the use of the pond as water storage contrary to its proper purpose of use. The structure of the pond could not withstand the hydrostatic pressure of the water stored over the gypsum sediment; instead, the HDPE [high-density polyethylene] film tore and the water stored in the pond was able to escape. The two previous

¹²⁶ *Talvivaara mine: environmental disaster in Finland*. Available at http://www.nuclear-heritage.net/index.php/Talvivaara_mine:_environmental_disaster_in_Finland

¹²⁷ Finnish Safety Investigation Authority, *Ympäristöonnettomuus Talvivaaran kaivoksella marraskuussa 2012*, Y2012-03, p.5.

¹²⁸ See e.g. *Metal levels in River Lumijoki at Talvivaara poisonous to organisms*. Available at [http://www.syke.fi/en-US/SYKE_Info/Communications_material/Press_releases/Metal_levels_in_River_Lumijoki_at_Talviv\(3355\)](http://www.syke.fi/en-US/SYKE_Info/Communications_material/Press_releases/Metal_levels_in_River_Lumijoki_at_Talviv(3355))

¹²⁹ Finnish Safety Investigation Authority, *Ympäristöonnettomuus Talvivaaran kaivoksella marraskuussa 2012*, Y2012-03, p.5.

¹³⁰ See http://yle.fi/uutiset/ministry_chief_talvivaara_mine_should_be_shut_down/6367983

leaks in the pond probably led to the deterioration in the structures underneath the HDPE film, which is likely to have contributed to the creation of the leak.

Prior to the November 2012 leak, raffinate, or an acidic metal sulphate solution, had been pumped into the gypsum pond, counter to the pond's original purpose of use, for a period of two months. This raffinate made the leaked water more hazardous to the environment.”¹³¹

According to the Finnish Radiation and Nuclear Safety Authority, the released uranium would not constitute a threat to the environment or humans. Uranium concentrations in the sediments were not exceeding one thousand Becquerel per kilogram, and estimated that there was no need for special measures.¹³² However, the Finnish Radiation and Nuclear Safety Authority also stated that this released uranium would be a potential health risk if it was in contact with drinking water, and recommended temporarily not using water from a certain River (Lumijoki) for drinking or cooking.¹³³ It was also recommended not to eat lake or river fish as it was the most likely source of exposure to emissions from the gypsum pond. In fact, the rate at which fish accumulate heavy metal, such as mercury, is not as low as it is for other heavy metals and therefore should have been followed up.¹³⁴ Although the gypsum pond leakage did not have a major effect on health, it had a major impact on people's welfare.¹³⁴ The Finnish Environment Institute reported in February 2013 that “by the end of November 2012, the plume of the leakage ha[d] stopped in the nearby lakes within ca. 6km north and south of the gypsum pond” and that “actual effects of these hazardous substances on the region's aquatic organisms will be available earliest in the next summer's growing period, as the reproductive success of organisms and any disruptions in the food chain can only be observed over a longer period”.¹³⁵

Legal claims were brought against the mine, which led to various court decisions. In most of the legal proceedings, the Talvivaara mine invoked Article 62 of the Finnish Environmental Protection Act, which allows the bypass of an environmental permit in the case of a major risk of catastrophe, which could be caused by unexpected natural phenomena or other disasters that could not be anticipated. The Talvivaara mine notably argued that there was excess water in the mine as there had been excess rainfall in 2012 and bioleaching process problems.¹³⁶ Finally, several of the mining company's employees were suspected of environmental crimes under Finnish law.¹³⁷ A pre-trial investigation is ongoing seeking whether Talvivaara's officials have complied with environmental permits.

2.2.2.3 Shale gas

As indicated in section 2.2.1.1 above, several stakeholders are in favour of including shale gas operations in the list of activities subject to strict liability. A parallel was made with the geological

¹³¹ Finnish Safety Investigation Authority, Ympäristöonnettomuus Talvivaaran kaivoksella marraskuussa 2012, Y2012-03, p.5.

¹³² See *The leakage from the gypsum waste water pond in Talvivaara*. Available at http://www.stuk.fi/stuk/tiedotteet/2012/en_GB/news_803/

¹³³ See *STUK recommends temporarily not using water from Lumijoki river for drinking or cooking*. Available at http://www.stuk.fi/stuk/tiedotteet/2012/en_GB/news_797/

¹³⁴ See *Talvivaara leak has no serious health effects despite major impacts on welfare*. Available at http://www.thl.fi/en_US/web/en/pressrelease?id=31641

¹³⁵ *Finish Environment Institute Publication*, available at <https://helda.helsinki.fi/handle/10138/38465>

¹³⁶ *Talvivaara mine: environmental disaster in Finland*. Available at http://www.nuclear-heritage.net/index.php/Talvivaara_mine:_environmental_disaster_in_Finland

¹³⁷ See <http://www.helsinkitimes.fi/finland/finland-news/domestic/8198-several-suspected-of-environmental-crimes-at-talvivaara-mine.html>

storage of carbon dioxide (which is already covered by Annex III since the adoption of Directive 2009/31/EC of 23 April 2009), as it involves the same type of intervention in the environment.¹³⁸

According to Insurance Europe, new activities such as shale gas should be dealt with outside the ELD. It has the same position with regards to offshore oil. Insurance Europe indeed believes that these activities would be better addressed and covered by sectoral legislation that can be tailored to the specific characteristics and risk profiles of the respective activity.¹³⁹ OGP, the International Association of Oil and Gas Producers, issued policy recommendations in July 2013 whereby “OGP sees no justification for singling out shale gas activities in the [ELD] ... shale gas exploration and production activities should be covered by the same system of liability as conventional gas activities, including compensation and burden of proof”. OGP also pointed out that shale gas production operations involve one of the types of activity listed in Annex III to the ELD (e.g. if a permit is required under the ELD) and, hence, subject to strict liability under the Directive for those activities.¹⁴⁰ It is important to recall that the present study does not “single out” shale gas as a potential new activity to include in the list of Annex III to the ELD, but looks at other activities, as seen above.

The Commission has already addressed this issue. The Commission’s recent activities concerning shale gas, including its Communication and Recommendations, are discussed at section 2.1.4.3 above.

2.3 Conclusions and recommendations

It is extremely rare for legislation in any Member State – and, indeed, in any country – to impose fault-based liability for preventing and remediating land and water damage. Fault-based liability tends to be restricted to tort-based liability for claims for bodily injury and property damage. The application of fault-based liability in the ELD, therefore, is at variance with public liability regimes in Member States.

Fault-based liability for biodiversity damage is also at variance with the national legislation of Member States. The few Member States that have enacted legislation that imposes liability for biodiversity damage have confined it to liability for the restoration of protected species and natural habitats damaged by unlawful activities. This legislation is further limited in that it does not include compensatory remediation, and only Germany includes complementary remediation.

It is also extremely rare for a public liability regime for preventing and remedying environmental damage to apply only to specified activities. Such regimes tend to apply to all activities that cause environmental damage.

Further, recital 2 of the ELD states that a key reason for the adoption of the ELD was to reduce the loss of biodiversity in the EU. As discussed above, despite the transposition of the ELD into the national law of Member States, there is a continued lack of national legislation that imposes liability for causing damage to species and natural habitats protected by the Birds and Habitats Directive, as well as nationally-protected biodiversity.

In view of the goal to halt the loss of biodiversity in the EU by 2020, we recommend that the European Commission considers as a priority in any possible future revision of the ELD whether

¹³⁸ Interview with Magdalena Bar, Jendroska Jerzmanski Bar & Partners, Environmental Lawyers, in the framework of this study.

¹³⁹ Interview with Carmen Bell, from Insurance Europe, in the framework of this study.

¹⁴⁰ International Association of Oil and Gas Producers, Policy Recommendations regarding future legislation that potentially could impact shale gas exploration and production activities in Europe (4 July 2013).

strict liability should be extended to all biodiversity damage. We note that the EU recently declared that “[i]t is necessary to step up the implementation of the [EU Biodiversity] Strategy, and meet the targets contained therein in order to enable the Union to meet its biodiversity headline target for 2020”.¹⁴¹ We also note the EU’s recent Biodiversity No Net Loss Initiative.¹⁴² It is further recognised that “some of the most widespread and damaging impacts on biodiversity and ecosystems services have been caused by agriculture, forestry and fisheries ...”.¹⁴³

In considering whether to apply strict liability to all activities falling under the scope of the ELD, thus making it more in line with administrative liability, we recommend that the European Commission takes into account concerns expressed by some stakeholders regarding the additional financial burden it would represent for operators, through notably a potential increase in insurance premiums. However, the combination of a positive list of activities subject to strict liability together with the significance thresholds is too limiting for the ELD to be efficient.

If strict liability is not applied to all activities but the limited list of Annex III is maintained, we recommend that Commission considers broadening the list to ensure a level playing field for those activities that are already subject to strict liability in some Member States (e.g. pipeline transport of dangerous substances) and new activities that pose a risk to the environment.

¹⁴¹ Decision No. 1386/2013/EU on a General Union Action Programme to 2020 ‘Living well, within the limits of our planet’, Annex para 18, OJ L 354/171, L 354/179 (28 December 2013).

¹⁴² See http://ec.europa.eu/environment/nature/biodiversity/nnl/index_en.htm

¹⁴³ Sub-Group on the Scope and Objectives of the No Net Loss Initiative, Working Group of No Net Loss of Ecosystems and their Services, Scope and Objectives of the No Net Loss Initiative, p. 13, para 37 (final version, 12 July 2013); available from http://ec.europa.eu/environment/nature/biodiversity/nnl/index_en.htm

Chapter 3: Analysis of the scope of environmental damage

The ELD divides environmental damage into three categories: land damage, water damage, and damage to biodiversity (that is, species and natural habitats protected under the Birds and Habitats Directives and, at the option of Member States, nationally protected species and natural habitats). This chapter examines the scope of environmental damage under the ELD, and alternative scopes and categories of environmental damage.

In discussing and analysing the scope of environmental damage, this chapter takes into consideration harmonisation, streamlining and simplification as well as the potential environmental impacts and costs of revising the scope. The chapter refers specifically to the advantages and disadvantages of:

- An all-inclusive broad scope of damage that refers generally to the environment, landscape, human health, etc.; and
- Extending liability under the ELD to include environmental sectors / categories of environmental damage that currently fall outside the scope of environmental damage in the ELD such as damage to air.

3.1 Legal analysis

The national legislation that imposes administrative / public liability for environmental damage in most Member States, as well as that of most non-EU States, does not differentiate between damage to land, water, or fauna and flora (or biodiversity). Instead, the legislation imposes liability for the prevention and remediation of the risk of, or actual, damage (harm) to human health and the environment. The legislation does not exclude liability for damage to air. Further, the “environment” to which the legislation in most Member States refers – albeit not specifically – is predominantly land and water.

Most Member States do not have national legislation that imposes liability for preventing or remediating damage to biodiversity unless the damage is caused by an unlawful act. None of the Member States has legislation that imposes liability for “compensatory remediation”, as defined in the ELD (ELD, annex II). Only Germany has legislation that imposes liability for “complementary remediation”, as defined in the ELD (ELD, annex II). The German legislation applies only to biodiversity; it does not apply to water.¹⁴⁴

¹⁴⁴ See BIO Intelligence Service (2013), Implementation challenges and obstacles of the Environmental Liability Directive, Final report prepared for European Commission – DG Environment. In collaboration with Stevens & Bolton LLP. <http://eldimplement.biois.com/>; Stevens & Bolton LLP, Study on Analysis of integrating the ELD into 11 national legal frameworks, Final Report prepared for the European Commission – DG Environment (2013).

In contrast, the ELD does not impose liability for preventing or remediating harm to human health and the environment. Instead, it differentiates between damage to land, water and biodiversity. Harm to human health is an integral part of the remedial measures that must be carried out for each type of damage. Human health is specifically mentioned in respect of land damage (ELD, art 3(1)(c)), and is also referred to in requirements to carry out emergency remedial actions and remedial measures.¹⁴⁵

The reference to human health is not unusual. The protection of human health tends to be paramount in the environmental laws of most Member States as well as non-EU States. Such laws also tend to protect the environment only inasmuch as the environment affects human health and wellbeing. Further, the environmental laws in most Member States and non-EU States tends not to refer to flora and fauna unless harm to them affects human interests as well.¹⁴⁶

Although the division of environmental damage into land, water, and biodiversity in the ELD has increased legal security and the ability to define environmental damage more precisely, it has also led to a complex liability system. Different criteria apply to each of the three types of environmental damage, as follows.

- Land damage: strict liability is imposed only if the damage is caused by activities carried out by an Annex III operator; fault-based liability is not imposed. Measures to remediate land damage differ from those for water and biodiversity damage. The remediation standard for land differs from that for water and biodiversity damage. Further, damage is based on contamination of land rather than the broader concept of “environmental damage” for water and biodiversity.
- Water damage: strict liability is imposed but only if the damage is caused by activities carried out by an Annex III operator; fault-based liability is not imposed. The scope of measures to remediate water damage differs from land damage but equates to the scope of measures to remediate biodiversity damage.
- Biodiversity damage: strict liability is imposed if the damage is caused by activities carried out by an Annex III operator; fault-based liability is imposed if the damage is caused by activities carried out by a non-Annex III operator. The scope of measures to remediate biodiversity damage differs from land damage but equates to the scope of measures to remediate water damage.

Further, permit and state-of-the-art defences apply (at the option of Member States) to Annex III operators but not to non-Annex III operators. The defences apply only to emergency remedial

¹⁴⁵ See ELD, art 6(1)(a) (emergency remedial actions must “limit or ... prevent further environmental damage and adverse effects on human health”); art 7(3) (“[r]isks to human health shall also be taken into account” in remedial measures”); Annex I (in assessing biodiversity damage, “[d]amage with a proven effect on human health must be classified as significant damage”); Annex II (“Remedying of environmental damage, in terms of damage to water or protected species or natural habitats, also implies that any significant risk of human health being adversely affected be removed”).

¹⁴⁶ See, e.g., Lisa Heinzerling, Reductionist Regulatory Reform, *Fordham Environmental Law Journal*, vol. 8, pp. 459, 490-91 (1997) (“laws regulating the pollution of air, water, and the land – have the dual purpose of protecting human health and the environment. In most cases ... these laws will take the protection of human beings as their first concern ... natural resource protection will often end up as a kind of tag-along value, icing on the cake of a regulation otherwise justified by the benefits of improving human health”); Adam I. Davis, Ecosystem Services and the Value of Land, 20 *Duke Environmental Law and Policy Forum* pp. 339, 344-45 (2010) (major federal environmental laws in the USA since the 1970s include the goal of minimising the effect of industrial pollution on human health); Valerie Fogleman, The Threshold for Liability for Ecological Damage in the EU: Mixing Environmental and Conservation Law, in *The Habitats Directive in its EU Environmental Law Context: European Nature’s Best Hope?* (Routledge, 2014) (forthcoming).

actions and remedial measures; they do not apply to preventive measures. Still further, “primary remediation” for water and biodiversity, but not land, consists of measures to remediate damage (often to remediate pollution) as well as to restore damaged natural resources. The two types of measures (remediation and restoration) are very different from each other.

The complex liability system means that it is essential for a competent authority and an operator to be able to determine whether damage has been caused to land, water or biodiversity due to the different criteria that apply to each type of damage. As discussed below, however, it is sometimes difficult to make a determination of the type of damage. The Article 18(1) reports show that this issue has arisen because, for example, some Member States have included incidents that caused damage to more than one category of environmental damage.

3.1.1 Background to the scope of environmental damage under the ELD

In order to set the discussion in this chapter in context, the following is a very brief review of the background to the separate categorisation of “environmental damage” in the ELD for water, land, and biodiversity.

The scope of environmental damage in the ELD is derived from three concepts, as stated by the Commission in its White Paper on the ELD in February 2000:

- The imposition of strict liability for “contaminated sites”;
- The imposition of strict and fault-based liability for damage to biodiversity by “dangerous and potentially dangerous activity regulated by EC environment related law” and “non-dangerous activities”, respectively; and
- “boosting the implementation of EC environment related legislation to improve compliance with it and to facilitate “the implementation of environmental rules by new Member States” (10 new States joined the EU ten days after the ELD was adopted on 21 April 2004).¹⁴⁷

The Commission considered that the imposition of liability for contaminated sites and damage to biodiversity would “ensure effective decontamination and restoration or replacement of the environment”.¹⁴⁷ At that time (when the Commission was also considering liability for traditional damage, that is, bodily injury, property damage and economic loss), it did not divide “contaminated sites” into water and land damage. Instead, the Commission stated that the proposed regime:

“should aim at implementing the environmental principles (polluter pays, prevention and precaution) for new contamination and at a certain level of harmonisation with respect to clean-up standards and clean-up objectives. ... Contaminated sites include the soil, surface water and groundwater”.¹⁴⁸

Also at that time, the EU had not adopted the WFD.

In 2002, in the explanatory memorandum to the Proposed Directive, the Commission reiterated that “[e]nvironmental damage should be defined whenever possible by reference to the provisions of

¹⁴⁷ European Commission, White Paper on Environmental Liability. COM(2000) 66 final, pp. 5, 12 (9 February 2000).

¹⁴⁸ European Commission, White Paper on Environmental Liability. COM(2000) 66 final, p. 20 (9 February 2000).

Community environmental law”. In doing so, the Commission added the WFD – and accordingly, water damage specifically – to the scope of liability under the ELD.

The Commission also stated that “[d]amage to water, soil and habitats consecutive to the accidental or deliberate release of substances or materials or radiations, into the air should be included in the notion of damage since such airborne elements could cause environmental damage within the meaning of this Directive”.¹⁴⁹ This concept was subsequently incorporated into the ELD by the following phrase: “Environmental damage also includes damage caused by airborne elements as far as they cause damage to water, land or protected species or natural habitats” (ELD, recital 4). That is, the ELD does not impose liability for preventing or remediating damage to air; liability is imposed only if airborne pollutants cause land, water or biodiversity damage.

Following adoption of the ELD, the Commission explained the rationale for the difference in remedial measures for environmental damage, as follows:

“The Directive envisages different remedial measures depending on the type of damage: soil can usually be decontaminated; damage to protected species and natural habitats as well as water might be more complex to restore. This is why the Directive demands the decontamination of soil - i.e. land - until it no longer poses any significant risk to human health”.¹⁵⁰

The ELD thus includes two types of remedial measures. Land damage must be remediated to remove, control, contain or diminish contaminants, taking into account the current or approved future use of the land when the damage occurred so that it “no longer poses any significant risk of adversely affecting human health” (ELD, Annex II, section 2). Water and biodiversity damage must be remediated by primary, complementary and compensatory remediation. Primary remediation remediates and restores damaged natural resources to their “baseline” condition. Complementary remediation consists of restoring a nearby site in addition to partial restoration of a damaged site if full restoration is not feasible. Compensatory remediation consists of enhancing or improving the same or new natural resources at a damaged and/or alternative site to compensate for losses between the time environmental damage occurred and its full remediation (ELD, Annex II, section 1).

Liability for land damage is, thus, much more limited than liability for damage to water and biodiversity. That is, liability for remediating land damage does not include:

- Remediating land to its baseline condition – liability is imposed only for removing a significant risk of an adverse effect on human health, taking into account the current or approved future use of the damaged site;
- Restoring the benefits from soil at another site if the soil at the damaged site cannot be restored to its baseline condition (or its condition after removal of the significant risk of an adverse effect on human health); and
- Carrying out measures to compensate for the loss of soil between the time it is damaged and its full – or equivalent – remediation.

¹⁴⁹ COM(2002) 17 final, p. 18 (23 January 2002).

¹⁵⁰ European Commission, Questions and Answers Environmental Liability Directive, section 9 (MEMO/07/157, 27 April 2007).

3.1.2 Liability for remediating environmental damage in national legislation

As indicated above, prior to the transposition of the ELD, no Member State had legislation that imposed liability for preventing and remediating damage to land, water, and protected species and natural habitats. Most Member States (including Austria, Belgium (Regions), Cyprus, Denmark, Estonia, Finland, France, Germany, the Netherlands, Slovakia, Sweden, and the UK) had legislation that imposed liability for remediating contaminated land, in particular land contaminated by historic pollution. This legislation generally includes liability for remediating damage to water, particularly groundwater, due to its relationship to land / soil.

Some Member States (including Hungary, Latvia, Lithuania, Poland, Romania, and Slovenia) had legislation that imposed liability for remediating environmental damage in general, including land, water, and flora and fauna (see Annex B).

A limited number of Member States (Ireland, Latvia, Poland, and the UK) had legislation that imposed liability for restoring flora and fauna dependent on an aquatic environment when the waters on which they are dependent is polluted.

Some Member States imposed liability for restoring damage to protected species and natural habitats if the damage was caused by an unlawful act. Only Germany included liability for complementary remediation. The Federal Natural Conservation Act provides for complementary remediation in the form of substitution measures (*Ersatzmassnahmen*), which differ from restoration measures (*Ausgleichsmassnahmen*). If biodiversity cannot be restored or substituted by *Ausgleichs-* or *Ersatzmassnahmen* and, thus, a zero net loss of biodiversity cannot be achieved, a monetary payment must be made. The Act does not impose liability for compensatory remediation.

Due to the above differences, the legislation that transposed the ELD into the national law of Member States frequently sits awkwardly with existing national legislation. Among other things, the legislation that transposed the ELD:

- Creates a divide between the remediation of damage to land and damage to water that previously did not exist; and
- Introduced liability for preventing and remediating damage to protected species and natural habitats above a significance threshold when there is no such liability below the significance threshold unless the activity that damaged the biodiversity is unlawful.

3.1.3 Liability for remediating environmental damage in other EU legislation

As indicated in section 3.1.1, a key reason for the categorisation of environmental damage in the ELD was to “boost” the implementation of other EU legislation. Virtually all the legislation in Annex III, however, refers to “human health and the environment” rather than the three categories of “environmental damage” in the ELD (see Annex A). The sole exception is the Road Safety Directive (94/55/EC), which does not refer to human health and the environment (or the three categories of environmental damage in the ELD) but refers to “environmental protection” (recital 7).

Other EU legislation, such as the Environmental Impact Assessment Directive, also refers to human health and the environment,¹⁵¹ including significance criteria for “environmental effects”.¹⁵²

It is not suggested that terms concerning the environment and environmental damage should be made consistent in all EU legislation. For example, the Renewable Resources Directive (2009/28/EC) refers to “highly biodiverse grassland”, “wetlands”, “continuously forested areas”, “severely degraded land” and “heavily contaminated land”.¹⁵³ Such terms, some of which overlap with those in the ELD, are used in a very different context from that of the ELD, however. That is, they are used in the Renewable Resources Directive to establish a common framework for the promotion of energy from renewable resources that does not, among other things, result in harm to, or the destruction of, biodiverse lands; they are not used to categorise environmental media and flora and fauna in respect of liability for preventing and remediating environmental damage.

Relationship between the Industrial Emissions Directive and the ELD

The relationship between the ELD and the Industrial Emissions Directive, to which many Annex III activities are subject, illustrates the potential confusion caused by the overlap and differences involved in applying the three types of environmental damage under the ELD to legislation based on the control of activities that may cause harm to human health and the environment. The relationship may also have led to the relatively low number of ELD incidents reported under the ELD due to competent authorities enforcing the Industrial Emissions Directive in respect of environmental damage rather than the ELD for incidents that fall under both Directives. Whilst pollution incidents from businesses subject to the Industrial Emissions Directive may not meet the ELD thresholds, there were 194 serious and significant pollution incidents involving regulated businesses in England in 2012; in 2011, there were 232.¹⁵⁴

If competent authorities are not, in fact, enforcing the ELD for incidents that fall under the Industrial Emissions Directive and the ELD, this is a breach of the ELD. As indicated below, the words “without prejudice” do not allow a competent authority to circumvent the ELD by applying only the Industrial Emissions Directive.

Article 7 of the Industrial Emissions Directive provides that:

“Without prejudice to [the ELD], in the event of any incident or accident significantly affecting the environment, Member States shall take the necessary measures to ensure that:

- (a) the operator informs the competent authority immediately;
- (b) the operator immediately takes the measures to limit the environmental consequences and to prevent further possible incidents or accidents;

¹⁵¹ Directive 2011/92/EU of the European Parliament and of the Council on the assessment of the effects of certain public and private projects on the environment (codification), recital 2. OJ L 26/1 (28 January 2012).

¹⁵² See Environmental Impact Assessment Directive (2011/92/EU), recital 4 (“protection of the environment and the quality of life”; recital 5 (“decisions which may have a significant effect on the environment as well as on personal health and well-being”).

¹⁵³ Directive (2009/28/EC) on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, arts 17(3), 17(4), Annex V, points C.8-9

¹⁵⁴ Environment Agency, Sustainable Business Report 2012, p. 7 (November 2013). Available at www.environment-agency.gov.uk/business/news/143854.aspx

(c) the competent authority requires the operator to take any appropriate complementary measures that the competent authority considers necessary to limit the environmental consequences and to prevent further possible incidents or accidents”.

A comparison of the above provisions with the ELD indicates the following.

- The Industrial Emissions Directive requires an operator to inform the competent authority immediately if there is an “incident or accident significantly affecting the environment”; the term “environment” is not defined, nor is any criteria provided to determine when there is a significant effect on it.
 - Due to the higher threshold of damage in the ELD, the operator should already have informed the competent authority of the significant effect on the environment. Further the term “environment” is broader than the three types of environmental damage under the ELD. Thus, unless there is an imminent threat of, rather than actual, environmental damage, there should be no need for the ELD to apply to the notification requirement.
- The Industrial Emissions Directive requires an operator “immediately [to take] measures to limit the environmental consequences and to prevent further incidents or accidents”.
 - Due to the higher threshold for the ELD, the operator should already have carried out necessary measures to limit the environmental consequences of the incident or accident. As indicated above, the term “environment” is broader than the ELD. Thus, there should be no need for the ELD to apply to the requirement to carry out immediate measures to abate an incident and to prevent further incidents or accidents. If, however, the ELD does apply, it specifies the type of preventive measures and emergency remedial actions the operator must carry out. Due to the lack of a definition of “measures” in the Industrial Emissions Directive, such measures may not have been carried out.
- The Industrial Emissions Directive requires an operator “to take any appropriate complementary measures ... to limit the environmental consequences and to prevent further possible incidents or accidents”; the term “complementary measures” is not defined.
 - Due to the higher thresholds for the ELD, the operator should already have carried out preventive measures, emergency remedial actions, remedial measures for land, and primary remedial measures for water and biodiversity damage in the form of emergency remedial, but not restoration, measures (or, perhaps, a limited version of them). The ELD would thus apply in respect of primary, complementary and compensatory remediation measures to water or biodiversity that exceeds the significance threshold. The Industrial Emissions Directive, however, may require land to be (eventually) remediated to a higher standard than under the ELD because the operator must remove “any significant risk to human health or the environment due to contamination of soil and groundwater” when operations at the permitted installation cease (IED, arts 3-4; see art 22(1)). The ELD limits the risk of land damage to human health, not the environment.

The confusion between the above provisions of the ELD and the Industrial Emissions Directive, and the benefits of clarifying the relationship to make the ELD more effective, are self-evident.

In noting the benefits of clarifying the relationship between the ELD and the Industrial Emissions Directive, we are not suggesting that the thresholds for environmental damage under the ELD be lowered to the thresholds under the Industrial Emissions Directive. We note, in this respect, that the thresholds in the Industrial Emissions Directive are intentionally lower than those under the Environmental Impact Assessment Directive.¹⁵⁵

Relationship between the Offshore Safety Directive and the ELD

The Offshore Safety Directive defines a “major environmental incident” as “an incident which results, or is likely to result, in significant adverse effects on the environment in accordance with [the ELD]”.¹⁵⁶ Article 3(3) states that “In the case of a major accident, Member States shall ensure that operators take all suitable measures to limit its consequences for human health and for the environment”. This provision is intended to cover the environment (as under the ELD but in respect of the more general “environment” than that defined in the ELD) as well as the health and safety of workers on offshore facilities. As such, it is less precise than the ELD.

3.1.4 Thresholds and remediation standards for land and water damage

As indicated above, most Member States already had, or – in respect of land contamination in Slovakia, have since introduced – liability systems and regimes to remediate (and to a lesser extent, to prevent) land contamination and water pollution.

Annex B briefly describes the main national legislation for remediating water pollution and land contamination, focusing on thresholds and remediation standards. Other legislation, such as Forest Acts, Agricultural Acts and Mining Acts also apply in some Member States for the remediation of land and water damage.

As indicated in Annex B, many regimes to remediate contaminated land in the EU include groundwater as well as soil due to the close association between contaminated soil and groundwater pollution. The ELD, with its separate regimes for water and land damage sits awkwardly with this legislation. That is, under the ELD, water damage occurs if an operator’s activities “significantly adversely affects the ecological, chemical and/or quantitative status and/or ecological potential, as defined in [WFD], of the waters concerned” (ELD, art 2(1)(b)). This is a very different threshold than the “trigger” for remediating water damage under the national law of Member States and necessitates a detailed assessment of damage. In addition, the threshold for remediating water damage under the national law of Member States tends to be low. Further, unlike the ELD, the national law includes a power, rather than a duty, to remediate water pollution. A competent authority thus has discretion whether to require remediation.

The effect of the above differences between national law and the ELD means that, in many – if not most – cases, a competent authority will already be enforcing national law, particularly for water pollution, prior to a determination of whether the ELD applies. The cost of an assessment to determine whether water damage exists may discourage enforcement of the ELD, particularly in borderline cases, if remediation of the damage is already ongoing under national law. The ELD provides that the costs of assessing environmental damage should be borne by an operator (ELD,

¹⁵⁵ See *Terre wallonne ASBL v Région wallonne*, para 82 (CJEU, Joined Cases Nos. C-105/09 and C-110/09) (opinion of Advocate General Kokott, 4 March 2010) (discussing different thresholds for intensive livestock installations between IPPC Directive, Annex I, point 6.6 and Environmental Impact Assessment Directive, Annex I, point 17, and noting that the IPPC Directive is intended to cover more installations).

¹⁵⁶ Directive on the safety of offshore oil and gas operations (2013/30/EU), art 2(37).

art 2(16)), but this applies only if the assessment shows that the threshold for environmental damage under the ELD has been exceeded.

The enforcement of existing law in lieu of the ELD may mean that competent authorities are reluctant to carry out assessments for water damage and, thus, complementary and compensatory remediation is not being carried out for incidents that should be determined as ELD incidents.

3.1.5 Difficulties in determining the applicable category of environmental damage

The categorisation of environmental damage as land, water or biodiversity damage can lead to difficulties in determining which category is applicable if an imminent threat of, or actual, environmental damage occurs. A prime example is wetlands, damage to which may be damage to water, biodiversity, or land.

Damage to wetlands as water damage

The ELD defines the term “waters” in respect of “water damage” as “all waters covered by [the WFD]” (ELD, art 2(5)). The waters covered by the WFD are “inland waters” (WFD, art 2(3)), “groundwater” (WFD, art 2(2)), “transitional waters” (WFD, art 2(6)), and “coastal water” (WFD, art 2(7)). The soil element of wetlands does not fall within any of these categories.

The WFD refers to wetlands and the need to protect them and to prevent their deterioration,¹⁵⁷ but does not define them. A Member State that adopted the “waters approach” to water damage (that is, considers that water damage under the ELD occurs when “waters” under the WFD are damaged (see section 4.1.3.1 below)) would thus include damage to the water element of wetlands whenever the water is in a wetland area.

The situation is different for a Member State that adopted the “water body approach” to water damage in the ELD (that is, considers that water damage under the ELD does not occur unless the damage is to a water body as defined by the WFD (see section 0 below)) because some but not all wetlands are included in water bodies designated under the WFD. As the Commission’s guidance on “The role of wetlands in the Water Framework Directive” states:

“Many wetland ecosystems are composed of mosaics of surface water, permanently and temporarily inundated or waterlogged land, such as lowland mire systems, or floodplain wetlands. WFD provisions in relation to surface waters will in themselves, help to protect and enhance wetland ecosystems, by defining parts of them as water bodies, and setting objectives for them, where they fall within the WFD categories of rivers, lakes, transitional or coastal waters”.¹⁵⁸

¹⁵⁷ See Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for Community Action in the field of water policy, art 1(a). OJ L 327/1 (22 December 2000) (“The purpose of this Directive is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which: (a) prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems”).

¹⁵⁸ European Commission, Common Implementation Strategy for the Water Framework Directive (2000/60/EC), Guidance document No. 12, The role of wetlands in the Water Framework Directive, p. 6, section 2.3(a) (2003).

Further, under the heading of “Small elements of surface water connected to water bodies but not identified as water”, the guidance states that

“it will not be practical to identify every element of surface water in a river basin district as a water body or part of a water body. Member States will have to decide within the river basin management planning process which elements of surface water are not sufficiently discrete and significant to be identified as water bodies. Many of the elements of surface water that are not identified will nevertheless be connected to surface water bodies”.¹⁵⁹

The problems in determining whether a wetland is within a water body and, thus whether the waters in the wetland are within the definition of “water damage” under the ELD, are self-evident. For example, an operator whose activities damage a wetland must know whether the Member State has designated the wetland as part of a water body in order to know whether the ELD applies. Even if an operator has this information, the operator must also know the extent of the water body that is damaged in order to determine whether the damage has exceeded the significance threshold for water damage (see section 4.1.3.1).

Further, the ELD would apply only if the wetland is damaged by an Annex III operator.

Damage to wetlands as biodiversity damage

If a wetland is located in a Natura 2000 area, is a breeding site or resting place for an animal or plant listed in Annex IV of the Habitats Directive, or otherwise falls within the definition of biodiversity damage under the ELD, damage to the wetland would come within the category of biodiversity damage. Such may be the case, for example, with wetlands designated under the Ramsar Convention because such a site may also be a Natura 2000 site.¹⁶⁰

An operator whose activities damaged the wetland would need to know the extent of the protected area in order to determine whether the significance threshold for biodiversity was exceeded. The operator could be liable for land and water damage as well as biodiversity damage but, as noted above, the ELD differentiates between the standard of liability for Annex III, and non-Annex III, operators as well as remediation measures to be carried out for the different types of damage.

The ELD is unclear as to the extent of liability if the operator’s activities damage both water and biodiversity under the ELD. An assessment of biodiversity, land and water damage could, of course, be carried out. Such an assessment would almost certainly result in an increase in costs than the costs of an assessment that focussed on only land, or water or biodiversity. If the assessment did not show that the damage exceeded the threshold for the ELD, the competent authority would be responsible for its costs.

¹⁵⁹ European Commission, Common Implementation Strategy for the Water Framework Directive (2000/60/EC), Guidance document No. 12, The role of wetlands in the Water Framework Directive, p. 8, section 2.5 (2003).

¹⁶⁰ See Jeremy Harrison, *International Agreements and Programmes on Protected Areas*, 12(3) Parks p. 2, 3 (IUCN, 2002) (a single site may be a World Heritage site under the World Heritage Convention, a wetland of international importance under the Ramsar Convention, a Biosphere Reserve under UNESCO’s Man and the Biosphere programme, a Natura 2000 site, and a designated site under national law).

Damage to wetlands as land damage

If a wetland is not part of a water body, damage to the waters in it is not “water damage” under the ELD in a Member State that has adopted the water body approach. Damage to the soil in the wetland could potentially be “land damage”. Liability would apply, however if, and only if, there is a significant risk of an adverse risk to human health. Due to the location of many wetlands in unpopulated areas, the ELD may well not apply to the wetland.

Further, the ELD would apply only if the wetland was damaged by an Annex III operator. Even if the wetland was located in an area in which there is human presence, if that human presence is due to agriculture, the ELD would probably not apply because the activity that caused the damage would not be an Annex III activity.

3.1.6 Inclusion of additional categories of environmental damage

Environmental sectors / categories of environmental damage that are not currently included in the ELD are: air, flora and fauna that are not protected by the Birds or Habitats Directives (or Member State nature conservation legislation), landscapes, and cultural buildings and ancient monuments, although landscapes may be partially included if they are located in Natura 2000 sites or include waters (or water bodies) covered by the Water Framework Directive. It is also not clear whether sediment is included.

Air

The environmental medium of air cannot be remediated in the same way as land and water, that is, by taking measures to remove pollutants that have been discharged into the air. Instead, air quality is improved (but not remediated) by reducing or ceasing to discharge pollutants into the ambient air.

This does not mean, however, that measures to prevent harm to human health cannot be carried out. For example, in June 2010, a fire broke out at a temporary storage facility for used tyres in Ksiropotamos of Drama, Greece. The fire burned for four days causing, among other things, land damage and water damage under the ELD. The Prefecture of Drama’s request for reimbursement of the costs of fighting the fire (in part by covering the burning tyres with soil), taking soil samples and other monitoring, and transporting contaminated materials was rejected by the competent state audit agency. Whilst the agency agreed that the damage was environmental damage under the legislation that transposed the ELD, it stated that the Prefecture was not a competent authority under the legislation and was not, therefore, entitled to reimbursement of its costs.¹⁶¹ It is not unforeseeable that this situation could occur in other Member States, most of which have not designated emergency services as competent authorities.

Further, assume that the significance thresholds for land and water (and biodiversity) are not exceeded because measures to prevent such damage had succeeded in keeping the damage below the significance threshold. In such a case, the costs of fighting the fire and carrying out the other measures specified above would potentially not be covered by the ELD unless they were considered to be measures to prevent an imminent threat of environmental damage from becoming

¹⁶¹ See Fotis Filentas & Apostolos Paralikas, Lessons learned in implementing the Environmental Liability Directive in Greece: The responsibilities of the Administration and the role of civil protection, Conference on Protection and Restoration of the Environment XI, Thessaloniki, Greece (3-6 July 2012) pp. 2423, 2426. Available at <http://www.pre11.org/ocs/index.php/pre/pre11/paper/view/426>

actual environmental damage under the ELD. An argument against the preventive measures being considered to be covered under the ELD would be the exclusion for air damage itself and the focus of the preventive measures on pollutants in the air.

The exclusion of damage to air in the ELD may also lead a competent authority to decide that an incident, such as a fire or explosion, that does not cause land, water or biodiversity damage is not an ELD incident. An example is the explosion and fire resulting from the train derailment in Ghent, which was determined not to be an ELD incident (see section 3.2.1.3).

Another example is the fire involving 15,000 tonnes of used tyres (about 1.8 million tyres), which broke out at the Newgen Recycling plant at Sherburn-in-Elmet, Yorkshire, on 16 January 2014. The plume of smoke, which was approximately 6,000 feet high, was so large that a NASA satellite took an image of it from space. An investigation has begun into the cause of the fire, which was allowed to burn itself out. The costs, however, will be substantial. Personnel from the Environment Agency attended the fire to ensure that run-off from fire-fighting water did not pollute surface and ground water and to minimise the impact on air. Fourteen fire stations sent emergency teams to fight the fire. Other governmental authorities monitored human health effects and advised residents, especially those with respiratory problems, in areas affected by smoke from the fire to stay indoors.¹⁶² If the measures that were carried out prevent environmental damage under the ELD to land, water, and biodiversity, the public will bear the costs (if they cannot be recovered from the operator of the recycling facility). In any event, the costs of the emergency services will not be covered by the ELD because the UK Government has not designated the emergency services as competent authorities.

Flora and fauna

The scope of the ELD to include only species and natural habitats protected by the Birds and Habitats Directives and, at the option of a Member State, nationally protected species and natural habitats, was discussed at length during the legislative history of the ELD. Broadening the scope of biodiversity damage under the ELD to include all flora and fauna would, almost inevitably, be highly controversial. It would also lead to issues concerning the appropriate significance threshold.

The national legislation of most, but not all, Member States does not include liability for preventing and remediating damage to flora and fauna. Some Member States (Ireland and the UK) include liability for remediating damage to flora and fauna that depend on an aquatic environment, in their national legislation (see section 3.1.2 above).

One reason for not broadening the scope of biodiversity damage under the ELD is that doing so is more likely to lead to differences, not harmonisation, with existing legislation if liability for remediating damage to flora and fauna is included in “primary remediation” for biodiversity damage.

A reason for including flora and fauna, however, is the effect of invasive alien species on it. The proposal for a Regulation on the prevention and management of the introduction and spread of invasive alien species provides that “Member States shall take proportionate restoration measures

¹⁶² See, e.g., BBC News, Sherburn-in-Elmet tyre fire smoke visible from space (16 January 2014); BBC News, Sherburn-in-Elmet tyre fire plume reaches 6,000 feet. Available at <http://www.bbc.co.uk/news/uk-25755586>; Dan Bean, Update: Up to 15,000 tonnes of tyres ablaze – May burn for weeks – Schools will be open tomorrow – Locals told: stay indoors – Smoke visible from space, Yorkshire Press. Available at http://m.yorkpress.co.uk/news/10941089.4_23pm_UPDATE_Up_to_15_000_tonnes_of_tyres_ablaze_Ma_y_burn_for_weeks_Schools_in_lockdown_Locals_told_stay_indoors_Smoke_visible_from_space/

to assist the recovery of an ecosystem that has been degraded, damaged, or destroyed by invasive alien species of Union concern”.¹⁶³ The proposed Regulation further provides that “competent authorities shall have the power to impose ... an order requiring the natural or legal person to take remedial measures”, as well as other administrative sanctions for persons who do not comply with the Regulations.¹⁶⁴

A major reason for the proposed Regulation is the effect of invasive alien species on biodiversity and the EU’s goal to halt the loss of biodiversity in the EU by 2020. As stated in the proposed Regulation, “Invasive alien species represent one of the primary threats to biodiversity and ecosystem services” (Proposed Regulation, recital 2). An alternative to including flora and fauna under the ELD in respect of invasive alien species would, however, be to include damage from them under Annex III (see section 2.3).

Landscapes

Protected landscapes and seascapes are a category of protected areas under the International Union for Conservation of Nature (IUCN).¹⁶⁵ Further, Directive (2006/21/EC) on the management of waste from extractive industries refers directly to landscapes. Article 1 of that Directive states that “measures, procedures and guidance to prevent or reduce as far as possible any adverse effects on the environment, in particular water, air, soil, fauna and flora and landscape, and any resultant risks to human health, brought about as a result of the management of waste from the extractive industries”. Article 4(1) of that Directive states that “Member States shall take the necessary measures to ensure that extractive waste is managed without endangering human health and without using processes or methods which could harm the environment, and in particular without risk to water, air, soil and fauna and flora, without causing a nuisance through noise or odours and without adversely affecting the landscape or places of special interest”.

Other Annex III Directives do not, however, refer to landscapes or seascapes. Further, most Member States have not included landscapes or seascapes in legislation transposing the ELD even when they have included it in national legislation. Lithuania is an exception.

Landscapes are often designated by Member States next to Natura 2000 areas. Thus, including landscapes (and seascapes) would assist in halting the loss of biodiversity in the EU as well as adopting an ecosystem approach.¹⁶⁶ Such designation would, however, be more likely to result in differentiation, rather than harmonisation, with the ELD. It would also be difficult to establish significance thresholds.

¹⁶³ Proposal for a Regulation on the prevention and management of the introduction and spread of invasive alien species, art 18. COM(230) 620 final (9 September 2013).

¹⁶⁴ Proposal for a Regulation on the prevention and management of the introduction and spread of invasive alien species, art 25. COM(230) 620 final (9 September 2013).

¹⁶⁵ See

http://www.iucn.org/about/work/programmes/gpap_home/gpap_quality/gpap_pacategories/gpap_category5/ (Category V).

¹⁶⁶ See Welsh Government Consultation Document, Taking the Long View; Consultation on the draft Policy Statement for Protected Landscapes in Wales (WG 18798, 28 June 2013). Available at <http://wales.gov.uk/docs/drah/consultation/130628protectlandscapedraften.pdf>

Cultural buildings and ancient monuments

No Member State has included liability for preventing or remediating damage to cultural buildings or ancient monuments in the legislation that transposed the ELD into national law. This applies to Sweden, which imposes liability under its national legislation for “pollution damage”, defined as “damage to the environment which, through pollution of land or water areas, groundwater, a building or structure, may cause damage or detriment to human health or the environment”.

Thus, including damage to cultural buildings and ancient monuments would lead to differences, not harmonisation, with existing legislation. The differences between natural and cultural resources would also not aid in any simplification of the ELD. Further, it could be difficult to establish significance thresholds for cultural buildings and ancient monuments.

Sediment

It is not clear whether damage to sediment on the bed of surface waters is included in the ELD because the term “land” is not defined (see section 4.1.2).

Sediment is “derived from the weathering and erosion of minerals, organic matter and soils in upstream areas and from the erosion of river banks and other in-stream sources”.¹⁶⁷ Sediment may be deposited on land, particularly in estuarine areas, on floodplains during times of flood, and on the bed of rivers and other surface waters. The first two forms of sediment are more likely to be included in the ELD because they are more likely to fall within the definition of land damage. If, however, there is no human presence (which is likely to be the case involving most sediment in estuarine areas and substantial areas of floodplains), sediment is not included.

There is a good argument for sediment to be included in the term “land”, regardless of where the sediment is located, because it sustains aquatic systems. That is, “[m]any aquatic species live in the sediment. Microbial processes cause regeneration of nutrients and important functioning of nutrient cycles for the whole water body. Sediment dynamics and gradients (wet-dry and fresh-salt) form favourable conditions for a large biodiversity, from the origin of the river to the coastal zone. A healthy river needs sediment as a source of life”.¹⁶⁷

It is questionable, therefore, whether there is a duty on an operator whose activities damage sediment to remediate the sediment itself as well as waters affected by the sediment. Remediation of the sediment, however, may be necessary to stop the effect on the river, its flora and fauna, and human health from contaminants in the sediment. Perhaps the most notorious example of the remediation of contaminated sediment is the remediation of 200 miles of the Hudson River, which is listed on the US Environmental Protection Agency’s National Priorities List as one of the most contaminated hazardous waste sites in the USA.¹⁶⁸

3.2 Experience gained regarding the scope of environmental damage

Through the expert and stakeholder consultation carried out in the framework of this study, views were gathered regarding whether the current scope of environmental damage under the ELD (biodiversity, water and land damage) was adequate, and whether it worked effectively. Member States reports submitted in application of Article 18 of the ELD were also taken into account. The

¹⁶⁷ Jos Brils, Sediment monitoring and the European Water Framework Directive, *Annali dell’Istituto superiore di sanità*, vol. 44(3), p. 218, 219 (2008).

¹⁶⁸ See <http://www.epa.gov/hudson/cleanup.html>

main issue was therefore whether the current scope of environmental damage should be left untouched, or whether it should be redefined and/or extended.

The feedback received may be divided into the following categories:

- Appropriateness of the media-specific types of environmental damage;
- Potential inclusion of additional types of environmental damage; and
- Impact of a potential extension of the definition of environmental damage for financial security instruments.

3.2.1 Appropriateness of media-specific types of environmental damage

The issue of the appropriateness of the media-specific types of environmental damage include the following:

- Appropriateness of the categories of environmental damage vs. effectiveness of the ELD;
- In practice, unclear distinction between the various types of environmental damage; and
- Application of pre-existing national legislation instead of the ELD.

3.2.1.1 Categories of environmental damage vs. effectiveness of the ELD

According to various experts,¹⁶⁹ the scope of environmental damage under the ELD does not work effectively, but the approach is quite appropriate. However, one considers that the scope of biodiversity damage leaves too much margin of discretion for the Member States. Another issue is that it applies only to protected species and habitats, and not to “ordinary” biodiversity. The level playing field is rather weak because of the ELD definition, and the consequence is that Member States interpret the threshold quite differently.¹⁷⁰ It was furthermore highlighted that the difficulty with the current definition of environmental damage was to know which geographic and time scales should be applied. For instance, in the case of damage to protected birds, the geographical level that needs to be taken into account remains unclear (EU, national, regional or local?); this would necessarily impact the determination of whether the significance threshold was met.¹⁷¹ Regarding water damage, it was pointed out that the notion varies greatly among Member States, as some apply it to waters, and others to water bodies. The significance threshold will thus differ. In addition, water damage will differ whether it refers to surface or groundwater.¹⁷⁰ Greece thus reported that “water damage detection and confirmation is technically more difficult compared to soil damage, especially when it comes to groundwater where a direct opportunity for sampling may not exist”.¹⁷²

Nonetheless, the view was expressed that the approach taken under the ELD to protect certain elements (media) of the environment should be seen as appropriate. Indeed, a more general approach, such as a broad notion of “damage to the environment”, would not be very practical: it

¹⁶⁹ Interview, in the framework of this study, with Birgit Schmidhuber, from Justice & Environment, and with Magdalena Bar, from environmental law firm Jendroška Jerzmański Bar & Partners. Environmental Lawyers.

¹⁷⁰ Interview with Birgit Schmidhuber, from Justice & Environment, in the framework of this study;

¹⁷¹ Interview with Hannes Descamps, researcher and lecturer at the Institute for environmental and energy law at Leuven University, in the framework of this study.

¹⁷² Report submitted by Greece under ELD Article 18(1)

would be necessary to establish that damage to the environment has been caused, and it may result difficult to establish thresholds (or even criteria) because of the too general nature of the damage. It could then be difficult for Member States to apply it, and it would also probably lead to diverging national interpretations.¹⁷³ It is indeed better when legislation is more precise (such as is the case of biodiversity damage), thus leaving less room for (diverging) interpretation by Member States.¹⁷⁴

However, some Member States, such as Ireland, already highlighted concern that implementation of the ELD is not harmonised across EU Member States.¹⁷⁵ As an example, the scope of environmental damage in Italy is much broader than under the ELD, and hence than in most other Member States. Indeed, in Italy, the regime established under the ELD as transposed into national law applies to “damage to waters, both monitored and non-monitored by Directive 2000/60/EC”; “damage to land” even where it has no significant and measurable impacts on human health; “damage to the atmosphere”; and “damage to any natural resources” including those not protected by the Habitats Directive, the Birds Directive and Law No 394/1991 on protected nature areas.¹⁷⁶ According to the Article 18(1) report submitted by Italy, this results from Article 300(1) of Legislative Decree No. 152/2006 (national ELD transposing legislation) which defines environmental damage as “any significant and measurable direct or indirect impairment of a natural resource or of its potential for use”; according to Italy, “this definition makes it possible to extend application of the “polluter pays” principle to types of damage not covered by the definitions provided in Article 2(1) of the Directive and transposed into Italian law by Article 300(2)” of said Legislative Decree.¹⁷⁶

Additional stakeholders, such as Euromines and Cefic, consider that the current scope of environmental damage under the ELD is appropriate. Cefic indicated that albeit complex, the current definition is consistent with other parts of EU environmental law. Therefore, the development of guidance facilitating implementation is preferable to a change in the legislation.¹⁷⁷ According to Euromines, priority should be given to the consolidation of the current legal regime through awareness raising, exchange of best practices or training of the competent authorities and stakeholders responsible for applying the ELD. Documents, such as information sheet or training material, recently published by the European Commission are very useful in that respect.¹⁷⁸ Cefic pointed out that it was recently extended to cover marine waters. As for the Ad-Hoc Industry Natural Resource Management Group, it highlighted that the scope of environmental damage was adequate and working effectively as it was first intended to cover a specific scope of potential environmental damage, which was not already (or not entirely) addressed by Member States regimes.¹⁷⁹

¹⁷³ Interview, in the framework of this study, with Birgit Schmidhuber, from Justice & Environment, and with Magdalena Bar, from environmental law firm Jendroška Jerzmański Bar & Partners. Environmental Lawyers.

¹⁷⁴ Interview with Magdalena Bar, from environmental law firm Jendroška Jerzmański Bar & Partners. Environmental Lawyers, in the framework of this study.

¹⁷⁵ Report submitted by Ireland under ELD Article 18(1).

¹⁷⁶ Report submitted by Italy under ELD Article 18(1).

¹⁷⁷ Interview with Liesbeth Timmermans, from Cefic. In the framework of this study.

¹⁷⁸ Interview with Emmanuel Katrakis, from Euromines, in the framework of this study.

¹⁷⁹ Written feedback provided by Barbara Goldsmith, from the Ad-Hoc Industry Natural Resource Management Group, in the framework of this study

3.2.1.2 Unclear distinction between various types of environmental damage

The analysis of Member States' reports tend to show that it is not always easy to make a clear distinction between the various types of environmental damage (biodiversity, water, land), as those may be related. Examples include the following:

- Water and biodiversity damage
 - In Belgium (Flanders), there was an instance of water damage in the Upper Scheldt (established based on the Prati index which reflects the quality class of the oxygen balance in surface water) coupled with the death of fish which could potentially constitute biodiversity damage (in relation to the population of river lamprey, a protected species);
 - Cyprus reported a case of environmental damage in the Pafos coastal area from the installation of drainage pipes discharging into the sea, which included biodiversity damage as well as potential water (coastal water) damage; and
 - 4 cases of water damage were reported by Latvia, which all included damage to fish resources and damage to the ecological potential or chemical quality of the waters.
- Land and water damage
 - In Estonia, there was a case of land damage with a threat of damage to groundwater (fuel truck with a trailer that drove into a ditch because of a slippery road);
 - There was a case of water damage (leak of waste water into the water system) and soil damage (although apparently there was no significant risk to human health) in Finland as a result of mining operations and metal industry (part of the operations is covered by Annex III to the ELD);
 - Germany also counts a certain number of ELD cases where there is a mix of land and water damage;
 - There were five cases of damage to land and water in Italy (out of 17 ELD cases), and one case of damage to the atmosphere, land and water;
 - Lithuania reported one case (out of 4 ELD cases) of land damage and underground water damage, where collection and removal of oil products from soil and underground water are pending; and
 - Poland reported several cases of “damage to the soil-water environment”.

Furthermore, although Bulgaria did not report any instances of actual environmental damage, it mentioned 4 instances of imminent threat of environmental damage, all covering various types of environmental damage: one case of biodiversity and water damage, two cases of water and land damage, and one case of biodiversity, water and land damage.

In Spain, out of 18 processed ELD cases, 8 referred to water and land damage, one to water, land and protected species and habitats, one to water, land and to the coastline and bays, and one to water and protected species and habitats.

Greece also reported a number of ELD cases where damage was targeting more than one category of natural resources/ agencies, indicating that “it is evident that an environmental liability case may result in damage and/or an imminent threat of damage, affecting (or expected to affect) at the same time more than one category of natural resources/ agencies (species/ habitats, waters and soils)”.¹⁸⁰ This unclear distinction was observed in 31 cases in Greece.

Stakeholders, such as the Common Forum, also highlighted that distinguishing between different types of environmental damage based on natural resources, as is currently the case under the ELD (which uses different concepts for dealing with damage to each natural resource target), does not make sense as these resources, and the impacts damage may have on them, are interrelated. An obvious example is the relation between water and land damage, as soil pollution may impact groundwater through infiltration if improperly managed. In addition, the definition of “land” under the ELD encompasses groundwater, as it includes the subsurface (“in, on or under land”). Similarly, biodiversity damage under the ELD refers to ecosystems, which are often impacted in case of water and/or land damage. The Common Forum is therefore in favour of a more integrated approach to environmental damage, highlighting that seeing “soil damage” only along with human health risks is a shortcoming that needs to be addressed (pointing out that the *Coussouls de Crau* case is a good illustration of these interactions between the different media). The Common Forum added that all European countries having a land protection policy or a contaminated land policy / provisions (generally in an Environment Code) consider human health protection, water resources protection and (directly or indirectly) ecosystems protection. A wider approach would therefore be justified, not only for the sake of environmental benefits but in a sense of resource protection and effectiveness also economically (finding synergies).¹⁸¹ Another expert pointed out that definitions for biodiversity and water damage were quite similar but also very vague and therefore highlighted that such a distinction between these two kinds of damage was not necessary, adding that it would also make sense to have the same definition for all types of damage as well as the same thresholds.¹⁸²

3.2.1.3 Application of pre-existing national legislation instead of the ELD

Although a case may meet the definition of one or more types of environmental damage under the ELD, Member States may choose to apply pre-existing national legislation on the ground that it is more stringent than the Directive. In addition, the potential overlap between the various types of environmental damage (e.g. land damage which also has an impact on groundwater) may lead to the application of e.g. national land legislation even if there is also an impact on water. An interesting example is that of the Ghent derailment case as summarised in the Box below.

Box 1: Overview of the Ghent derailment case

The Ghent derailment case involves damage to air, as well as damage to land and damage to water.

In May 2013, a train carrying acrylonitrile, a toxic chemical, derailed in Wetteren near Ghent, Belgium, allegedly because the driver was speeding. The release of the acrylonitrile into the air caused an explosion and fire, resulting in one death (because of inhalation of acrylonitrile on the day of the crash), 49 persons injured and the evacuation of people living nearby.

¹⁸⁰ Report submitted by Greece under ELD Article 18(1).

¹⁸¹ Interview with Dominique Darmendrail, General Secretary of the Common Forum, in the framework of this study.

¹⁸² Interview with Stakeholder in the framework of this study.

An unknown quantity of acrylonitrile leaked out of the wagons and polluted the subsoil and groundwater. Acrylonitrile also entered into a ditch and spread (i) towards a small stream which flows into the River Schelde (a major river in Belgium), and (ii) towards the sewerage system of Wetteren, which eventually ends in a water treatment plant that discharges treated water into the River Schelde. The Flemish Government intervened and took safety measures.

Bodily injury, property damage and economic loss are not, of course, covered under the ELD. The incident, however, was not considered to be an ELD incident despite acrylonitrile entering the sewerage system, which will require remediation, as well as soil, surface water and groundwater. The Flemish Government considered that the damage to soil/land, water and biodiversity did not reach the threshold of the ELD.

The competent authority is applying the Flemish Soil Decree to the incident and has, accordingly, ordered the owner of the land on which the crash occurred to pay for investigatory and remedial measures. The Flemish Soil Decree also covers water damage.¹⁸³ The case was brought before civil courts, to claim costs of the damage under the Belgian Civil Code.

Various Member States also pointed out in the reports they submitted to the Commission in application of Article 18(1) to the ELD that their national legislation on soil pollution has lower thresholds and/or is more stringent than the ELD, entailing that this pre-existing national legislation would be applied rather than the ELD. Thus, Wallonia (Belgium) indicated that it has independent soil pollution legislation with lower intervention thresholds than the ELD and higher remediation obligations for any soil damage occurring after 30 April 2007).¹⁸⁴ As to the Netherlands, although they did not “officially” report any ELD cases, it nevertheless referred to a case of environmental damage, namely the fire at ChemiePack, which was above the thresholds in the ELD and should apparently have been treated under the ELD regime but was not. The incident at ChemiePack (2011) resulted in damage to the soil because of pollution of the water used to put out the fire; this water also polluted the waterbeds of the surrounding ditches and those of other waterbeds; remedial actions were undertaken.¹⁸⁵ The national competent authority apparently did not really consider application of the national legislation transposing the ELD, but applied the national regulations implementing the Seveso Directive and water legislation and soil regulations., which overlap with (although in agreement with) the ELD regime. According to the Dutch Government, “the protection level on the basis of the Dutch soil regulations is higher than on the basis of the Law implementing environmental liability, since it stipulates namely that all soil pollution must be cleared up (rather than only pollution above a damage threshold for soil).¹⁸⁵ The company reportedly went bankrupt and had no insurance to cover remediation costs; public authorities (and, thus, the public) will hence have to bear the costs of remediation measures.¹⁸⁶ It is noteworthy that the Dutch government had asked Chemie-Pack to make available its insurance policy, in order to assess

¹⁸³ See Prof. Dr. L. Lavrysen, Legislation on soil remediation in the Flemish Region of Belgium, International Seminar on law regulating soil contaminations, Lanzhou, P.R. China (August 2007): by *soil* is meant the solid constituents of the earth, including the groundwater and other components and organisms that form part of it or live therein (Art. 2(1), 1995 Soil Remediation Decree; the same definition can be found in art 2 (1) of the 2006 Soil Decree). This also includes the *underwater soil* or *water bottom*. Available at <https://biblio.ugent.be/input/download?func=downloadFile&recordId=631325&fileId=631386>

¹⁸⁴ Report submitted by Belgium (Wallonia) under ELD Article 18(1).

¹⁸⁵ Report submitted by the Netherlands under ELD Article 18(1).

¹⁸⁶ Interview with Stakeholder in the framework of this study.

whether the company had enough resources to pay for the costs of remediation.¹⁸⁷ After the refusal of the company to communicate such information, the government filed suit. In fact, the costs of fire-fighting remediation operations is quite problematic under Dutch law, as fire-fighting is a government duty under Dutch public law. Therefore, many companies claim that the government should bear the costs of fire remediation.¹⁸⁸ However, as long as it “ensure[s] the proper and effective implementation” of the ELD, such costs should be borne the liable operator.

3.2.2 Potential inclusion of additional types of environmental damage

Several experts¹⁸⁹ are of the opinion that additional categories/media should be included in the definition of ‘environmental damage’ under the ELD. It was pointed out that the effectiveness of the ELD would benefit from inclusion of e.g. air pollution (“damage to air”),¹⁹⁰ or even “damage to landscape”.¹⁹¹

Others, such as FERMA or Insurance Europe, are not in favour of adding new types of environmental damage to the current scope of environmental damage, based notably on insurance-related considerations (see section 3.2.3 below). In addition, FERMA and Insurance Europe consider that it is first necessary to consolidate what already exists and see how the ELD works in the long run, rather than amending it now by adding new requirements. According to Insurance Europe, extending the scope could “soften” the ELD effectiveness in cases where the environmental damage cannot be positively determined.¹⁹² The Ad-Hoc Industry Natural Resource Management Group also consider that before adding additional environmental sectors and/or categories of damage, the ELD should be given more time to play out in actual practice.¹⁹³

3.2.2.1 Potential inclusion of “damage to air”

In the ELD Implementation study, it was highlighted that a legal expert from Hungary had reported that air is an environmental element that is not within the scope of the ELD, although air pollution can create significant risk for human health. It is recognised, however, that air quality is generally improved through regulatory, and not liability, regimes. Further, air pollution is often more difficult to be traced back to identifiable individual polluters (problem of diffuse pollution where a causal link cannot be established, e.g. car traffic, which is better regulated by other instruments such as economic taxes). Therefore, the ELD is not a good instrument to apply to air pollution.¹⁹⁴

¹⁸⁷ See <http://www.internationallawoffice.com/newsletters/detail.aspx?q=3f3923c4-9bf6-48eb-ba8c-4f0cb265cc93>

¹⁸⁸ See <http://www.internationallawoffice.com/newsletters/detail.aspx?q=3f3923c4-9bf6-48eb-ba8c-4f0cb265cc93>

¹⁸⁹ Interview, in the framework of this study, with Magdalena Bar, from environmental law firm Jendroška Jerzmański Bar & Partners. Environmental Lawyers; Birgit Schmidhuber, from Justice & Environment; and Prof. Luc Lavrysen, Environmental law professor at Ghent University, in the framework of this study.

¹⁹⁰ Interview with Magdalena Bar, from environmental law firm Jendroška Jerzmański Bar & Partners. Environmental Lawyers, in the framework of this study.

¹⁹¹ Interview with Prof. Luc Lavrysen, Environmental law professor at Ghent University, in the framework of this study.

¹⁹² Interview with Carmen Bell, from Insurance Europe, in the framework of this study.

¹⁹³ Written feedback provided by Barbara Goldsmith, from the Ad-Hoc Industry Natural Resource Management Group, in the framework of this study.

¹⁹⁴ BIO Intelligence Service (2013), Implementation challenges and obstacles of the Environmental Liability Directive, Final report prepared for European Commission – DG Environment. In collaboration with Stevens & Bolton LLP. Available at <http://eldimplement.biois.com/>

However, “damage to air” is indirectly taken into account in the ELD as it may result in further damage to water, land or biodiversity¹⁹⁵ (see e.g. the Ghent derailment case above). This is also recognised in the Commission’s ELD training material, which states: “Exposure to airborne material from a source other than the land itself is not included. The ELD does not cover damage resulting from air pollution in itself, but would come into play if such airborne pollutants settle on land, water sources or protected habitats/species, or if contaminants residing in those places caused harm to human health or the environment after becoming airborne”.¹⁹⁶

The issue of air pollution, and how it relates to other types of damage under the ELD, may be illustrated by Czech cases (although all were civil liability cases – claim by land(forest) owner against the operator – and many occurred before the ELD entered into force) relating to damage to forests as result of sulphur (gas) compounds (SO₂) contained in the ambient air (acid rains); all sulphur emissions are nevertheless compliant with permits held by operators, in particular of coal power plants for the production of electricity. It is interesting to note that Czech courts do not admit the permit defence in such cases: “*Responsibility of the operator for damage caused to forests by discharges of pollutants into the air is not precluded by the fulfillment of obligations resulting from regulations on air protection, including the payment of fees for pollution*” (25 Cdo 769/2006).¹⁹⁷

However, during the 2nd ELD stakeholders meeting of June 2013, Group Two, which debated the effectiveness of the ELD in relation notably to the scope of environmental damage, was sceptical to any changes in this regard, pointing out that it was for instance not considered possible to extend the scope to impacts on air, because these usually are caused by mixed pollution.¹⁹⁸

Nonetheless, some Member States recognise “damage to air” in relation to the ELD. In Italy, the environmental liability regime applies to “damage to the atmosphere” even where it has no measurable and significant impacts on land, water and protected species and natural habitats. The scope of environmental damage in e.g. Italy may be broader than under the ELD due to the definition of environmental damage under Article 300(1) of the ELD transposing legislation. Article 300(1) defines “environmental damage” as “any significant and measurable direct or indirect impairment of a natural resource or of the benefits provided by such a resource”. Thus, Italy reported two ELD cases where the environmental damage caused was “damage to atmosphere” resulting from operation of installations subject to permit (Annex III activity), and one case resulting damage to the atmosphere, land and water.¹⁹⁹ Hungary has also extended environmental damage to air by defining the “environment” to include “land, air, water, the biosphere as well as the built (artificial) environment created by humans as well as the components thereof” (Article 4(1) of Act LIII of 1995, as amended by the ELD transposing legislation).

In addition, some experts and stakeholders consider that it would be relevant to include “damage to air”, as damage resulting from air pollution may not be adequately covered under national legislation. Some difficulties related to the inclusion of air pollution were highlighted: air pollution usually leads to other environmental elements being impacted (e.g. biodiversity); in addition air pollution is generally diffuse pollution and, as such, it would be rather challenging to assess who

¹⁹⁵ Interview with Magdalena Bar, from environmental law firm Jendroška Jerzmański Bar & Partners. Environmental Lawyers, in the framework of this study.

¹⁹⁶ Commission’s ELD Training material. Available at http://ec.europa.eu/environment/legal/liability/eld_training.htm

¹⁹⁷ See Justice & Environment (2012), National ELD report for Czech Republic, available at <http://www.justiceandenvironment.org/files/file/2012/2012%20ELD%20report%20Czech%20Republic.pdf>

¹⁹⁸ 2nd ELD Stakeholder Conference Brussels, “Evaluating the experience gained in the ELD implementation”, 11 June 2013, http://ec.europa.eu/environment/legal/liability/eld_conf_11_06_2013.htm

¹⁹⁹ Report submitted by Italy under ELD Article 18(1).

the liable party is (i.e. assess where the pollution originated from). However, the baseline condition may be more easy to determine (than with biodiversity or water damage for instance) as air is usually well monitored and hence data is available. In addition, air pollution would call for a uniform system: environmental liability to cover damage to air as air pollution does not stop at a Member State's borders. If damage to air is included in the ELD, it must be ensured that the provisions that relate to it allow for practical implementation.²⁰⁰ It was further expressed that, similar to the current definition of land damage in the ELD, if included, air pollution damage under the Directive could be subject to the existence of a risk to human health. However, such a risk to human health could be difficult to prove: although air quality standards would be the most precise criteria, they might nevertheless be too strict to apply as they are very often exceeded and may be caused by many different factors (diffuse pollution). Air pollution damage should nevertheless be given specific recognition and definition under the ELD; further discussion and deeper analysis would be required before this happens.²⁰¹

Interestingly, in Poland, according to case law established since the 1970s in the area of civil law (damage to human health or property caused by air pollution), a court found that it was not necessary to prove irrefutably that air pollution which had caused the damage was caused by a particular operator; it was enough if it was "probable".²⁰¹

Finally, Insurance Europe indicated that the addition of "damage to air" was debated by the insurance market because of its diffuse character. It also pointed out that "air pollution" would pose the issue of causation of damage and quantification of the damage, which are elements that are very important for insurers. Insurance Europe highlighted that the current regime (i.e. the current scope of environmental damage) establishes a clear necessity of a causal link. However, with air, it would be difficult to make a causal link, if more than one activity is involved. In addition, in relation to quantification aspects, the determination of how fully to compensate the damage appears complicated.²⁰²

3.2.2.2 Potential inclusion of additional categories of environmental damage

Suggestions as to additional categories of environmental damage that could be included within the scope of the ELD included damage to landscape, odour and noise.

However, Euromines pointed out that one important subject-matter with "damage to landscape" is that it is already contemplated by other EU instruments. In particular, the inclusion of such damage would not sit well with the Environmental Impact Assessment Directive (2011/92/EU) as the latter already requires that effects on the landscape be taken into account in the environmental impact assessment which must be submitted and approved at permitting stage, prior to the commencement of industrial activities. The MWD also contains measures to minimise the impacts of a waste facility on the landscape during operation and an obligation to rehabilitate the land affected by a waste facility so as to restore it during closure and after closure.²⁰³

It was also suggested that other categories such as odour and noise be considered for inclusion, given the impact it may have on human health; however, the impact on fauna and flora is not

²⁰⁰ Interview with Birgit Schmidhuber, from Justice & Environment, in the framework of this study.

²⁰¹ Interview with Magdalena Bar, from environmental law firm Jendroška Jerzmański Bar & Partners. Environmental Lawyers, in the framework of this study.

²⁰² Interview with Carmen Bell, from Insurance Europe, in the framework of this study.

²⁰³ Interview with Emmanuel Katrakis, from Euromines, in the framework of this study.

necessarily easy to determine. In addition, it may be difficult to measure damage to such categories (e.g. if it is not possible to know what parameters are causing the odour).²⁰⁴

3.2.3 Impact of extending “environmental damage” for financial security instruments

According to an expert, any addition to the categories of environmental damage under the ELD would probably not change the approach taken by EU Member States to the issue of mandatory financial security: the scope is indeed already broad enough to encourage operators to undertake financial security.²⁰⁵

However, FERMA emphasised that any extension of the scope of environmental damage would require an adaptation of the insurance policy coverage, but that it may be difficult regarding certain types of damage, such as for instance “damage to air” where it would be difficult to estimate the cost of damage. Another expert added that extension of the scope of environmental damage to air or landscape would be difficult to insure.²⁰⁶ FERMA also highlighted that biodiversity damage was already an important innovation of the ELD that was also complicated to assess to provide the right insurance coverage in relation to the price, baseline and significance of the damage. The Ad-Hoc Industry Natural Resource Management Group added that financial security and insurance markets should have time to develop and to change the scope at this stage would create an upset in the current markets.²⁰⁷

These considerations were also brought up by Insurance Europe, which indicated that an extension of the scope of environmental damage under the ELD (e.g. to encompass “damage to air”) could hinder the effectiveness of the ELD: insurers might find the need to reformulate policies or withdraw products from the market, which could thus have a negative impact in the form of diminished insurance capacity.

3.3 Conclusions and recommendations

Revising the ELD to impose liability for preventing and remediating damage to human health and the environment would promote the polluter pays principle because it would extend liability to parts of the environment, such as air, wetlands (and sediment if it is not already included), that are not currently covered by the ELD.

Such a revision would also harmonise and streamline the ELD with other EU legislation, particularly the legislation listed in Annex III, which is mostly based on protecting human health and the environment.

Further, such a revision would harmonise and streamline the ELD with Member State legislation which, again, is mostly based on the protection of human health and the environment and would facilitate adding provisions in the ELD, such as the requirement to carry out preventive measures and emergency remedial action, and to notify a competent authority, to national legislation.

²⁰⁴ Interview with Stakeholder in the framework of this study.

²⁰⁵ Interview with Magdalena Bar, from environmental law firm Jendroška Jerzmański Bar & Partners. Environmental Lawyers, in the framework of this study.

²⁰⁶ Interview with Hannes Descamps, researcher and lecturer at the Institute for environmental and energy law at Leuven University, in the framework of this study.

²⁰⁷ Written feedback provided by Barbara Goldsmith, from the Ad-Hoc Industry Natural Resource Management Group, in the framework of this study

Any extension of environmental liability, and any revisions to the ELD, would need to consider the implications on insurance and other financial security instruments. An extension of the ELD to cover environmental liability for remediating damage to human health and the environment should not, however, detrimentally affect the provision of insurance because environmental insurance policies virtually always cover Member State national legislation, which covers such damage as well as ELD liabilities.

Any extension of the ELD to cultural buildings and ancient monuments, or landscape or seascapes, would, however, need to be very carefully considered due, among other things, to difficulties in establishing thresholds for such damage as well as the insurance implications of such an extension.

Chapter 4: Analysis of appropriateness of significance thresholds for land and water damage

This chapter analyses the appropriateness of the significance thresholds for land damage and water damage.²⁰⁸

The chapter also addresses, among other things, the following issues and options:

- In respect of land damage:
 - Whether to broaden the scope to include human health *and* the environment rather than limiting the scope to a “significant risk of human health being adversely affected” and setting criteria or thresholds (limit values);
 - Whether the remediation standard for land damage should be revised to bring it up to a comparable level with water damage and biodiversity damage.
- In respect of water damage, whether to determine the significance threshold by setting criteria similar to the criteria in Annex I of the ELD for biodiversity damage or thresholds (limit values).

4.1 Legal analysis

4.1.1 Significance thresholds

The ELD must contain “significance thresholds” for each of the three categories of environmental damage; land, water, and biodiversity damage. Thresholds are necessary because the ELD does not require an operator to carry out any preventive or remedial measures unless there is an “imminent threat” of, or actual, “environmental damage” as defined in the ELD. The ELD thus differs from environmental liability systems in most Member States in that it does not provide a competent authority with the power to require when an operator (or other person) to prevent or remedy harm to the environment; it imposes a duty on the operator (and competent authority, depending on the national law) to act if a specified threshold is exceeded.

²⁰⁸ The significance threshold for biodiversity damage is not covered because it is outside the scope of this report.

Significance thresholds are not unusual; to the contrary, they are typical in the environmental legislation of most Member States as well as non-EU States.²⁰⁹ They are also typical in EU environmental legislation. For example, the WFD includes the term “significant damage” (WFD, recital 27, Annex V, sections 2.1.2 & 2.3.2), although it does not define it.²¹⁰ The Industrial Emissions Directive contains the term “significantly affecting the environment” (IED, art 7) although, again, it does not define it. The Environmental Impact Assessment Directive includes the phrase “significant environmental effects”,²¹¹ with numerous references to “environmental effects”.²¹² The Strategic Environmental Assessment Directive contains the phrase “significant effects on the environment”.²¹³ The Offshore Safety Directive defines a “major accident”, in part, as an incident “with a significant potential to cause[] fatalities or serious personal injury” (OSD, art 2(1)(a)). Again, the word “significant” is not defined. Further, the Offshore Safety Directive refers directly to the ELD in the definition of a “major environmental incident”, as “an incident which results, or is likely to result, in significant adverse effects on the environment in accordance with [the ELD]” (OSD, art 2(37)). The Directive does not provide any definition of the term “significant” although that definition may differ from that in the ELD because it refers generally to the “environment” rather than the three categories of environmental damage in the ELD.

The word “significant” in environmental legislation is notoriously difficult to define. As indicated above, it is highly unusual for environmental legislation specifically to define the word “significant”. The Environmental Impact Assessment Directive is an exception in that it deems projects listed in Annex I to the Directive to have a significant environmental effect (EIA Directive, art 4(1)). As in other environmental legislation, however, the Directive also lists projects that may have a significant effect on the environment (EIA Directive, art 4(2), Annex II).

A determination of “significance” in environmental legislation is generally made pursuant to the first approach in the Environmental Impact Assessment Directive, that is, on a case-by-case basis. In this approach, a determination as to whether an effect on the environment is “significant” is a question of fact; it is not a question of law. In making the determination, competent authorities take into account different factors including the location at issue and circumstances concerning the activity that may affect the environment. Typical factors taken into account include: the environmental sensitivity of the location, including the presence of drinking water aquifers, surface

²⁰⁹ See BIO Intelligence Service (2013), Implementation challenges and obstacles of the Environmental Liability Directive, Final report prepared for European Commission – DG Environment. In collaboration with Stevens & Bolton LLP. <http://eldimplement.biois.com/>; Stevens & Bolton LLP, Study on Analysis of integrating the ELD into 11 national legal frameworks, Final Report prepared for the European Commission – DG Environment (2013); see also Valerie Fogleman, Threshold Determinations under the National Environmental Policy Act, Boston College Environmental Affairs Law Review, vol. 15(1), pp. 59-103 (1987).

²¹⁰ See European Commission, Common Implementation Strategy for the Water Framework Directive (2000/60/EC), Guidance document No. 12, The role of wetlands in the Water Framework Directive, p. 25, section 3.3.1 (2003).

²¹¹ Directive (2011/92/EU) on the assessment of the effects of certain public and private projects on the environment. art 3(3). OJ L 26/1 (28 January 2012).

²¹² See, e.g., Environmental Impact Assessment Directive (2011/92/EU), recital 7 (“Development consent for public and private projects which are likely to have significant effects on the environment should be granted only after an assessment of the likely significant environmental effects of those projects has been carried out”), recital 8 (“Projects belonging to certain types have significant effects on the environment”); recital 9 (“Projects of other types may not have significant effects on the environment in every case”); recital 11 (“setting such thresholds or criteria or examining projects on a case-by-case basis, for the purpose of determining which projects should be subject to assessment on the basis of their significant environmental effects”).

²¹³ Directive (2001/42/EC) on the assessment of the effects of certain plans and programmes on the environment, art 2(1). OJ L 197/30 (21 July 2001).

water, protected species and natural habitats; the effect on human receptors; and the geology and hydrogeology of the location. Circumstances that are taken into account include the length of time during which the environment is damaged, cumulative effects if there is more than one harmful activity, and direct and indirect effects on the environment and human health. A competent authority may exercise its discretion to require an operator to remediate land contamination or water pollution based on a decision of “significance” that takes into account the above factors and circumstances.

The ELD adopted the second approach set out above. That is, the ELD establishes thresholds and criteria to be used to make a significance determination. The thresholds are set out in the definitions of land, water and biodiversity damage (ELD, art 2(1)). The ELD defines the term “damage” as “a measurable adverse change in a natural resource or measurable impairment of a natural resource service which may occur directly or indirectly” (ELD, art 2(2)).

The criteria for determining whether the threshold for biodiversity damage has been met are set out in Annex I to the ELD. The ELD does not include any criteria for determining when the threshold for land or water damage has been met although it does set out a common framework for their remediation (ELD, Annex II).

Adoption of the thresholds and criteria approach for making a determination of “significance” in the ELD has led to difficulties in applying the significance thresholds. There are two types of difficulties that arise from this application. They are difficulties in respect of:

- an activity that causes damage that *may* exceed the threshold; and
- an activity that *actually* exceeds the threshold.

4.1.1.1 Application of significance thresholds to activities that may exceed the threshold

Environmental legislation that includes a significance threshold generally requires an operator (or another person) to carry out specified measures if their proposed activity or the activity they have actually carried out “may” or is “likely” to exceed the threshold for an effect on, or damage to, the environment. For example, the Habitats Directive requires a person who proposes a plan or project to carry out an appropriate assessment if the proposed plan or project is “likely to have significant effects” to a site either individually or in combination with other plans or projects.²¹⁴ The determination of the threshold is objective and is decided on a case-by-case basis because, as the Commission states in its guidance on the Habitats Directive, “what may be significant in relation to one site may not be [significant] in relation to another”.²¹⁵

Further, the CJEU has ruled that the term “likely to have significant effects” in the Habitats Directive means that an appropriate assessment must be carried out for a plan or project that is not directly connected with or necessary to the management of a special area of conservation if the possibility of harm cannot be excluded on the basis of objective information;²¹⁶ in contrast, “no reasonable

²¹⁴ Habitats Directive, art 6(3).

²¹⁵ See European Commission, Managing Natura 2000 Sites, The provisions of Article 6 of the ‘Habitats’ Directive 92/43/EEC, p. 33, section 4.4.1 (2000).

²¹⁶ Landelijke Vereniging tot Behoud van de Waddenzee v Staatssecretaris van Landbouw, Natuurbeheer en Visserij, para 44 (CJEU, Case No. C-127/02, 2004).

scientific doubt as to the absence of such effects” must remain.²¹⁷ As stated by Advocate-General Sharpston in *Sweetman v An Bord Pleanála*, the “possibility of there being a significant effect on the site will generate the need for an appropriate assessment ... There is no need to *establish* such an effect; it is ... merely necessary to determine that there *may* be such an effect”.²¹⁸ In effect, therefore, the word “likely” in the Habitats Directive means “possible”.²¹⁹

The Industrial Emissions Directive does not follow this approach. Instead, it requires an operator to take specified measures, including notifying a competent authority and carrying out preventive measures, if an “incident or accident significantly affect[s] the environment” (IED, art 7). More crucially, the ELD also follows this approach. The self-executing provisions of the ELD require an operator to carry out preventive measures, with or without the intervention of a competent authority, if its activities cause an imminent threat of environmental damage (ELD, art 5(1)). The ELD further requires an operator to carry out emergency remedial measures, again with or without the intervention of a competent authority, if its activities cause environmental damage (ELD, art 6(1)(a)).

Imminent threat of environmental damage

The ELD defines an “imminent threat” of environmental damage as “a sufficient likelihood that environmental damage will occur in the near future” (ELD, art 2(9)). This definition is narrower than most terms used in environmental legislation to determine whether an effect on the environment may occur in that it qualifies the word “likelihood” by the word “sufficient” and includes the word “will” rather than “may”. Environmental legislation generally describes a requirement to prevent an effect on, or harm or damage to, the environment by the use of the word “may”. Further, it tends not to qualify the word “likely” to narrow its meaning. In some cases, such as the Habitats Directive (discussed above), the word “likely” is defined very broadly. The Offshore Safety Directive is another example of this type of legislation in that it defines a “major environmental incident” as “an incident which results, or is likely to result, in significant adverse effects on the environment in accordance with [the ELD]” (OSD, art 2(37)). The Directive is, thus, less prescriptive than the ELD.

The narrow definition of the term “imminent threat” of environmental damage in the ELD, and particularly the use of the word “will”, can reasonably be read to mean that an operator must know that environmental damage is “sufficiently likely” to occur in the near future rather than merely knowing that there is a potential (or even a possibility) that environmental damage under the ELD may occur – or, objectively, that the operator should be aware that a potential, or possibility, of environmental damage exists. This causes a problem because the ELD requires an operator to take measures to prevent the imminent threat of environmental damage “without delay” (ELD, art 5(1)) and to notify the competent authority “as soon as possible” if such measures do not dispel the threat (ELD, art 5(2)).

²¹⁷ Landelijke Vereniging tot Behoud van de Waddenzee v Staatssecretaris van Landbouw, Natuurbeheer en Visserij, para 674 (CJEU, Case No. C-127/02, 2004).

²¹⁸ CJEU, Case No. C-258/11, 22 November 2012, opinion of A-G Sharpston, para 47 (emphasis original).

²¹⁹ See Robert McCracken, EIA, SEA and AA, Present Position: Where are we now?, *Journal of Planning and Environmental Law*, vol. 12, p. 1515, 1520 (2010).

4.1.1.2 Application of significance thresholds to activities that exceed them

The problem is more acute in respect of the duty on an operator immediately to carry out emergency remedial actions. The ELD provides that, “[w]here environmental damage has occurred the operator shall, *without delay*, inform the competent authority of all relevant aspects of the situation and take: (a) all practicable steps to *immediately* control, contain, remove or otherwise manage the relevant contaminants and/or any other damage factors in order to limit or to prevent further environmental damage and adverse effects on human health or further impairment of services” (ELD, art 6(1)(a)) (emphasis added).

As with preventive measures, however, the detailed threshold levels of the ELD make it difficult, or in some cases impossible, for an operator to know immediately that its activities have caused environmental damage. Some Member States have reported many ELD incidents, which suggests that the threshold may not be a problem in those Member States. The lack of any ELD incidents in other Member States, however, indicates that a problem may exist.

The potential thus arises that operators are not notifying competent authorities under the ELD when their activities cause an imminent threat of, or actual, environmental damage because they are unable to do so. A recent survey of nine Member States (Belgium, the Czech Republic, France, Germany, Italy, the Netherlands, Poland, Spain, and the UK) indicates that there is no duty, outside the legislation transposing the ELD and the Industrial Emissions Directive, to report environmental incidents concerning water pollution or land contamination in four Member States (the Czech Republic, France (except for classified facilities), Germany (except for facilities subject to the Seveso Directive), and the UK (except for incidents that may cause, or have caused, death, major injury or disease)). The duty is limited in some of the other Member States. For example, the duty in Spain applies only to facilities.²²⁰

Due to this lack of notification legislation in some Member States, the ELD clearly adds value by imposing a duty on an operator to notify a competent authority of an imminent threat of, or actual, environmental damage. There is, thus, an excellent argument for making it easier for an operator to know when the duty to notify arises by lowering the “imminent threat” threshold.

4.1.1.3 Definition of “significant” in the ELD

All three categories of land damage in the ELD include the word “significant”, as follows:

- Biodiversity damage: “damage that has *significant* adverse effects on reaching or maintaining the favourable conservation status of ... habitats or species” (ELD, art 2(1)(a));
- Water damage: “any damage that *significantly* adversely affects the ecological, chemical and/or quantitative status and/or ecological potential ... of the waters concerned” (ELD, art 2(b)); and
- Land damage: “any land contamination that creates a *significant* risk of human health being adversely affected” (ELD, art 2(c)).

Whilst the term “significant” is used in all three definitions in the English version (in which the ELD was drafted), the term has been translated differently in some other language versions. For

²²⁰ See Clifford Chance, Environment Newsletter – Winter 2014, pp. 1-3 (January 2014).

example, the Latvian version uses the term *būtiska* for biodiversity and water damage, but the more qualitative term *nopietna* for land damage. The Bulgarian translation uses the word *съществен*, which means substantial, for biodiversity damage, *сериозен*, which means serious or grave, for water damage, and *значим*, which means significant, for land damage. The French translation uses the word *grave*, which means grave, in all three definitions.

The differences in language potentially mean that the definitions for biodiversity, water, and land damage are interpreted differently in some Member States from their interpretation in other Member States.

4.1.2 Land damage

The significance threshold for land damage in the ELD is:

“any land contamination that creates a significant risk of human health being adversely affected as a result of the direct or indirect introduction, in, on or under land, of substances, preparations, organisms or micro-organisms”.

Unlike water damage which is linked to the WFD, and biodiversity damage which is linked to the Habitats and Birds Directives, there was – and still is – no EU legislation to which to link damage to land / soil.

Further, the word “land” in the ELD is not defined. If the proposed Soil Framework Directive (which would have revised the ELD) had progressed as drafted,²²¹ it would have essentially defined “land” by limiting its scope to “soil forming the top layer of the earth’s crust situated between the bedrock and the surface, excluding groundwater as defined [by the WFD]”.²²² “Groundwater” is defined by the WFD is “all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil” (WFD, art 2(2)). The term “land” in the proposed Directive therefore, would appear to mean soil and subsoil above the saturation zone / water table.

Applying the definition of “soil” in the proposed Soil Framework Directive to the ELD would, however, lead to problems due, not only to inherent difficulties in separating soil from groundwater but also because the water table (that is, the limit of the saturated zone) rises and falls. In times of heavy rain in some areas (depending on the hydrogeology of the area), for example, the water table may rise so that it is at ground level.

4.1.2.1 Limitation of liability for remediating land damage

Regardless of the precise scope of “land” under the ELD, the ELD severely limits liability for remediating land damage. First, there must be a human presence on, or affected by, the land. Unless there is a “significant risk of human health being adversely affected” (ELD, art 2(1)(c)), land damage is not within the definition of “environmental damage” under the ELD. Second, a causal link must be established between an activity carried out by an operator and damage to the land. The causal link may be difficult to establish because contaminated land is usually affected by more than one substance. Third, the operator who carried out the activity must be an Annex III operator.

²²¹ The Commission is considering withdrawing the proposed Directive. See European Commission, “REFIT – Fit for Growth”: Examples of how EU law is becoming lighter, simpler and cheaper (MEMO/18/833, 2 October 2013).

²²² European Commission, Proposal for a Directive of the European Parliament and of the Council establishing a framework for the protection of soil and amending Directive 2004/35/EC, art 1(2). COM(2006) 232 final (22 September 2006).

If it is not possible to establish a link, the exception for diffuse damage (ELD, art 4(5)) applies. Fourth, liability under the ELD will rarely be established for land that is contaminated by agricultural and other non-Annex III activities due to the application of negligence or fault to such activities. A further limitation is the prospective nature of the ELD and the presence of large areas of land in the EU that were contaminated prior to 30 April 2007.²²³ Liability for remediating land contaminated prior to 30 April 2007 arises only if it is possible to link further contamination after this date to the activities of individual operators. Even if it is possible to establish such a link, a competent authority would face severe difficulties in enforcing the ELD because the operator(s) would not be liable under the ELD for remediating pre-30 April 2007 contamination even if the operator caused it. Such difficulties would include:

- Application of the ELD and national legislation to remediation of the same area of land, generally with differing liability provisions;
- The high potential for the application of national law to persons other than an operator under the ELD, in particular any person that caused contamination prior to 30 April 2007; and
- Differentiation between contamination that occurred pre- and post- 30 April 2007, an often impossible task due to the inability precisely to determine the age of contaminants in soil and groundwater.

Further, the significance criteria for land damage under the ELD means that the focus of land damage is not, as for water damage, its deterioration but, instead, the risk to human health. Criteria such as direct ingestion or absorption by inhalation, or indirect uptake by food or drinking water abstracted from groundwater, are therefore relevant. As commented by Justice and Environment, however, “[t]hese criteria do not comply with the environmental damage concept, as they foresee an additional element to be fulfilled → risk of human health being adversely affected – an element predominantly deriving from civil liability which should not be a criteri[on] for environmental damage to be evaluated as such”.²²⁴ That is, in order for civil liability for environmental damage to arise, there must be harm to an individual or a person’s property. Public / administrative legislation, however, tends to apply, not only to risks to human health, but also to the “unowned” environment in which such risks may not arise.

As described in section 3.1.5 above, difficulties in differentiating “land damage” from “water damage” under the ELD may also arise. For example, a standard technique for remediating groundwater damage is removal of the source of contamination. If the contaminant is in the land / soil itself, the land / soil must be removed or otherwise remediated to prevent its entry (or continued entry) into groundwater. The ELD, however, requires land damage to be remediated to a less stringent level than water damage as well as establishing different measures for its remediation.

²²³ See Antonia Layard, *The Europeanisation of Contaminated Land*, in *Environmental Liability in the EU; The 2004 Directive compared with US and Member State Law*, p. 129, 138 (editors Gerrit Betlem & Edward Brans, Cameron May, 2006).

²²⁴ Justice and Environment, *Environmental Liability 2013, Between the Limits of Environmental Damage; Comparative study on national damage definitions and severity thresholds for biodiversity, water and land damages in EU member states – a summary*, p. 3 (2013/3). Available from <http://www.justiceandenvironment.org/publications>

4.1.2.2 Differences in the definition of land damage between Member States

The ELD does not specify the degree of harm to human health, the exceedance of which is deemed to be “land damage” under the ELD.²²⁵ Some Member States have adopted a more stringent threshold for land damage in their transposing legislation than that under the ELD. Other Member States, meanwhile, have not defined the term further than that in the ELD. The threshold in some Member States is unclear from the legislation that transposed the ELD.

The definition of land damage in the UK (England, Wales, and Northern Ireland) is particularly broad. The guidance for those jurisdictions states that liability to remediate land damage arises if ailments such as headaches, sore throats and drowsiness occur, as well as death, birth defects, genetic mutation and diseases.²²⁶

The transposing legislation in Poland and Hungary is broader than the ELD in that it applies to land on which there is not a risk to human health (legislation has been proposed in Poland to include such a requirement but is still in the legislative process).²²⁷

The Hungarian transposing legislation contains the term “damage in geological media”. This term means any contamination that: creates a significant risk of human health being adversely affected as a result of the direct or indirect introduction, in, on or under land, of substances, preparations, organisms or micro-organisms; or exceeds the limits for contamination. The threshold for land damage is not, therefore, limited to a significant risk of an adverse effect on human health. If specified thresholds for contamination to geological media are exceeded, land damage has occurred.²²⁸

4.1.2.3 Conflicts between “land damage” and contaminated land under national legislation

The land damage provisions in the legislation transposing the ELD have resulted in overlaps with existing legislation. This is because many Member States already had well-developed regimes to remediate contaminated land when the ELD was transposed. Many of those regimes included groundwater contamination and had retrospective as well as prospective effect. The legislation also tends to be more stringent than the ELD in that it mostly contains few, if any, defences or exceptions, has a lower threshold than the ELD, does not restrict activities causing contamination to a list as in the ELD, imposes strict liability for all current contamination, and does not have a limitations period.

²²⁵ See Kristel De Smedt, *Environmental Liability in a Federal System; A Law and Economics Approach* (Intersentia, 2007), p.203 (citing E.H.P. Brans, *De EU Richtlijn Milieuaansprakelijkheid*, p. 33, 39, in *Aansprakelijkheid voor schade aan de natuur* (editors R. Mellenbergh & R. Uylenburg, Europa Law Publishing, 2005).

²²⁶ See Department for Environment, Food and Rural Affairs, *The Environmental Damage (Prevention and Remediation) Regulations 2009; Guidance for England and Wales*, pp. 69-70, section A1.94 (2nd Update, November 2009).

²²⁷ See Stevens & Bolton LLP, *Study on Analysis of integrating the ELD into 11 national legal frameworks*, Final Report prepared for the European Commission – DG Environment (2013).

²²⁸ See BIO Intelligence Service (2013), *Implementation challenges and obstacles of the Environmental Liability Directive*, Final report prepared for European Commission – DG Environment. In collaboration with Stevens & Bolton LLP. Available at <http://eldimplement.biois.com/>

The national legislation, however, generally does not include requirements for preventive measures or notification provisions, mainly because its focus is the remediation of contamination from historic pollution. Further, it does not generally include provisions for interested parties, as in the ELD.

The differences between land damage under the ELD and contaminated land under national legislation are wide-ranging. Factors influencing the nature and scope of existing national legislation include:

- The focus of the legislation (historic contamination / current and future contamination / or both);
- The type of legislation (Forest Act / Waste Act / Agricultural Act / etc.); and
- The scope of the legislation (the inclusion of groundwater remediation or solely the remediation of soil), and, if the legislation applies to groundwater, whether groundwater is defined broadly to include groundwater above the saturation zone, or narrowly to include only groundwater below the saturation zone or only in recognised aquifers.

Transposition of the ELD has not always resulted in Member States applying the land damage provisions of the ELD in lieu of national legislation regardless of whether the significance threshold is exceeded. For example, the Netherlands anticipates that it will continue to enforce its existing legislation for contaminated land because it is more stringent than the ELD.

Still further, Slovakia enacted legislation that imposes liability for remediating contaminated land after it transposed the ELD. The Act on Certain Measures in Relation to Environmental Burdens, which entered into force on 1 January 2012, imposes liability for the remediation of “environmental burdens”, which is defined as pollution of a site by human activity which constitutes a serious threat to human health, rock, soil or groundwater, with the exception of environmental damage under the legislation transposing the ELD. Enactment of this legislation has resulted in a substantially different liability system for remediating land contamination when such contamination does not exceed the significance threshold under the ELD. The enactment appears likely to lead to difficulties in distinguishing “environmental burdens” from “environmental damage”.

4.1.2.4 Trigger levels for soil

The EU has established “trigger levels” for water²²⁹ and air.²³⁰ The EU has not, however, established any trigger levels for soil. A trigger level (or trigger value) for soil is a concentration of a contaminant which, if met or exceeded, “triggers” a requirement to remediate the soil or water. The purpose of the trigger levels is to indicate the concentration of a contaminant at which the contaminant is considered to present a serious risk to human health and the environment. Trigger levels are prepared following extensive human and ecotoxicological effects of the specified contaminants. Their application may vary depending on the location in question, including its use (industrial / commercial, residential, etc.), nearby receptors (people, aquifers, rivers, protected areas, etc.), geology and hydrogeology, surrounding uses of land, etc.

²²⁹ See Directive (2008/105/EC) on environmental quality standards in the field of water policy (establishment of environmental quality standards for surface water for priority substances and other specified pollutants).

²³⁰ See Directive (2008/50/EC) on ambient air quality and cleaner air for Europe (establishment of air quality standards for specified pollutants).

Limit values for seven heavy metals have been developed under the Sewage Sludge Directive (86/278/EEC). The purpose of this Directive, however, is to encourage the use of sewage sludge in agriculture and to regulate its use so as to prevent harmful effects on soil, vegetation, animals and people. Even in this limited context, some Member States have established stricter limit values for some heavy metals and have established differing limit values for other contaminants.²³¹

A substantial number of Member States, including Belgium (Regions), France, Germany, Italy, Latvia, the Netherlands, Poland, Spain and Sweden, have developed various types of trigger levels for soil (see Annex B). Factors considered in their development include the number and type of trigger levels to develop, the risks to which trigger levels are applied, their use as absolute levels or guidance, and their basis (or not) in science.²³² As commentators have noted, “no single model would be workable for the whole of the EU”.²³³ Not only do factors such as the mineralogy of soil, depth of water tables and background levels of contaminants, vary between Member States, but the focus of trigger levels differs. Some States base trigger levels solely on human health; others take ecological receptors into account as well.²³⁴

Further, the development of trigger levels is not a pure scientific decision; it includes policy decisions regarding acceptability and tolerance levels.²³⁵ This does not mean that trigger values for soil could not be established by the EU. It does, however, mean that doing so would be very difficult and based on policy, as well as scientific, concerns. One key issue would be whether the levels should be based on the most protective levels adopted by a Member State when other Member States have adopted lower levels. Another issue is whether the same trigger level should apply to an industrial / commercial site and a residential site. Other issues would include the number and types of substances for which levels should be established and whether the levels are legally-binding or guidelines.

4.1.3 Water damage

The significance threshold for water damage in the ELD is:

“any damage that significantly adversely affects:

- (i) the ecological, chemical or quantitative status or the ecological potential, as defined in [the Water Framework Directive (2000/60/EC)], or the waters concerned, with the exception of adverse effects where Article 4(7) of that Directive applies, or

²³¹ See <http://ec.europa.eu/environment/waste/sludge/>

²³² See S. Christie & T.M. Teeuw, Varied Policy of European Union States on Contaminated Land, Environmental Impact Assessment Review, vol. 18, p. 175, 186 (1998).

²³³ S. Christie & T.M. Teeuw, Varied Policy of European Union States on Contaminated Land, Environmental Impact Assessment Review, vol. 18, p. 175, 193 (1998).

²³⁴ See Jo-Anne E. Cavanagh, Comparison of Soil Guideline Values Used in New Zealand and Their Derivation, p. 7 (prepared for Environment Canterbury, Landcare Research Contract Report: LC0607/025, November 2006). Available at <ecan.govt.nz/.../ComparisonofSoilGuidelineValuesinNewZealand.pdf>

²³⁵ See Amy Quintin & Lucy Fraiser, Comparison of International Risk-Based Screening Levels', Proceedings of the Annual International Conference on Soils, Sediments, Water and Energy, vol. 15, p. 291 (2010). Available at <http://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1133&context=soilsproceedings&sei-redir=1&referer=http%3A%2F%2Fwww.google.co.uk%2Fsearch%3Fbiw%3D1680%26bih%3D866%26sclient%3Dpsy-ab%26q%3Dcomparison%2Bof%2Binternational%2Brisk-based%2Bscreening%2Blevels%26btnG%3D%26oq%3D%26gs_l%3D%26pbx%3D1#search=%22comparison%20international%20risk-based%20screening%20levels%22>

- (ii) the environmental status of the marine waters concerned, as defined in the [Marine Strategy Framework Directive (2008/56/EC)], in so far as particular aspects of the environmental status of the marine environment are not already addressed through [the WFD]”.

The reference to Article 4(7) of the WFD in part (i) is to an exemption for “failure to achieve good groundwater status, good ecological status or, where relevant, good ecological potential or to prevent deterioration in the status of a body of surface water or groundwater [as] the result of new modifications to the physical characteristics of a surface water body or alterations to the level of bodies of groundwater, or failure to prevent deterioration from high status to good status of a body of surface water is the result of new sustainable human development activities”.

The second part of the definition of water damage was added by Directive (2013/30/EU) on safety of offshore oil and gas operations, which was adopted on 28 June 2013. Member States have until 19 July 2015 to “bring into force the laws, regulations and administrative provisions necessary to comply with [the additional definition of water damage in part (ii) above]”.²³⁶ Due to the added definition of water damage in part (ii), the following analysis focuses on part (i) of the definition.

The definition in part (i) refers to criteria on the status of surface water bodies and groundwater bodies in respect of the main objectives of the WFD. The objective, in respect of surface waters, is to prevent deterioration of their status so that, by 2015, they achieve good ecological status and good chemical status (and good ecological potential and good chemical status in respect of artificial and heavily modified water bodies). There are five levels for ecological classification; high, good, moderate, poor, and bad. There are two levels for chemical classification; good, and fair.

The objective, in respect of all groundwater bodies in the EU, is also to reach good status by 2015. There are two classifications for groundwater bodies; quantitative, and chemical. Groundwater bodies are classified as good or poor.

The classification of surface and groundwater bodies is determined by a “one-out-all-out approach”. That is, the ecological, chemical or quantitative status of a surface water body and the quantitative and chemical status of a groundwater body are determined on the basis of the element that scores the lowest in its assessment. The overall status is determined on the same basis. For example, the ecological and chemical status of a surface water body must be at least good if the surface water body is to be classified as being in good status. If, say, the chemical status is good but the ecological status is bad, the surface water body is classified as being in bad status.

The definition of water damage under part (i) of the ELD is, thus, based on the EU management plan, albeit a sophisticated management plan, for achieving an objective / aim of the WFD, that is, to achieve good status for all surface water and groundwater bodies in the EU by 2015. It is questionable, however, whether the threshold for the ELD should be based on a management plan for achieving an objective or aim.²³⁷ The threshold for a liability regime, such as the ELD, should be easy to understand. In contrast, the determination of the threshold for water damage in the ELD involves a detailed, and in some cases a lengthy, assessment.

²³⁶ Directive on the safety of offshore oil and gas operations (2013/30/EU), art 38(2).

²³⁷ Cf. Nicolas de Sadeleer, *The Birds, Habitats and Environmental Liability Directives to the Rescue of Wildlife Under Threat*, 7 *Yearbook of European Environmental Law* p. 36, 72 (Oxford University Press, 2008) (concept of conservation status for biodiversity damage provides a strong basis to establish management plans for nature reserves or national parks; this does not mean “it is relevant as a threshold for the intervention of public authorities”).

In a somewhat similar manner to part (i), the part (ii) definition of water damage in the ELD is based on the management plan for achieving or maintaining good environmental status of marine waters by 2020. There are major differences between the achievement of good status under the WFD and good environmental status under the Marine Strategy Framework Directive. They include the scope and scale (broader and larger, respectively, in the Marine Strategy Framework Directive), and the adoption of a more holistic approach under the latter. There is, however, one common component. The definition of water damage in part (ii), like the definition in part (i), is not easy to understand but, rather, is based on a detailed, and in some cases lengthy, assessment. The definition in part (ii) is also more complex than the part (i) definition due to overlaps between the WFD and the Marine Strategy Framework Directive. It is, therefore, likely that an assessment of environmental damage to marine waters would take longer to carry out than the – already potentially very lengthy – assessment for inland waters.

4.1.3.1 Application to waters or water bodies under the Water Framework Directive

Some Member States, including Belgium (Flemish Region), Estonia, Ireland, the Netherlands, and the UK, have interpreted the definition of “water damage” in part (i) above to mean that it applies only to water bodies. Other Member States, including Hungary, Luxembourg, Poland, Slovakia, and Spain, have interpreted “water damage” to apply it to waters under the WFD.

The legislation transposing the ELD into Slovakian law, for example, defines “water damage” as “damage to water which significantly adversely affects the ecological, chemical and/or quantitative status of water [Section 4 of Act No. 364/2004 Coll. as amended] and/or its ecological potential, with the exception of adverse effects specified in a special rule [Section 16(5) of Act No. 364/2004 Coll.]”. Section 4 of Act No. 364/2004 Coll. provides for determining the quantity and the quality of surface water; section 16 sets out particularities of determining environmental objectives. The term “water” is defined as “all waters covered pursuant to a special rule [Section 3 of Act No 364/2004 Coll.]”. As mentioned above, section 3 of Act No. 364/2004 Coll. provides for categories of water and states that waters are divided into surface water and groundwater.

The legislation that transposed the ELD in some Member States, such as France, does not clearly indicate its application, although the application in the French transposing legislation appears to be damage to waters and not water bodies. It is also unclear whether the damage must be to waters or a water body in Sweden. The Swedish transposing legislation refers to “a water area” in respect of surface water and a “body of groundwater”, as well as “a water area [and] groundwater”.

Waters

Reasons for considering that the threshold for “water damage” in the ELD applies to “waters” include the following. The definition of “water damage” in the ELD does not contain the term “water body” but, instead, refers to “waters”. In addition, Article 2(5) of the ELD defines the word “waters” as “all waters covered by [the WFD]”. Further, Article 2(2) defines the word “damage” as “a measurable adverse change in a natural resource or measurable impairment of a natural resource service which may occur directly or indirectly”. This definition indicates that an entire water body need not be adversely affected in order for the ELD to apply. Still further, a communication from the

Commission concerning revisions to the Proposed Directive at the Common Position stage appears to refer to waters and not water bodies although this is not entirely clear.²³⁸

Adoption of the “waters” approach could be problematic, however. One problem is that a determination of “significance” would be necessarily subjective rather than objective. That is, the objective criteria set out in the WFD do not apply to waters, such as pore water in low permeability clays below a landfill, which are not in a water body. Information on the status of such waters would also tend not to be available. Conversely, as discussed below, the ELD would apply to a much larger area of waters than application of the “water body” approach.

Water bodies

Reasons for concluding that the threshold of “water damage” in the ELD applies to “water bodies” include the following. The definition of “water damage” uses the term “ecological, chemical and/or quantitative status and/or ecological potential ... of the waters concerned”, The reference to terms used in the management of water bodies under the WFD could, therefore, imply that “water damage” must necessarily be damage to water bodies. References to status cannot apply to “waters” because, unlike water bodies, “waters” is not a management unit under the WFD. Further, the Commission’s Working Paper on the ELD stated that the threshold would be deterioration “from one [water] quality status to a worse one under the [WFD]”.²³⁹

Whereas the term “water bodies” appears to be the relevant threshold from the interpretation of the definition of “water damage” itself, however, the use of this term does not further the purposes of the ELD. Recital 2 of the ELD states that “The fundamental principle of [the ELD is] that an operator whose activity has caused the environmental damage or the imminent threat of such damage is to be held financially liable, in order to induce operators to adopt measures and develop practices to minimise the risks of environmental damage so that their exposure to financial liabilities is reduced”. As discussed below, the “water body” approach severely limits the scope of the ELD and excludes large areas of the EU.

➤ Size of water bodies

Article 2(12) of the WFD defines a “body of groundwater” as “a distinct volume of groundwater within an aquifer or aquifers”. Section 2.1 of Annex II sets out characterisation criteria for groundwater bodies. It states, among other things, that:

“Member States shall carry out an initial characterisation of all groundwater bodies [and] may group groundwater bodies together for the purposes of this initial characterisation. This analysis may employ existing hydrological, geological, pedological, land use, discharge, abstraction and other data but shall identify: the location and boundaries of the groundwater body or bodies”.

²³⁸ See Communication from the Commission to the European Parliament pursuant to the second subparagraph of Article 251 (2) of the EC Treaty concerning the Common Position of the Council on the adoption of a Directive of the European Parliament and of the Council on environmental liability with regard to the prevention and remedying of environmental damage /* SEC/2003/1027 final - COD 2002/0021 (“water damage” is still defined by reference to the various concepts defining water quality in Directive 2000/60/EC but it is no longer required that water’s quality should worsen from one of the categories defined in the Water Framework Directive to another”).

²³⁹ See Environmental Directorate General Working Paper on Prevention and Restoration of Significant Environmental Damage (Environmental Liability) (30 July 2001).

Section 2.2 further states that:

“Following this initial characterisation, Member States shall carry out further characterisation of those groundwater bodies or groups of bodies which have been identified as being at risk in order to establish a more precise assessment of the significance of such risk and identification of any measures to be required [under the WFD]”.

Article 2(1) of the WFD defines a “body of surface water” as “a discrete and significant element of surface water such as a lake, a reservoir, a stream, river or canal, part of a stream, river or canal, a transitional water or a stretch of coastal water”. Section 1.1 of Annex II sets out characterisation criteria for surface water bodies. It states, among other things, that “Member States shall identify the location and boundaries of bodies of surface water and ... may group surface water bodies together for the purposes of this initial characterisation”.

The purpose of designating surface and groundwater bodies under the WFD is, therefore as stated above, clearly a management tool (albeit a very sophisticated tool) to enable Member States to characterise the waters within their territories to assess the status of such waters so as to identify measures to be carried out under the WFD to achieve good status of the water bodies.

Table 2, which is copied from the Commission Staff Working Document accompanying the Commission’s report on the implementation of the WFD, indicates the size/area of water bodies for all Member States.²⁴⁰ The Commission Staff stated that 13,261 groundwater bodies had been defined across the EU, with the number varying greatly between Member States. For example, there are 3,804 groundwater bodies in Finland; 3,021 in Sweden; and only 5 in Luxembourg. The Commission further stated that the average area for a groundwater body in the EU is approximately 300km²; if Finland and Sweden are excluded, the average area increases to approximately 600km². Some groundwater bodies exceed 1,500km², particularly in the Baltic States.²⁴¹

There is also a wide variation in the areal size of groundwater bodies within individual Member States. For example, there are 756 groundwater bodies in Ireland, with an average area of 105km². Examples include Abbeyfeale groundwater body: 932km², Bandon groundwater body: 1,339km², Dublin groundwater body: 385km², and Knockroe East groundwater body: 29km².

Further, there is a wide variation in the areal size of surface waters bodies across the EU. As the Commission Staff stated, “The average size of water bodies in Member States is variable with average river water body lengths varying from 1 km in Denmark to close to the EU average (11 km) in Greece, Slovakia and the UK, and 37 km in Bulgaria ... Spain has on average delineated the largest coastal water bodies (8.700 km²)”.²⁴²

²⁴⁰ Commission Staff Working Document, accompanying the Commission’s Report from the Commission on the Implementation of the Water Framework Directive (2000/60/EC), River Basin Management Plans, pp. 71-72 (SWD(2012) 379 final (14 November 2012)).

²⁴¹ See WISE, Water Note 3, Groundwater at Risk: managing the water under us (“Poland and the Baltic States designated large bodies, with an average size over 1500 km². Other Member States designated smaller bodies, for example under 100 km² in average size in Netherlands and Sweden”). Available from http://ec.europa.eu/environment/water/participation/notes_en.htm

²⁴² Commission Staff Working Document, accompanying the Commission’s Report from the Commission on the Implementation of the Water Framework Directive (2000/60/EC), River Basin Management Plans, p. 70 (SWD(2012) 379 final (14 November 2012)).

An operator whose installation is located above a groundwater body that is, say over 1,000 km², would or could know (if the operator knew the size of the water body) that it is so unlikely that its activities would/could ever damage the groundwater body so as to change its status that there is no need for the operator to adopt measures to minimise the risks of water damage from its activities. The water damage provisions of the ELD would, thus, not apply to that operator in respect of groundwater. A similar situation arises in the case of very large surface water bodies. In contrast, an operator who carries out Annex III activities above a small groundwater or by a small surface water body is much more at risk of causing water damage under the ELD.

Some Member States that have adopted the water body approach have considered whether the ELD applies to incidents involving damage to water, but have determined that the damage does not exceed the significance threshold. For example, there has been only one water damage incident under the ELD in the UK; there are none in Ireland. Competent authorities in both Member States have considered whether the ELD applies to other water pollution incidents and have concluded that it does not.

In contrast to there being only one water damage incident under the ELD, there were 483 serious or significant water pollution incidents in England and Wales in 2009, and 408 serious or significant water pollution incidents in 2010.²⁴³ A “serious” water pollution incident has “major, serious, persistent and/or extensive impacts or effects on the environment, people and/or property – for example, more than 100 dead adult coarse fish”. A “significant” water pollution incident has “significant impacts on the environment, people and/or property – for example, damage to a statutorily protected wildlife site”.²⁴⁴

Recent serious or significant water pollution incidents in England include the following:

- The discharge of contaminated fire-fighting water into a river from a metal finishing business in 2010 due to inadequate containment facilities, resulting in 27,000 fish being killed; the incident was a “major incident” under the legislation transposing the Seveso Directive,²⁴⁵
- Three discharges of raw sewage into a high-quality salmon and trout river from a sewage treatment works in 2011, resulting in fish being killed in an eight-kilometre stretch of the river;²⁴⁶
- The discharge of ammonia from a warehouse refrigeration system into a river popular with anglers in 2011, resulting in the death of over 1,000 fish;²⁴⁷
- The spill of over 100 litres of sodium hypochlorite solution from a plating works in 2011, resulting the death of brown trout and hundreds of smaller species of fish;²⁴⁸

²⁴³ See Department for Environment, Food and Rural Affairs, Environmental Statistics – Key Facts (January 2013); p. 39 (data download from page). Available at <http://data.defra.gov.uk/env/doc/Environmental%20Statistics%20key%20facts%202012.pdf> Environment Agency, Pollution Incidents 2010. Available at <http://www.environment-agency.gov.uk/business/news/136533.aspx>

²⁴⁴ Environment Agency, Pollution Incidents Report p. 5 (September 2013).

²⁴⁵ See Isabella Kaminski, Metals firm fined £133k for firewater pollution, ENDS Report 460, p. 25 (June 2013).

²⁴⁶ See Severn Trend fined for polluting salmon river, ENDS Report (29 November 2012).

²⁴⁷ See Stobart group fined £30,000 for causing fish kill, ENDS Report (28 November 2012).

- The discharge of raw sewage from a sewage treatment works in 2010, resulting in the death of up to 22,000 fish;²⁴⁹
- The discharge of sewage from a sewage treatment works in 2011, resulting in the death of approximately 3,000 fish in a ten-kilometre stretch of the river;²⁵⁰ and
- The leak of over 139,000 litres of aviation fuel into an aquifer in November 2007; the costs of remediating the contamination had reached £1 million by October 2010.²⁵¹

Whilst it is not suggested that all the above incidents would necessarily exceed the threshold for “water damage” if the “waters” approach had been adopted in England, the above listing shows that a substantial number of water pollution incidents that caused serious or significant damage fell below the significance threshold under the water body approach.

²⁴⁸ See Plating firm fined £10,000, ENDS Report 454, p. 48 (November 2012).

²⁴⁹ See Massive fish kill costs firm £61k, ENDS Report 443, pp. 26-27 (December 2011).

²⁵⁰ See Sewage wipes out west London river, ENDS Report (4 November 2011).

²⁵¹ See Groundwater pollution costs jet fuel supplier, ENDS Report 429, pp. 56-57 (October 2010).

Table 2: Aerial size of surface and groundwater bodies in the EU

Member State	Rivers			Lakes			Transitional			Coastal			Groundwater		
	Nb	Total L (km)	Avg L (km)	Nb	Total A (km ²)	Avg A (km ²)	Nb	Total A (km ²)	Avg A (km ²)	Nb	Total A (km ²)	Avg A (km ²)	Nb	Total A (km ²)	Avg A (km ²)
AT	7339	31392	4	62	934	15			NR			NR	136	95930	724
BE*	177	2472	14	18	40	2	6	42	7	2	1429	715	42	47038	1360
BG	688	25568	37	43	75	2	15	109	7	13	1428	110	177	156026	882
CY	216	2579	12	18	28	2			NR	27	865	33	20	6261	313
CZ	1069	18596	17	71	249	4			NR			NR	173	88127	436
DE	9072	126158	14	712	2399	3	5	814	163	74	22843	309	989	367743	445
DK	16881	12047	1	940	462	0.5			NR	162	40875	252	385		
EE	645	12106	19	89	1966	22			NR	16	14501	906	26	120915	890
EL	1033	11480	11	29	889	31	29	1129	39	233	38390	165	236	54785	106
ES	4298	74834	17	327	5281	16	201	2848	14	186	1612156	8668	626	16301	0
FI	1602	28875	18	4275	28172	7			NR	276	32570	118	3804	9862	3
FR	10824	241684	22	439	1964	4	96	2840	30	164	26652	163	574	1092891	1307
HU	869	18802	22	213	1267	6			NR			NR	185	279532	1511
IE	4565	21037	5	807	2628	3	190	1068	6	111	13183	119	756	71081	105
IT	7644	78813	10	300	2158	7	181	1235	7	489	18930	39	733	201492	311
LT	832	14251	17	345	809	2	4	515	129	2	115	57	20	72546	4621
LU	102					NR			NR			NR	5	2676	535
LV	204	7751	38	259	825	3	1	934	934	6	1283	214	22	117404	5827
MT			NR			NR			NR	9	398	44	15	355	24
NL	254	4756	19	450	3046	7	5	684	137	15	11889	793	23	39929	1156
PL	4586	111483	24	1038	2293	2	9	1936	215	10	666	67	161	312172	192
PT	1611	55725	35	122	742	6	53	813	15	57	15690	275	145	44498	307
RO	3262	74473	23	131	993	8	2	781	391	4	572	143	142	263754	1857
SE	15563	79466	5	7232	29192	4	21	180	9	602	34623	58	3021	39880	1
SI	135	2620	19	14	38	3			NR	6	404	67	21		
SK	1760	18944	11			NR			NR			NR	101	77326	598
UK	9080	99749	11	1119	1933	2	192	3716	19	570	63399	111	723	210094	950
EU	104311	1175661	11	19053	88383	5	1010	19643	19	3033	1952862	644	13261	3788618	286

Table 8.2.6: Number and average size of surface and groundwater bodies in each Member State. (Updated 26 June)

NR means "not relevant" or "not reported"

Nb = number of water bodies

L = length of water body

A = area of water body

Source: WISE

* Belgium: Flanders and Coastal Waters

➤ Water bodies with the worst status

Member States that have adopted the water body approach tend not to impose liability in respect of water bodies classified as having the worst status. The status of such water bodies cannot, of course, deteriorate further under the WFD.

For example, the legislation transposing the ELD into English law defines "environmental damage to surface water" as "damage to a surface water body classified as such pursuant to the [WFD] such that (a) a biological quality element listed in Annex V to that Directive, (b) the level of a chemical listed in the legislation in Annex IX or a chemical listed in Annex X to that Directive, or (c) a physicochemical quality element listed in Annex V to that Directive, changes sufficiently to lower the status of the water body in accordance with [the WFD] (whether or not the water body is in fact

reclassified as being of lower status)".²⁵² The transposing legislation defines "environmental damage to groundwater" as "damage to a body of groundwater such that its conductivity, level or concentration of pollutants changes sufficiently to lower its status pursuant to the WFD (and for pollutants [Directive 2006/118/EC on the protection of groundwater against pollution and deterioration] (whether or not the body of groundwater is in fact reclassified as being of lower status)".²⁵³

Neither the legislation nor guidance to the English legislation state whether the ELD applies to water in the worst category; instead, it appears from the above language that damage to such water bodies is not "water damage".

The legislation transposing the ELD into Estonian law defines "environmental damage" in respect of water as "a significant adverse effect on the ecological or chemical status or ecological potential of a body of surface water or coastal waters or on the chemical or quantitative status of a body of groundwater".²⁵⁴ The legislation further defines a "significant adverse effect" on water as "an effect which aggravates the status of a body of surface water, coastal waters or groundwater such that the status class of the body of surface water or groundwater changes".²⁵⁵

As with the legislation for England, it appears that damage to waters in the worst class is not "water damage" under Estonian law.

➤ **Unclassified waters**

Another "exemption" of liability for water damage under the ELD for Member States that have adopted the water body approach is unclassified waters. The European Environment Agency reported that 13 per cent of rivers, 23 per cent of lakes, 30 per cent of transitional waters, and 21 per cent of coastal waters had been delineated but not classified as at April 2013.²⁵⁶

In this respect, the Guidelines to the Dutch transposing legislation recognise that the ELD would not, therefore, apply to waters that are not designated as water bodies, such as polder canals.²⁵⁷ The guidance to the English transposing legislation also recognises that "Not all surface water and groundwater is part of a water body". The guidance comments that "Activities which directly affect surface water or groundwater that is not part of a water body may subsequently indirectly affect a water body and hence cause water damage. For example, pollutants discharged into a small stream may be carried downstream into a water body".²⁵⁸

The transposing legislation in Estonia attempts to include unclassified waters. It provides that if the status class of a body of surface water has not been assessed, the assessment is "based on an

²⁵² Environmental Damage (Prevention and Remediation) Regulations 2009/153, regulation 4(3) (England).

²⁵³ Environmental Damage (Prevention and Remediation) Regulations 2009/153, regulation 4(4).

²⁵⁴ Act on Environmental Liability, section 2(3) (Estonia).

²⁵⁵ Act on Environmental Liability, section 2(4).

²⁵⁶ See European Environment Agency, Impacts and Pressures. Available at <http://www.eea.europa.eu/data-and-maps/indicators/wfd-indicator-impacts-and-pressures>

²⁵⁷ See Guidelines for Title 17.2 of the Dutch Environmental Management Act: measures in the event of environmental damage or its imminent threat, p. 41, chapter 2, II (English translation of original version dated 8 January 2008). Available from http://ec.europa.eu/environment/legal/liability/eld_guidance.htm

²⁵⁸ Department for Environment, Food and Rural Affairs, The Environmental Damage (Prevention and Remediation) Regulations 2009; Guidance for England and Wales, p. 61, sections A1.49-A1.50 (2nd Update, November 2009).

expert opinion, taking account of the status of a body of water comparable to the body of surface water in question, the existence of stress factors and their presumed impact, the general impression of the surface water and a general description of the ecological status”.²⁵⁹

4.1.3.2 Damage to a water body preventing improvement of its status

Damage that prevents the improvement of water status is within the meaning of the definition of part (i) of “water damage” under the ELD as well as damage that reduces the status of the water. In order to determine whether the former meets the threshold for water damage under the ELD, a trend analysis should be carried out to assess whether the waters are not improving and, if so, whether their lack of improvement is due to an activity carried out by an Annex III operator. In this respect, a case is currently pending before the CJEU as to whether Articles 4(1)(a)(ii) and (iii) of the WFD mean that “Member States must – unless a derogation is granted – refuse to authorise a project if it jeopardises the attainment of good surface water status or of good ecological potential and good surface water chemical status by the date laid down by the Directive, or [whether] those provisions [are] merely a statement of an objective for management planning”.²⁶⁰

It is not clear whether Member States are interpreting the term “water damage” in the ELD to include damage that prevents the continuation of a positive trend in the condition of groundwater.

4.1.3.3 More stringent provisions

A few Member States have adopted more stringent provisions for water damage in their transposing legislation. For example, the threshold in Poland for damage to water is a change or changes that result in a measurable effect on various factors including deterioration in the potential for using bathing places for recreational purposes as a result of adverse changes in the quality of bathing water, deterioration in the conditions of abstraction and treatment of water for human consumption following adverse changes in the quality standards of that water, and an increase in the level of groundwater resulting in adverse quantitative and qualitative changes in groundwater and environment depending on the groundwater.²⁶¹

4.1.4 Added value of the ELD to achieving good status of waters and halting the loss of biodiversity

The exclusion of large areas of the territory of the EU from application of liability for water damage under the water body approach does not further the objective of the WFD in achieving good water status in the EU by 2015.

The exclusion also reduces the impact of the ELD on halting the loss of biodiversity despite this being a key aim of the ELD and despite the Commission’s recognition that “biodiversity loss [is] the most critical global environmental threat alongside climate change”,²⁶² and recognition by the EU that “[i]t is necessary to step up the implementation of the [EU Biodiversity] Strategy, and meet the

²⁵⁹ Act on Environmental Liability, section 41 (Estonia).

²⁶⁰ Request for a preliminary ruling from the Bundesverwaltungsgericht (Germany) lodged on 22 August 2013 – Bund für Umwelt und Naturschutz Deutschland e.V. v Bundesrepublik Deutschland (C-461/13).

²⁶¹ See BIO Intelligence Service (2013), Implementation challenges and obstacles of the Environmental Liability Directive, Final report prepared for European Commission – DG Environment. In collaboration with Stevens & Bolton LLP. <http://eldimplement.biois.com/>

²⁶² Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions, Our life insurance, our natural capital: an EU biodiversity strategy to 2020, Target 1, p. 1, section 1 (COM(2011) 244 final, 3 May 2011).

targets contained therein in order to enable the Union to meet its biodiversity headline target for 2020”.²⁶³ For example, all aquatic habitats listed in Annex I of the Habitats Directive are parts of water bodies under the WFD. If a Natura 2000 site is water-dependent, the aquatic habitats listed in Annex I of the Habitats Directive are included in one or more water bodies.²⁶⁴

Whereas damage to a Natura 2000 site would (if the threshold is exceeded) be biodiversity damage as well as, potentially, water damage, it is more difficult to determine when biodiversity damage occurs in respect of the breeding or resting places of protected species listed in Annex IV of the Habitats Directive. The ELD would be enhanced by ensuring that damage to waters in such areas did not depend, under the water body approach, on the size of the relevant water body.

4.2 Experience in relation to the significance thresholds for land and water damage

The study on Implementation challenges and obstacles of the ELD (BIO, 2013) found that the significance threshold set by the ELD is often seen as a major obstacle to its application to environmental damage. The ELD Implementation study stated that the thresholds regarding land and water damage in particular (in some but not all Member States) are considered too high by several experts. In Scotland (UK), Scottish Natural Heritage noted that the main difficulty arises when the case is very close to the threshold but does not obviously exceed it. It is then difficult to establish that the threshold has been met. The Scottish Environment Protection Agency added that conventional non ELD legislation is generally applied to deal with pollution events as the triggering threshold is lower.²⁶⁵

The issue of the appropriateness of the significance thresholds was quite extensively addressed in the abovementioned study. In the framework of the present study, additional views were gathered through expert and stakeholder consultation, as well as through the analysis of Member States’ reports and additional sources of information. This section lists general considerations in relation to the significance thresholds, before focussing more specifically on those for land and water damage.

4.2.1 General considerations regarding thresholds for land and water damage

General considerations regarding the ELD significance thresholds may be divided into the following:

- Difficulty to determine that the thresholds were met;
- Necessity of the significance thresholds;
- Need for clarification;
- National interpretation; and
- Lack of historical perspective.

²⁶³ Decision No. 1386/2013/EU on a General Union Action Programme to 2020 ‘Living well, within the limits of our planet’, Annex para 18, OJ L 354/171, L 354/179 (28 December 2013).

²⁶⁴ See European Commission, Links between the Water Framework Directive and Nature Directives; Frequently Asked Questions, p. 16 (December 2011).

²⁶⁵ BIO Intelligence Service (2013), Implementation challenges and obstacles of the Environmental Liability Directive, Final report prepared for European Commission – DG Environment. In collaboration with Stevens & Bolton LLP. Available at <http://eldimplement.biois.com/>

4.2.1.1 Difficulty in determining that the thresholds are met

The ELD Implementation study found that the difficulty to determine whether the threshold was met is particularly challenging for damage to water and land where the significance of the damage can be difficult to establish. In Germany for instance, the environmental authorities stated that they struggle, in particular, with the concept of “significant adverse effects” (Eberlein A. & G. Roller, 2012).²⁶⁶

FERMA highlighted that the ELD is not clear on how to interpret the significance thresholds: it leaves some margin to Member States, so it is rather paradoxical to complain about varying interpretation of these thresholds. FERMA agrees that there is important definition work to be carried out. It further highlighted the importance of legal certainty for industrial operators: grey areas can be detrimental to operators. Hence, with regards to significance thresholds, FERMA favours clarity and legal certainty.²⁶⁷

In addition, many stakeholders highlighted the importance of being able to determine the “baseline condition” so as to be able to measure environmental impacts and damage. Regarding mining activities, Euromines pointed out that the environmental impact assessment submitted by mining operators together with their permit application already includes such a baseline condition.²⁶⁸

Another issue that was raised is that thresholds are described in a qualitative manner (through the use of terms such as “significant”, “adverse” and “measurable”): it could thus be more appropriate to have objective limit values, especially for land damage, but also possibly for water (and biodiversity) damage, building on existing work and risk-management schemes if natural, background contamination could be taken into account.²⁶⁹

It was also pointed out that the assessment of whether the significant threshold is met is currently highly subjective (subject to one person’s interpretation) as there is a lack of clear objective data to determine the “baseline condition”. This lack of data requires that the situation be modelled, which may prove problematic as a model can be manipulated: if there are different people modelling the situation (e.g. expert paid by the operator and expert for the competent authorities) and the results highly differ, who would be right or wrong?²⁷⁰ The thresholds may hence be seen as an impediment because there are currently no tools at hand to model whether there has been environmental damage, stakeholders, in particular competent authorities, being thus less likely to use the ELD because of its complexity.

One additional difficulty with the significance thresholds is reportedly that it is not necessarily possible to know, at the time of the incident, that it will fall under the ELD (i.e. that the significance threshold is met). In the case of land damage for instance, it may not be possible to determine that e.g. people might suffer cancer as a result of the contamination in six years’ time. Such difficulty was mentioned in relation to the Ghent derailment case (see Box 1 above).²⁷⁰

However, Insurance Europe believes that additional criteria that would be added in the ELD in relation to significance thresholds for water and/or land damage would increase the complexity

²⁶⁶ BIO Intelligence Service (2013), Implementation challenges and obstacles of the Environmental Liability Directive, Final report prepared for European Commission – DG Environment. In collaboration with Stevens & Bolton LLP. Available at <http://eldimplement.biois.com/>

²⁶⁷ Interview with Julien Bedhouche, from FERMA, in the framework of this study.

²⁶⁸ Interview with Emmanuel Katrakis, from Euromines, in the framework of this study.

²⁶⁹ Interview with Hannes Descamps, researcher and lecturer at the Institute for environmental and energy law at Leuven University, in the framework of this study.

²⁷⁰ Interview with Stakeholder in the framework of this study.

associated with the risk assessment. Insurance Europe believes that each incident should be determined on a case-by-case basis, pointing out that thresholds at EU level would not take into account the specifics of each case and could thus be detrimental to the effectiveness of the ELD. In addition, Insurance Europe considers that some flexibility is necessary in order to work around future scientific advancement. Hence, it considers that the issue of significance thresholds and the criteria to apply are better dealt with at national level. Furthermore, local markets can tailor-make their products if more aspects are left to the Member States.²⁷¹

Furthermore, results from the Member States' Article 18(1) reports submitted to the European Commission indicate that there are instances of alleged water and/or land damage that were dismissed due to the "lack of any environmental damage". This was notably the case in Austria, with one such case of alleged water damage in the province of Styria; however, no information is provided as to whether the lack of environmental damage resulted from the significance threshold not being met. In Ireland, six potential cases that had been screened as possible ELD cases were, following an assessment, considered as not falling within the scope of the ELD, but no further information is provided as to the reasons (i.e. related or not to the significance thresholds); one of these cases concerned possible water damage.

Various Member States also pointed out that issues related to the ELD significance thresholds constituted the most frequently encountered difficulty. Thus, Wallonia (Belgium) indicated that a frequent difficulty rested in the evaluation necessary to determine whether an instance of environmental damage had reached ELD thresholds; "this renders the system uncertain for operators who do not immediately know if they fall within the scope of the regime (and therefore if they can look at possible exemptions) and for the competent authorities who have to wait for this assessment before determining which regime is applicable". The level of uncertainty should decrease when there are more ELD cases, through the practical experience that will be gained.²⁷²

In the case of Ireland, although the vast majority of screened cases concerned biodiversity damage (8 out of ten), it nevertheless indicated in its report to the European Commission that in the assessment of the damage it is important to have good baseline data, as (i) reliance on good quality baseline data will aid the swifter application of the national legislation transposing the ELD and (ii) can be robustly defended should a decision be challenged by the operator or by a Court.²⁷³ Ireland considers that a potential weakness of the ELD is that it can be difficult to establish that particular instances of damage to the environment fall within the scope of the Directive.

The UK (Scotland – Scottish Environment Protection Agency) also pointed out that establishing whether the threshold of "environmental damage" has been met can be challenging, particularly where there is a lack of reliable data on which to base the assessment, or other practical difficulties in gathering the necessary information. Even where the available data is good, the assessment of damage can take time. Nevertheless, these practicalities can be overcome. Furthermore the implications of having caused "environmental damage" of the scale covered by the Directive are potentially very considerable for the operator, so decisions must be based on thorough assessment and robust evidence.²⁷⁴ As to Italy, it considers that the complexity of *measuring types of damage* is linked to the amount and type of information needed to determine the threshold of the types of damage defined in the Directive. This information is not always available, unless substantial investments are made: this limits its operational feasibility. On the other hand, alternative options to

²⁷¹ Interview with Carmen Bell, from Insurance Europe, in the framework of this study.

²⁷² Report submitted by Belgium (Wallonia) under ELD Article 18(1).

²⁷³ Report submitted by Ireland under ELD Article 18(1).

²⁷⁴ Report submitted by the UK under ELD Article 18(1).

collection of the missing data, such as recourse to damage-measuring models, would require specific actions to strengthen these models' scientific recognition and usability.²⁷⁵

However, according to Ireland, the ELD mechanisms can be particularly effective where a potential or imminent threat has been identified; these mechanisms were used in two cases in Ireland.²⁷⁶

4.2.1.2 Necessity of the significance thresholds

However, despite the reported difficulty in meeting the significance threshold, many stakeholders (competent authorities, researchers, representatives from industries) consider that this threshold is not a problem or that it is necessary. Thus, the Danish EPA considers that the demands for remediation under the ELD are appropriate for serious damage, but not for minor damage, especially as it can be quite costly to assess the damage under the ELD regime, and pre-existing legislation may allow for the remediation of minor environmental damage at a lower cost. The Ad-Hoc Industry Natural Resource Management Group is also of the view that the significance threshold is necessary to ensure that the ELD covers only significant environmental damage, pointing out that Member States may choose to go beyond in their national legislation.²⁷⁷ This was further affirmed by other experts, who consider that the existence of significance thresholds is necessary, but the issue is how they are defined. Such thresholds would indeed not be effective if all cases were to fall under the ELD, but at the same time, these thresholds should not be an impediment to the existence of ELD cases.²⁷⁸

Similarly, according to Cefic, the scope of the ELD should remain limited to significant environmental damage, as Member States already have very complex and well-functioning legal frameworks in place to address prevention and remediation of small-scale environmental damage.²⁷⁹ Cefic further pointed out that the existence of significance thresholds is relevant and justified by the fact that the ELD imposes a heavy process, when it comes to determining remedial measures, both in terms of decision-making procedure and in terms of technical assessment; such process should hence be limited to significant damage.²⁸⁰

The UK considers that it is appropriate that the ELD applies only to the most serious cases of environmental damage. In its Member State report, it pointed out that for water (and biodiversity) damage, "the assessment required is relatively onerous and should only be necessary for large-scale cases. In a UK context, domestic law can be applied more quickly, effectively and efficiently for smaller scale cases".²⁸¹

Other experts and stakeholders consider that the significance thresholds are too high under the ELD,²⁸² being so high that they will not apply to many cases of environmental liability.²⁸³

²⁷⁵ Report submitted by Italy under ELD Article 18(1).

²⁷⁶ Report submitted by Ireland under ELD Article 18(1).

²⁷⁷ BIOIS (2013), ELD Implementation study, *supra*.

²⁷⁸ Interview with Magdalena Bar, from environmental law firm Jendroška Jerzmański Bar & Partners. Environmental Lawyers, in the framework of this study.

²⁷⁹ Cefic Preliminary Views on: Key review points of the Environmental Liability Directive, 27 August 2013.

²⁸⁰ Interview with Liesbeth Timmermans, from Cefic, in the framework of this study.

²⁸¹ Report submitted by the UK under ELD Article 18(1).

²⁸² Interview with Prof. Luc Lavrysen, Environmental law professor at Ghent University, in the framework of this study.

²⁸³ Interview with Sandy Luk, from ClientEarth, in the framework of this study.

4.2.1.3 Need for clarification?

Many experts and stakeholders reported a lack of clarity with regards to significance thresholds. However, mixed views were expressed during the 2nd ELD stakeholders meeting. The summary report thus highlighted that:

- Some participants argued that significance is a major problem and clarification and/or a definition is needed, while others were of the opinion that clarification is not possible and no further resources should be spent on this issue; and
- Some participants reported positive experience with clarification of significance on a case-by-case approach, based on expert knowledge on habitat, water or soil legislation, while others reported that operators constantly ask for clarity by general abstract definitions; but
- A common conclusion was that the notion of “significance” needs to be clarified, as in some Member States severe damage cases have not been treated as ELD cases, and that in this regard enforcement is the key.²⁸⁴

In its Member State report, Cyprus indicated that guidelines and training sessions at EU level regarding the evaluation of environmental damage and its significance, including use of available instruments would be helpful in effectively implementing the ELD legislation. Cyprus also highlighted the importance of experience exchange between Member States, especially from those that have applied thresholds and particular methodologies, as well as the development of appropriate tools, the presentation of actual case studies, and the development of a webpage and clearing-house for effective networking and experience-sharing.²⁸⁵

4.2.1.4 National interpretation

Although the ELD applies to “significant damage”, it leaves the final determination of significance to the national competent authorities in the individual case,²⁸⁶ which may have different interpretations of what the concept of significance includes and entails. For instance, the Spanish Royal Decree (2090/2008 Articles 16, 17, 18) requires the significance of the damage to be estimated by using quantitative and qualitative criteria. When the significance of the damage cannot be established according to those criteria, or if soil was previously polluted, the significance of damage to water and soil may be established by analysing the extent of the damage to the services provided by those natural resources.²⁸⁶

In Poland, the ELD can be considered effective, given notably the high number of ELD cases. However, the Government is planning amendments that could render the Directive less effective (e.g. amendment to narrow the definition of land damage, see below). Although in practice Polish authorities tend to apply quite a broad approach to the significance thresholds, accepting many cases as environmental damage under the ELD regime, this might change in the light of the foreseen amendments and for the following reasons:

- Possible annulment by the courts of competent authorities’ decisions if the significant threshold was actually not reached; and

²⁸⁴ 2nd ELD Stakeholder Conference Brussels, “Evaluating the experience gained in the ELD implementation”, 11 June 2013, Summary report, http://ec.europa.eu/environment/legal/liability/eld_conf_11_06_2013.htm

²⁸⁵ Report submitted by Cyprus under ELD Article 18(1).

²⁸⁶ Commission’s ELD Training material. Available at http://ec.europa.eu/environment/legal/liability/eld_training.htm

- It is difficult for authorities to ensure that their decisions are operational (because of judicial review, etc.).²⁸⁷ However, it is worth noting that only a minority of ELD cases go through judicial review: the report submitted by Poland under Article 18(1) of the ELD indicates that they had 46 judicial reviews out of 515 cases.

Competent authorities are hence more and more cautious, and, in future, this may lead to the approach not being as open as it is now. In addition, legal proceedings may be long and courts are not technical experts; it may therefore be complicated to foresee what their decisions would be in case of judicial review.²⁸⁷

Cyprus did not establish specific criteria or thresholds for assessing the significance of damage, in order for the significance of the damage to be determined on a case-by-case basis, which is considered preferable as it depends and takes into account the receiving environment, the components affected, and the type and particularities of the damage itself. Cyprus is in favour of establishing methodologies for assessing damage rather than assigning thresholds. In this Member State, significant damage is considered to include the large scale destruction of forests by fires, destruction of the Natura 2000 habitats and protected species, pollution that could affect the good status of water bodies and bathing waters, and large-scale interventions on the coastline.²⁸⁸

Ireland also highlighted concern that implementation of the ELD is not harmonised across EU Member States.²⁸⁹

4.2.1.5 Lack of historical perspective

According to some stakeholders, it is premature to contemplate a revision of the thresholds as there is a lack of feedback on how environmental damage was handled. The lack of historical perspective and references was pointed out by FERMA, as ELD cases are not as common as other types of damage (such as those resulting from car accidents, etc.). In order to improve the understanding of significance thresholds by Member States, it would then first be necessary for the European Commission to have more historical perspective by letting the Member States work on the ELD regime as it is now, without adding new features.²⁹⁰

One expert observed that the ELD was bound to look weak at this stage as it is too soon for the regime to have had much effect. This is for two reasons: first, because its transposition into national law at Member State level was only recently completed; and second, because any liability regime that applies only prospectively (i.e. to damage which takes place after it has come into effect) will necessarily get off to a slow start as it must await the occurrence of new cases – in contrast to a retroactive liability regime, which applies also to historic damage (something that was never politically possible at EU level), because that will confront an extensive backlog of old cases from Day One of its application. It is therefore misleading to compare the early experience of the ELD with that of national regimes which have been designed partly to cover past damage.²⁹¹

²⁸⁷ Interview with Magdalena Bar, from environmental law firm Jendroška Jerzmański Bar & Partners. Environmental Lawyers, in the framework of this study.

²⁸⁸ Report submitted by Cyprus under ELD Article 18(1).

²⁸⁹ Report submitted by Ireland under ELD Article 18(1).

²⁹⁰ Interview with Julien Bedhouche, from FERMA, in the framework of this study.

²⁹¹ Interview with Chris Clarke, from University College London (UCL) Centre for Law and Environment, in the framework of this study.

4.2.2 Experience and opinions on the significance threshold for land damage

The outcome of the empirical analysis regarding the significance threshold for land damage may be divided into the following categories:

- Appropriateness of the significance threshold for land damage;
- Difficulty to evaluate the risk to human health;
- Lack of harmonisation among Member States;
- Pre-existing national regimes; and
- Relevance of limit values and/or additional criteria to determine the significance of land damage.

4.2.2.1 Appropriateness of the significance threshold for land damage

Article 2(1)(c) of the ELD defines land damage as “any land contamination (substances in or under the land) that creates a significant risk of human health being adversely affected as a result of the direct or indirect introduction, in, on or under land, of substances, preparations, organisms or micro-organisms”.

Some Member States, such as the UK (Scotland), consider that the threshold for land damage is appropriate in ensuring that human health is adequately protected.²⁹² The Ad-Hoc Industry Natural Resource Management Group also considers that the current threshold for land damage is appropriate as the ELD is intended to cover those incidents which involve significant environmental damage. Therefore, not all soil and groundwater contamination should fall within the ELD’s scope.²⁹³

Nonetheless, some consider that this significant threshold is not adequate, pointing out that the requirement that there be a risk to human health does not comply with the system established to tackle environmental damage, which is primarily concerned with the environment.²⁹⁴ Others also consider that the concept of “significant risk to human health” is not clear in the Directive, and might therefore lead to different interpretations of what it entails and encompasses.²⁹⁵ In addition, the link between land damage and significant adverse effects on human health are very difficult to demonstrate.²⁹⁶

The Common Forum considers that reference to a “significant risk to human health” in relation to land damage is somewhat limiting and does not reflect the approach taken by most Member States, which do not refer only to “human” aspects. Hence, it would have been better to refer to “land use” related issues (land/soils functions – capacities – services) in relation to land damage.²⁹⁷

²⁹² Report submitted by the UK under ELD Article 18(1).

²⁹³ Written feedback provided by Barbara Goldsmith, from the Ad-Hoc Industry Natural Resource Management Group, in the framework of this study

²⁹⁴ Interview with Birgit Schmidhuber, from Justice & Environment, in the framework of this study;

²⁹⁵ Interview with Magdalena Bar, from environmental law firm Jendroška Jerzmański Bar & Partners. Environmental Lawyers, in the framework of this study.

²⁹⁶ Interview with Sandy Luk, from ClientEarth, in the framework of this study.

²⁹⁷ Interview with Dominique Darmendrail, General Secretary of the Common Forum, in the framework of this study.

It was further expressed that land damage under the ELD is quite weak, which results, as previously indicated, from the fact that historically it was decided to apply strict liability to activities that are regulated by substantive EU law. This explains why land damage under the ELD is conditioned upon a significant risk to human health, as there is currently no EU Soil Framework Directive. Land damage should not have been limited thusly, especially as the national laws of Member States usually do not limit land damage to health effects. “Risk to human health” is a very narrow threshold, and should therefore be broadened, although the capacity to do it is a strategic and political decision, given the abovementioned explanation as to why it was limited in the first place.²⁹⁸

4.2.2.2 Difficulty in evaluating the risk to human health

The difficulty to evaluate the risk to human health was highlighted in the ELD Implementation study. However, as indicated in the European Commission ELD Training Material, there are two situations in which resource equivalency might be needed when soil damage has occurred or will occur: (1) when the damage is not limited to soil/land but also results in damage to protected habitats, species, or water; and (2) when primary remediation measures to remove the health risk cause damage to protected water, habitat, or species covered by the ELD.

In the UK, in some cases there was evidence of some contamination of land but it did not result in a significant risk of harm to human health. In Scotland, it was reported that there can be challenges in identifying the polluter. In addition, in practice it can sometimes be difficult to establish whether there is a “significant risk” of harm to human health. In some cases it may be simple and straightforward to demonstrate that the trigger has been met, in other cases detailed investigation and assessment would be warranted.²⁹⁹

Latvia reported 5 cases of land damage: in one case, remedial works were carried out and the soil restored to its baseline condition. In the other 4 cases, emergency environmental protection measures were rapidly implemented.³⁰⁰

In Lithuania, all reported ELD cases (4 in total) are land damage cases. In one of these cases, although there was reportedly no significant risk of adversely affecting human health and contamination level was below the threshold values set out in the legislation, it is unclear whether the case was nonetheless treated as a ELD case; the report indicated that remedial actions were undertaken (removal of contaminated soil and decontamination, removal of contaminated water from water remediation wells) and that the proceedings were closed under Article 7.1 of the ELD.³⁰¹

Greece also reported many cases relating to land damage: there are 9 “closed” cases for which preventive and remedial measures were taken. These cases involved leakages of chemical waste, mineral oils, treated liquid waste, hazardous waste, fuel oil or fire emissions. Also, there are currently 43 “partially open” and “open” cases. Most of these cases concern activities that are located in the Central Greece Region, one of this Member State’s major industrial areas. All were handled according to the Greek national legislation transposing the ELD.³⁰² It may be considered, given the important number of land damage cases, that the evaluation of a “significant risk to human health” was not particularly problematic in Greece.

²⁹⁸ Interview with Chris Clarke, from University College London (UCL) Center for Law and Environment, in the framework of this study.

²⁹⁹ Report submitted by the UK under ELD Article 18(1).

³⁰⁰ Report submitted by Latvia under ELD Article 18(1).

³⁰¹ Report submitted by Lithuania under ELD Article 18(1).

³⁰² Report submitted by Greece under ELD Article 18(1).

4.2.2.3 Lack of harmonisation among Member States

Some national legislation transposing the ELD is more stringent than the ELD. Examples include Poland and Hungary, where the transposing legislation does not require the threshold of “*creating significant risks for human health*” as regards land damage; therefore, the ELD can be applied to any damage caused to land.³⁰³ In Italy, the environmental liability regime applies to “damage to land” even where it has no significant³⁰⁴ and measurable impacts on human health.³⁰⁵

In Poland, the majority of the 515 ELD cases are damage to the ground surface.³⁰⁶ However, the Polish Government is planning amendments that could render the Directive less effective: an amendment that has been pending for about a year intends to narrow the scope of ELD transposing legislation (although it would still be in line with the ELD), by using the definition of land damage in the ELD, and not the broader Polish definition (until now, there is land damage when the standards (limit values) for soil established under national legislation are exceeded). If the amendment succeeds, it would become more difficult to assess land damage under the ELD, as it would be difficult to assess whether there was a ‘significant adverse effect on human health’, as Polish competent authorities do not have much experience in assessing this type of damage.³⁰⁷

In Belgium, and in the Flemish region in particular, there have been no cases of land damage falling under the ELD regime, and it might be unlikely that there will be any, as Flemish legislation provides for a particular regime for soil pollution that is reportedly more stringent and more detailed than the ELD³⁰⁸ (although not all provisions of pre-existing legislation are necessarily more stringent than the ELD).³⁰⁹ The Ghent derailment case for example (see Box 1 above), which included soil pollution, was handled through this specific national legislation, and not by applying the ELD regime³¹⁰ following a determination by the competent authority that the damage to soil/land did not exceed the threshold for land damage under the ELD.

A distinction must be made, though, between preventive and remedial measures:

- In case of an imminent threat of land damage, the ELD regime will apply; but
- In case of actual land damage, national legislation will apply. National legislation in the case of soil damage also covers damage to groundwater (as a result of infiltration of the contaminants) and everything that is on the soil (i.e. biodiversity).³¹⁰

In Slovakia, for assessing contaminated sites, the geology and natural resources section of the Ministry of the Environment, together with the SAŽP, has drawn up methodological guideline No 1/2012-7 for drawing up an analysis of the risk from polluted land, intended for principal

³⁰³ BIOIS (2013), ELD Implementation study, *supra*.

³⁰⁴ The concept of significance of damage in this field must be considered in the light of an assessment of the need for protection by the competent authority. Report submitted by Italy under ELD Article 18(1).

³⁰⁵ Report submitted by Italy under ELD Article 18(1).

³⁰⁶ Report submitted by Poland under ELD Article 18(1).

³⁰⁷ Interview with Magdalena Bar, from environmental law firm Jendroška Jerzmański Bar & Partners. Environmental Lawyers, in the framework of this study.

³⁰⁸ Interview, in the framework of this study, with Prof. Luc Lavrysen, Environmental law professor at Ghent University, and with Hannes Descamps, researcher and lecturer at the Institute of environmental and energy law at Leuven University.

³⁰⁹ Interview with Hannes Descamps, researcher and lecturer at the Institute for environmental and energy law at Leuven University, in the framework of this study.

³¹⁰ Interview with Prof. Luc Lavrysen, Environmental law professor at Ghent University, in the framework of this study.

investigators, the purpose of which is to assess the risk from a polluted mineral environment and polluted soil, air and groundwater.³¹¹

4.2.2.4 Pre-existing national regimes

Many experts and stakeholders highlighted the existence of pre-existing national regimes in relation to land damage, which is often more stringent than the ELD (see previous section) and may involve a simple and more standardised procedure than under the ELD regime.³¹²

The ELD Training Material thus emphasised that previous liability regimes or land damage legislation exists in some Member States which establish the factors that need to be taken into account in assessing this type of damage. It gives the example of Ireland, where published guidance recommends a two-tiered risk assessment to determine significance: (i) a screening level risk assessment (including all source-pathway-receptor (SPR) linkages), and (ii) a site-specific quantitative risk assessment (including a revised conceptual model and a discussion of estimated risk and potential significance within the context of the conceptual site model). Another example includes the Netherlands, where risk to human health for land damage is not related to population density but to levels of pollution of the land. In the Flemish region of Belgium, soil sanitation is mandatory for so called “new soil pollution”, if the soil sanitation standards are exceeded.³¹³

The Scottish Environment Protection Agency (SEPA) reported that other legislation exists that can be applied more readily to secure the desired environmental outcome without the need for detailed and costly investigation. The UK report further highlighted that in Scotland, the transposing regulations generally fit alongside the existing permitting regimes; the thresholds in the existing regimes are generally lower because they are triggered by entries, releases, discharges, etc., rather than “significance”. In practice, this means that two sets of investigations (with different objectives) need to run alongside one another up until the point at which either action is taken under existing legislation or environmental damage is established.³¹⁴ However, SEPA nevertheless considers that the ELD has also provided a mechanism for remedying harmful land contamination, which can be quicker and simpler to use than the existing regulatory regime in certain circumstances (although other mechanisms can be used where applicable).³¹⁴

4.2.2.5 Relevance of limit values and/or additional criteria for land damage

Opinions vary as to whether limit values and/or additional criteria should be established to determine the significance of land damage.

According to one expert, criteria should be set for land contamination, but they should not be related to human health, although in practice damage is easier to assess if there is a risk to human health.³¹⁵ Another considers that the development of limit values could therefore be a positive step towards better implementation and effectiveness of the ELD, as they would be easy to check and it would hence be easier to prove environmental damage. However, in case of environmental

³¹¹ Report submitted by Slovakia under ELD Article 18(1).

³¹² Written feedback provided by Barbara Goldsmith, from the Ad-Hoc Industry Natural Resource Management Group, in the framework of this study

³¹³ Commission’s ELD Training material. Available at http://ec.europa.eu/environment/legal/liability/eld_training.htm

³¹⁴ Report submitted by the UK under ELD Article 18(1).

³¹⁵ Interview with Birgit Schmidhuber, from Justice & Environment, in the framework of this study.

damage in an area where human access is difficult or even impossible, it would be considered that there is a low or no risk to human health and, consequently, the damage would not be treated.³¹⁶

The Common Forum's position is that there are already EU pieces of legislation that determine what resource is to be protected and how, such as the WFD and its Groundwater Daughter Directive. Hence, an important point would be, in relation to significance thresholds, to refer to the provisions of such legislation to ensure coherence.

In addition, the issue of "significance" is a local or regional debate, as the reference (against which damage should be compared to determine whether it is significant) is necessarily related to local or regional data, such as natural geochemical backgrounds. For the Common Forum, the scale of relevance of such "homogeneous units" should be discussed (probably between regional and local scales; it should be unit sharing a similar natural setting/system (ecosystem services due to the capacities of the natural system) as well as homogenous "social setting/system").³¹⁷ NICOLE also added that defining thresholds implies the risk of being too generic and not country – area specific. Such a definition should take into account site specific conditions and country specific requirements.³¹⁸ NICOLE sees the value of "significance thresholds" based on risk assessment modelling and linked to defined and specific land-use. Also, NICOLE would recommend including overall NEBA (Net Environment Benefit Analysis) principles.

According to the Common Forum, three aspects should be taken into consideration when determining if land damage is significant.

- Intensity (i.e. concentrations): what concentrations should be considered significant? A percentage above the baseline? Or if they exceed certain limit threshold? But in that case, the baseline would differ depending on the local natural geochemical background. Hence, there cannot be any harmonised limit values;³¹⁹
- Extent: how broad is the impacted area for generating a significant risk of human health and other natural resources?
- Duration: e.g. if remediation is carried out immediately after the generating fact, if it is a degradable contaminant and if the medium / ecosystem is able to cope with it within a short period, it could be tolerable and the damage could not be considered as significant.

Hence, if thresholds are imposed (currently, for land damage the threshold relates only to significant risk to human health), they would be required at all three levels, but they will be arbitrary in all cases. In order to avoid such arbitrariness, the ELD should include a risk assessment.³¹⁷ In this regard, it is worth noting that Annex II.2 of the ELD imposes a risk assessment.

Furthermore, trying to set limit values for land damage would also amount to bypass the lack of any EU legislation on soil protection (the draft Soil Framework Directive has not been adopted). Consequently, before any decision is taken on whether to impose thresholds or limit values for water or land damage, a debate is necessary on the EU objectives to fulfil in terms of soil and land

³¹⁶ Interview with Magdalena Bar, from environmental law firm Jendroška Jerzmański Bar & Partners. Environmental Lawyers, in the framework of this study.

³¹⁷ Interview with Dominique Darmendrail, General Secretary of the Common Forum, in the framework of this study.

³¹⁸ Interview with Anja Sinke and Johan de Fraye from NICOLE, in the framework of this study.

³¹⁹ It is noteworthy that concentration is already covered by Annex III.2 of the ELD, which notably provides: "For the purpose of this Directive, Member States may decide that those operations shall not include the spreading of sewage sludge from urban waste water treatment plants, treated to an approved standard, for agricultural purposes."

protection (it needs to reflect/include how our society “values” water and soil and therefore wants to keep it significantly safe against ELD risks, or better “functional”) and the related abovementioned criteria, namely: intensity, extent and duration. Whereas intensity is a scientific and technical question to answer, thresholds on extent and duration are more from the political area and should be discussed in the appropriate political arena.³²⁰

In addition, it was pointed out that Member States’ laws that set standards or limit values for contaminated land sometimes differ significantly from one another. As a result, Member States will tend to fight for EU rules that are close to their own system, rather than weighing alternatives on their intrinsic merits. In addition, Member States have differing approaches to the enforcement of clean-up standards, according to what is seen as the most effective means of achieving the best results (e.g. suitability for future use versus absolute numerical values). Hence, it might be necessary to start with general principles and guidelines, and seek to develop additional criteria and/or limit values over time.³²¹

Another expert suggested that reference to land damage should be replaced by “land contamination”, which could help ensure that damage is measurable. Methods for assessing land contamination could include applying models used in other EU legislation, which prescribe values for the quantitative and qualitative status of water, for example, or could look at contaminated land rules in various Member States in order to develop the relevant criteria (always taking into account the principle of subsidiarity).³²²

Finally, the “Dutch List”³²³ (which provides for target values, soil remediation intervention values and indicative levels for serious contamination) was cited as an example of parameters that could be taken into account to evaluate whether the threshold for land damage has been met, although there could be some exceptions to such a list to address local elements (such as the natural geochemical background).³²⁴

4.2.3 Experience and opinions on the significance threshold for water damage

The outcome of the empirical analysis regarding the significance threshold for water damage may be divided into the following categories:

- Lack of clarity and harmonised approach;
- Natural recovery before significant damage can be established;
- Low number of ELD water cases; and
- Relevance of limit values and/or additional criteria to determine the significance of water damage.

³²⁰ Interview with Dominique Darmendrail, General Secretary of the Common Forum, in the framework of this study.

³²¹ Interview with Chris Clarke, from University College London Centre for Law and Environment, in the framework of this study.

³²² Interview with Sandy Luk, from ClientEarth, in the framework of this study.

³²³ See http://www.esdat.net/Environmental%20Standards/Dutch/annexS_I2000Dutch%20Environmental%20Standards.pdf

³²⁴ Interview with Stakeholder in the framework of this study.

4.2.3.1 Lack of clarity and harmonised approach

According to Article 2(1)(b) of the ELD (prior to its amendment by the Offshore Safety Directive), water damage is any damage that significantly adversely affects the ecological, chemical and/or quantitative status and/or ecological potential, as defined in the WFD, of the waters concerned, with the exception of adverse effects where Article 4(7) of that Directive applies. As indicated in the ELD Training Material, whether or not damage to water is significant should consequently be judged against the WFD status of water.³²⁵

However, some experts consider that the application of the significance thresholds for water damage is unclear.³²⁶ Some national systems require that damage be to “waters” while others require that it be to “water bodies”. In Italy, the environmental liability regime applies to “damage to waters, both monitored and non-monitored by Directive 2000/60/EC”.³²⁷ In addition, groundwater damage may be problematic as it can be considered as water damage or land damage.³²⁸ As highlighted in the ELD Implementation study (BIO, 2013), an important difference in the application of the threshold for water damage is that some Member States have interpreted the ELD to mean that the threshold applies to any waters under the WFD whereas other Member States consider that an entire surface or groundwater body, as defined by the WFD, must be impacted. For example, the Netherlands (although the Dutch guidelines are not legally binding but provide recommendations to competent authorities) and Poland considers that the threshold applies to the former whereas the UK considers that it applies only to the latter. According to the Environment Agency (England), where damage to a body of water is required, the fact that some cases do not meet the significance threshold is indeed, for some of them, linked to the fact that the geographical extent of the impact was limited.³²⁹ The Ghent derailment case (see Box 1 above) is a good illustration, as it involves notably damage to water in the Flemish Region where such damage must be to a “water body”. If water damage must be damage to a water body in order to fall within the scope of the ELD, the issue of how to prove that the damage is significant arises; this threshold makes it unlikely that there will be any ELD water damage case, except if it is a very serious one. However, there is an argument that the ELD does not in fact require damage to water bodies at all, as it specifically refers to the “waters concerned”, rather than “water bodies”, and some national systems have taken this approach.³³⁰

The UK, in the Member State report it submitted to the Commission, provided information on incidents that were considered under the scope of the ELD transposing legislation but were finally discounted. Thus, in some cases, the status of the water was already poor, as a result of historic pollution/harm, and it was not possible to establish that the new pollution incident had caused a sufficient change in the status of the water to amount to environmental damage. These incidents were addressed using other legislation on water pollution.³³¹

³²⁵ Commission’s ELD Training material. Available at http://ec.europa.eu/environment/legal/liability/eld_training.htm

³²⁶ Interview, in the framework of this study, with Birgit Schmidhuber, from Justice & Environment, in the framework of this study, and Sandy Luk, from ClientEarth.

³²⁷ Report submitted by Italy under ELD Article 18(1).

³²⁸ Interview with Birgit Schmidhuber, from Justice & Environment, in the framework of this study;

³²⁹ BIO Intelligence Service (2013), Implementation challenges and obstacles of the Environmental Liability Directive, Final report prepared for European Commission – DG Environment. In collaboration with Stevens & Bolton LLP. Available at <http://eldimplement.biois.com/>

³³⁰ Interview with Sandy Luk, from ClientEarth, in the framework of this study.

³³¹ Report submitted by the UK under ELD Article 18(1).

In addition, there are no harmonised approaches on how to interpret the “significant adverse effect” requirement: for instance, some Member States require a change in the water status category, while others do not. Depending on the Member State involved, the threshold for water damage may be quite low or quite high.³³² Polish law includes criteria for water damage.³³³

According to one expert, the level of contamination that would lead to “water damage” under the Directive should be more precise than it is now, and should be coordinated with the approach under the WFD.³³³ Because of the unclear nature of the significance threshold for water damage, this type of environmental damage can be interpreted in different ways by different actors and Member States.³³⁴ Some Member States developed initiatives to address the issue of water damage and the associated significance thresholds. This is notably the case of Austria.³³⁵

4.2.3.2 Natural recovery before significant damage can be established

The ELD Implementation study found that in the case of surface, coastal and interstitial water, even significant pollution can rapidly be dispersed naturally in the water, leaving very little time to the authority to assess the quality of water and to compare it to the baseline. The following illustrates this point: after the rupture of a tank at a chemical factory located next to the English coast in March 2009, any solvent which had entered the estuary was potentially diluted by the tidal flush. It is also difficult when the water is already in a poor ecological state before the damage occurred.³³⁶

In addition, expert opinions received in the framework of this study indicate that, in order to determine whether the ELD significance threshold for water damage has been reached, it is necessary to carry out studies that can be very costly, which may then show the absence of damage because of e.g. natural recovery.

Such a case occurred in the Brussels region on 8 November 2009: a river was polluted following a malfunction at a water treatment, from the Aquiris plant, which led the plant to be shut down for some time. Dumped wastewater leaked in three rivers which were leading to the Flanders region and the North Sea.³³⁷ The water was polluted for several weeks and the incident was considered a serious case of environmental damage. However, court-appointed experts found no trace of contamination after a month of the occurrence of the incident. Even though the ELD was

³³² Interview with Birgit Schmidhuber, from Justice & Environment, in the framework of this study.

³³³ Interview with Magdalena Bar, from environmental law firm Jendroška Jerzmański Bar & Partners. Environmental Lawyers, in the framework of this study.

³³⁴ Interview with Sandy Luk, from ClientEarth, in the framework of this study.

³³⁵ Report submitted by Austria under ELD Article 18(1): the report indicates that an existing practical guide to measures concerning surveillance in water-related matters was extended to include the subject of environmental liability, and that a Guidance Paper on ‘Environmental Liability’ is being developed, with special focus on ‘significance’ and the types and methods of remediation. Environmental liability is also covered in the training courses run by the Austrian Water and Waste Management Association on installations and environmental law for operators’ staff.

³³⁶ BIO Intelligence Service (2013), Implementation challenges and obstacles of the Environmental Liability Directive, Final report prepared for European Commission – DG Environment. In collaboration with Stevens & Bolton LLP. Available at <http://eldimplement.biois.com/>

³³⁷ See <http://corporateeurope.org/news/aquiris-veolias-lost-bet-brussels>

considered, it was decided to fall back on civil litigation.³³⁸ There was hence, no opportunity to apply the ELD regime.³³⁹

In the UK, some cases could not be treated as ELD cases as water pollution had been caused but the pollution was not serious enough to trigger the definition of water damage; this is often due to the short-term/transient nature of the pollution, which had no lasting damaging effects.³⁴⁰

4.2.3.3 Low number of ELD water cases

Some Member States reported a low number of ELD water cases. In the UK for example, the Department for Environment, Food and Rural Affairs reported that there had been 483 serious water pollution incidents in 2009, and 408 serious water pollution incidents in 2010, but only one water damage incident case.³⁴¹

Nonetheless, the UK (Scotland – SEPA) considers that the main benefit of the ELD, when compared with existing national regimes, is that it has introduced a requirement for compensatory remediation where notably environmental damage to water has been caused. In one reported incident, for example, this has resulted in additional environmental improvements being made to a waterway, paid for by the operator, which could not have been required under existing legislation.³⁴²

However, in Greece, water damage cases represent the second largest type of imminent threat of, or actual, environmental damage under the national legislation transposing the ELD (11% of reported cases).³⁴³ These cases were caused by “dumping in streams” and “leakage of polluted-contaminated leachate into underground aquifers”. Greece further observed that “cases of imminent threat to the water are more than the cases of imminent threats to soil”, as “water damage detection and confirmation is technically more difficult compared to soil damage, especially when it comes to groundwater where a direct opportunity for sampling may not exist”.³⁴³ Difficulties to determine significance of water damage is therefore related to technical barriers.

4.2.3.4 Relevance of limit values and/or additional criteria for water damage

What may constitute significant damage to water will differ depending on whether it is damage to surface or groundwater, based on the distinction regarding water status that applies in the WFD. Thus, as highlighted in the ELD Training Material, damage to surface water may include, in addition to closures of public access to surface water bodies or restrictions on public uses (as fishing and swimming), exceedances of:

- Water quality standards (including those for biota, drinking water, recreational uses, and agricultural uses);
- Toxicological or flow-related thresholds;

³³⁸ Interview with Hannes Descamps, researcher and lecturer at the Institute for environmental and energy law at Leuven University, in the framework of this study.

³³⁹ Interview with Prof. Luc Lavrysen, Environmental law professor at Ghent University, in the framework of this study.

³⁴⁰ Report submitted by the UK under ELD Article 18(1).

³⁴¹ UK Department for Environment, Food and Rural Affairs, Environmental Statistics – Key Facts (January 2013). Available at <https://www.gov.uk/government/publications/environment-statistics-key-facts>

³⁴² Report submitted by the UK under ELD Article 18(1).

³⁴³ Report submitted by Greece under ELD Article 18(1).

- Criteria for protection of aquatic biota; and
- Other numerical or verbal criteria intended to protect humans and other biota.³⁴⁴

As to groundwater, significant damage might include exceedances of background levels, drinking water standards or guidelines; toxicological or hydrological thresholds or criteria for biota that might be exposed at seeps, springs, or gaining sections of a river or bay; or other numerical or verbal criteria for groundwater intended to protect humans and other biota. Physical or hydrological damages might include reductions in the aquifer's water-holding capacity, reductions in the safe yield from an aquifer, alterations of recharge/discharge relationships, or destruction of an aquifer by compaction or sealing in such a way that a source of groundwater or groundwater-dependent habitat is no longer available. Physical restriction of access that results when an aquifer is being used for other purposes might also damage groundwater.³⁴⁴

As previously mentioned, many stakeholders consider that the significance threshold for water damage is unclear and should thus be clarified. According to one expert, the easiest way to do so would be to establish limit values, which would allow a clear line to be drawn, but a certain range of criteria could be useful in order to ensure the required flexibility in differing national systems. The question of criteria vs. limit values remains open.³⁴⁵

In addition, for an incident to fall under the ELD water damage definition, it is necessary that there is a change in the water status, which entails that a change in water status may be determined only after a certain time has elapsed. This situation is impractical as it also means that it is necessary to wait before any remedial measures may be undertaken (the issue is different for preventive measures). One expert therefore considers that it would be better to have clear standards to determine water damage under the ELD, such as sampling, monitoring, etc.³⁴⁶ If the ELD is interpreted as requiring significant effects on an entire "water body", which would mean that only the most serious incidents would ever be caught by the Directive, then one of the important functions of the Directive, namely to create incentives to prevent damage in the first place (through the deterrent effect of potential liability), is very much undermined. If damage is highly unlikely, preventive measures do not make economic sense. However, incidents of water pollution continue to be a significant problem for the EU environment. Therefore, it would make sense to revise the definition for "water damage", and the precise nature of linking water damage under the ELD to water status in the WFD would need to be examined and clarified.³⁴⁷

It should be noted that national legislation may provide alternative approaches to preventing (and measuring) water pollution. Water pollution legislation in the UK makes it an offence to allow noxious or polluting substances to enter watercourses.³⁴⁷ Legislation also provides competent authorities with the power to require its remediation but does not include complementary or compensatory remediation.

In the report it submitted to the Commission under Article 18(1) of the ELD, Greece referred to a case, presented below, environmental quality standards and limit values were established following a case of significant environmental damage.

³⁴⁴ Commission's ELD Training material. Available at http://ec.europa.eu/environment/legal/liability/eld_training.htm

³⁴⁵ Interview with Birgit Schmidhuber, from Justice & Environment, in the framework of this study.

³⁴⁶ Interview with Prof. Luc Lavrysen, Environmental law professor at Ghent University, in the framework of this study.

³⁴⁷ Interview with Sandy Luk, from ClientEarth, in the framework of this study.

Box 2: Overview of the Asopos case³⁴⁸

A case of pollution occurred in 2007 in the wider area of the Asopos river in Greece. High levels of heavy metals, hexavalent chromium and nitrates were identified in the aquifer of the region. Exceedances of the parametric values determined by Community legislation on the quality of water intended for human consumption (Directive 98/83/EC) were also detected. This pollution resulted in significant environmental damage. In fact, it was highlighted that a total of 7 activities were dealt under environmental liability status. Five of these activities were located in Central Greece and two were located in Attica. Four activities concern unchecked disposal of hazardous waste in the soil and subsoil from metal industries, one concerns the uncontrolled burial of hazardous and non-hazardous waste, two concern unchecked disposal of waste by unknown operators and two other cases concern remedial measures. The Ministry of Environment, Energy and Climate Change declared that this case should be under “Special National Intervention”. This Ministry also declared that the Hellenic Environmental Inspectorate (HEI) should be instructed to intensify the inspection and control all activities within the affected area. The Ministry took action from 2010 to address the pollution in the Asopos river area and in February 2010, a Programme was presented, taking into account demands of local communities. Actions were still being undertaken in November 2013. This programme provides for measures for immediate implementation and measures of medium and long term effect measures, which involve the following instruments:

- Establishing of rules, guidelines and procedures governing the control of sources of pollution and the way the industry operates;
- Clarification of responsibilities between agencies;
- Informing citizens and stakeholders; and
- Measures which are implemented gradually with objectives such as protection of public health, containment and eradication of pollution, planning of the industrial area of Inofita, Schimatari (areas of the Asopos river) and ensuring the implementation of the measures.

A first measure was taken by the Ministry, the JMD 20488/2010 on “Determination of Environmental Quality Standards in the Asopos River and Limits for Emissions of Industrial Wastewater in the Asopos Watershed”. This measure was immediate and provided for stringent quality thresholds for both Asopos and the emissions of industrial wastewater in the area. A Committee was also established by Decision 270/2012, which processes proposals and takes initiatives and actions concerning industrial compliance, water issues, implementation issues of environmental liability, planning of the industrial area, examination of practices followed in other Member States in the EU and exploring the possibility to create central industrial waste treatment unit.

4.3 Conclusions and recommendations

The significance thresholds for land and water damage in the ELD are neither easy to identify nor quick to assess. Even more fundamentally, application of the significance thresholds for land, water, and biodiversity damage in the ELD assumes knowledge of the state of land, water and biodiversity that the vast majority of operators do not possess. Most operators may not, therefore, determine whether their activities have caused an imminent threat of, or actual, environmental damage at the time the ELD directs them to carry out preventive or emergency remedial actions

³⁴⁸ Report submitted by Greece under ELD Article 18(1).

“without delay”, or “immediately”, respectively. Based on the above review and analysis, therefore, the Commission may wish to consider as a priority in a possible future revision of the ELD the following options.

4.3.1 Potential revision of the duty to carry out preventive and emergency remedial actions

The difficulties involved in carrying out preventive and emergency remediation actions and in notifying a competent authority of an imminent threat of, or actual, environmental damage could be resolved by revising the ELD to lower the “trigger” for an operator to carry out such measures. One option the Commission may wish to consider could be to revise the trigger from an “imminent threat” or assumption of actual knowledge of environmental damage to a requirement to carry out preventive measures, emergency remedial actions and notification to a competent authority if the operator’s activities “may” objectively cause environmental damage. Lowering the trigger would promote the polluter pays principle and, particularly, the preventive and precautionary principles because it would make it more likely that the imminent threat of, or actual, environmental damage would be prevented or abated.

Revising the ELD to lower the above trigger would not lower the threshold for an operator to carry out long-term “remedial measures” because an operator is not required to carry these out until the competent authority has made a determination of the remedial measures that the operator should carry out (ELD, art. 7(2)). There is, thus, sufficient time for the competent authority and the operator to carry out the detailed analysis that is required to determine whether the significance threshold has been exceeded. The revision would not, therefore, affect primary remediation, complementary or compensatory remediation measures – or lower the trigger to carry them out – because they apply only to the long-term remediation of water and biodiversity damage.

4.3.2 Setting criteria or limit values for land damage

As discussed in this chapter, setting EU-wide limit values for land / soil damage would be problematic due to several Member States having already set differing limit values. As discussed above, a key issue would be whether any EU-wide limit values should be based on the most protective levels adopted by a Member State when other Member States have adopted lower levels. Other issues would involve the number and types of substances for which levels should be established and whether the levels are legally-binding or guidelines, as well as the local natural geochemical background.

The Commission may wish to consider whether to include further criteria for land damage in the ELD. Criteria to consider could describe or define the term “land” so as to remove issues concerning the inclusion of wetlands and sediment. Arguments against the inclusion of a description / definition of “land” include the effect on harmonisation and streamlining. The national law of Member States does not tend to differentiate between liability for remediating land and water damage. Including a definition such as that in the proposed Soil Framework Directive would, therefore, lead to differences rather than harmonisation. Further, a “bright line” delineation between land damage and water damage tends to be impractical in a liability system for the remediation of contaminated land as well as being difficult to implement and enforce.

4.3.3 Setting criteria or limit values for water

Revising the ELD to include criteria for the significance threshold of water similar to the criteria in Annex I of the ELD for the significance threshold for biodiversity damage would be unlikely to

reduce the problems caused by the current threshold for water damage. The definition bases liability for preventing and remediating water damage under the ELD on concepts in the management plan for water resources in the EU.

Even assuming that the link by the ELD to water bodies under the WFD is feasible, the following assessments must be made:

- Determination of the baseline condition of the damaged water body;
- Determination of the state of the water body during and after damage by an activity carried out by an Annex III operator; and
- Evaluation of the difference between the status of the water body after the damage has occurred and the baseline condition.

The assessment is necessarily difficult to make because “[a]lmost all types of environmental damage are limited in time and space. It is necessary to carry out the measurements during the incident to delimit the damage in both time and space and to determine the severity or magnitude of the damage”.³⁴⁹

The Commission may, thus, wish to consider an alternative significance threshold for water that is easy to understand and quick to determine. A lengthy assessment, for example, means that long-term remedial measures do not tend to be carried out until the assessment has been finalised. In the meantime, pollutants would have migrated and affected other waters and, in the case of surface water bodies, the aquatic environment dependent on the waters.

4.3.4 Clarification on application of water damage to “waters” or “water bodies”

The definition of “water damage” in the ELD is unclear as to whether it refers to “waters” or “water bodies”. If, as some Member States have concluded, the “water body” approach is the correct approach, the ELD does not apply to large areas of the EU and, thus, cannot achieve its basic aim “that an operator whose activity has caused the environmental damage or the imminent threat of such damage is to be held financially liable, in order to induce operators to adopt measures and develop practices to minimise the risks of environmental damage so that their exposure to financial liabilities is reduced” (ELD, recital 2).

An alternative that the Commission may wish to consider would be to assess the threshold for water damage against areas identified by Member States in their further characterisation of groundwater bodies under the WFD. Some Member States, such as Ireland, are characterising water bodies into small units such as two square kilometres. These smaller units could be used to determine whether the significance threshold has been exceeded instead of basing an assessment on the entire water body. The use of such smaller thresholds would, however, also need study as to how to communicate its extent to operators so they are aware of it. It would not be a total solution.

³⁴⁹ Peter De Smedt, Tom Malfait, Robin Slabbinck, Hugo Desmet and Arne Verliefde, Legal advice concerning the Environmental Damage Decree and cases of damage in surface water (commissioned by the Flemish Environment Agency Department Water Monitoring (ARW/RC/HM/IT/dh/09/211, 21 June 2010)).

4.3.5 Broadening land damage to include human health and the environment

The scope of land damage under the ELD is limited to contamination. The scope could be broadened by including other types of environmental damage, and/or by removing the qualification that human health must be affected in order for damage to land / soil to be “land damage” under the ELD. Such an extension would include, among other things, wetlands that do not tend to have a human presence but which are vital to support biodiversity.

4.3.6 Revising the remediation standard for land damage

Revising the remediation standard for land damage to a comparable level with water and biodiversity damage would necessitate including the restoration of soil, not merely its remediation. Techniques have been, and are being, developed to restore contaminated soil.³⁵⁰

There is a broad consensus that soil should be protected. In an internet consultation in 2005, 91 per cent of EU citizens who participated indicated that preventing or mitigating soil degradation in the EU was important or very important to them.³⁵¹ Consensus was unanimous that soil should have the same level of protection as air and water due to the critical nature of its functions for human and ecosystem survival.³⁵²

The Commission has also identified soil as a crucial environmental medium that needs to be protected.³⁵³ Further, a key aim of the ELD is to halt the further contamination of land (ELD, recital 1).

As discussed above, however, the Commission may wish to consider the differentiation between, and the overlap in, the definitions of land damage and water damage before considering revising the remediation standard for land damage as a separate category of “environmental damage”.

³⁵⁰ See CORDIS News, Restoring contaminated soils. Available at http://cordis.europa.eu/news/rcn/35497_en.html

³⁵¹ See Commission Staff Working Document, Document accompanying the Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions, Thematic Strategy for Soil Protection, Impact Assessment of the Thematic Strategy on Soil Protection, p. 7. SEC(2006) 620 (22 September 2006).

³⁵² See Proposal for a Directive of the European Parliament and of the Council establishing a framework for the protection of soil and amending Directive 2004/35/EC, Explanatory Memorandum, pp. 3-4 (COM(2006) 232 final, 22 September 2006) .

³⁵³ Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions, Towards a Thematic Strategy for Soil Protection. COM(2002) 179 final (16 April 2002); Decision No. 1386/2013/EU on a General Union Action Programme to 2020 ‘Living well, within the limits of our planet’, Annex para 23, OJ L 354/171, L 354/180 (28 December 2013).

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Chapter 5: Analysis of the application of the permit and the state-of-the art defences

This chapter reviews the application of the permit and state-of-the-art “defences”,³⁵⁴ with the aim to determine:

- how often they have been used by Member States that have incorporated them into their national law;
- whether their use (or simply their existence) has affected the remediation of environmental damage and, if so, the extent of such an effect;
- the effect of the uneven application of the defences in respect of the lack of a level playing field, both in respect to Member States and industry in environmental and economic terms; and
- whether there is a need and potential for harmonisation of the defences at EU level.

5.1 Legal analysis

The legal analysis examines the background to the permit and state-of-the-art defences, their scope, and the ways in which Member States that have adopted them have transposed them into their national law. It also examines legal arguments for and against inclusion of the defences in the ELD, and their practical effect. The legal analysis then examines the need and potential for, harmonisation of the defences at EU level, and indicates ways in which the defences could be revised to harmonise them if the European Commission was to consider as an option for priority in a possible future revision of the ELD to propose such harmonisation. Finally, the legal analysis discusses the legal implications of any such harmonisation.

5.1.1 Background to the defences

The inclusion of the permit and state-of-the-art defences in the ELD was controversial. Partially as a result, their format changed several times before their final adoption in the ELD. The following is a brief history of these changes to place the defences in context and to indicate the various ways in which they were considered before the EU adopted the final version of the ELD.

In 1993, the European Commission, in its Green Paper on the ELD, discussed the potential for excluding environmental damage caused by activities for which a permit had been issued. The Green Paper stated that:

“The purpose of environmental permits is to enable government authorities to limit the total amount of pollutants to a level that will not cause unacceptable

³⁵⁴ This report uses the term “defences” because this is the term that is generally used although the word “defence” is not in the ELD. As discussed in this report, neither the permit “defence” nor the state-of-the-art “defence” is a true defence.

impact or damage. This requires determination of the level of pollution at which damage occurs, then an allocation of permits restricting total emissions to below that level. However, it is often difficult to foresee, let alone assess, all the immediate or long-term effects of pollutants and the margin of safety needed to prevent damage. Consequently the situation can arise where damages to the environment do occur, in spite of the fact that all relevant emissions are authorised. If the operator exceeds the limit values set in the permit or carries out other activities not foreseen in the permit, the operator should be held liable for any resulting damage. On the other hand if the operator has fully disclosed all relevant data for evaluation by the permitting authority and complied with the standards set in the permit there may be reasons for holding the public authority - - and ultimately the taxpayer -- responsible for ensuing damage. It would provide the operator with an incentive for full disclosure and compliance with the permit, so as to avoid liability. It would provide the government authority with an incentive to make responsible decisions, including setting precise and clear restrictions in permits”³⁵⁵.

That is, the Commission considered that excluding liability for emissions lawfully carried out in accordance with a permit had two major advantages. The exclusion would:

- Provide an incentive to operators fully to disclose emissions and other relevant data and to comply with all the standards set out in a permit including not exceeding emission limit values; and
- Provide an incentive to competent authorities to set precise and clear emission limit values and other restrictions in the permit.

By 2000, when the Commission issued the White Paper on the ELD, industry was “insisting” that the permit and “state of the art and/or ... development risk” defences should be included in the ELD.³⁵⁶ The Commission commented that “For economic reasons, [operators] need predictability regarding their liabilities to third parties, but the occurrence and extent of these liabilities are subject to ongoing developments in any event (e.g. changes in legislation and case-law, medical progress, etc.)”. The Commission noted, however, that such defences “are normally not allowed by existing national environmental liability regimes of EU Member States”³⁵⁷.

The references to third-party liability were due to the original proposal for the ELD to include traditional damage (civil liability for third-party claims for bodily injury, property damage and economic loss) as well as environmental liability (liability for preventing and remediating environmental damage).

The Commission proposed including the defences, not as an exception or a defence but as equitable, that is mitigating, factors.

The White Paper stated, under the heading “Application of equity”, that:

“Circumstances might occur which would make it inequitable for the polluter to have to pay the full compensation for the damage caused by him. Some room might be granted to the court (or any other competent body, e.g. an arbiter) to

³⁵⁵ Communication from the Commission to the Council and Parliament and the Economic and Social Committee: Green Paper on Remedying Environmental Damage, p. 9. COM(93) 47 final (14 May 1993).

³⁵⁶ COM(2002) 17 final, p. 27 (23 January 2002) (“industry and professional associations ... insist[] that complying with a permit/state-of-the-art/development risk should be retained as defences”).

³⁵⁷ European Commission, White Paper on Environmental Liability. COM(2000) 66 final, p. 18 (9 February 2000).

decide — for instance in cases where the operator who caused the damage can prove that this damage was entirely and exclusively caused by emissions that were explicitly allowed by his permit — that part of the compensation should be borne by the permitting authority, instead of the polluter. Further criteria would need to be defined for such a provision, for instance that the liable operator had done everything possible to avoid the damage”.³⁵⁸

Later in 2002, the Commission submitted the Proposal for the Directive that became the ELD (Proposed Directive).³⁵⁹ The proposed permit and the state-of-the-art defences changed again, this time to exceptions to liability.

Article 9(1) of the Proposed Directive provided that:

“Subject to Article 10, this Directive shall not cover environmental damage or an imminent threat of such damage caused by: ...

(c) an emission or event allowed in applicable laws and regulations, or in the permit or authorisation issued to the operator; [and]

(d) emissions or activities which were not considered harmful according to the state of scientific and technical knowledge at the time when the emission was released or the activity took place”.

Article 10 provided that:

“(1) Member States shall ensure that in all circumstances operators bear any costs relating to preventive measures which they were required to take as a matter of course in order to comply with the legislative, regulatory and administrative provisions regulating their activities, including the terms of any permit or authorisation.

(2) Article 4 shall not be taken into consideration for the purpose of defining the legislative, regulatory and administrative provisions referred to in paragraph 1”.

That is, the preventive measures to be covered by the permit exception were measures taken by an operator to prevent an imminent threat of environmental damage; they were not measures that an operator should take to prevent environmental damage occurring at all.

The Explanatory Memorandum stated that:

“Where one of the exemptions foreseen in Article 9(1) applies, the scheme provided by this proposal will not apply and the matter will be left to national law. In certain cases, the operator will not be able to rely on the exemption if he has been negligent”.³⁶⁰

The reference to the negligence of an operator indicates that the Commission was considering applying the “defences” as defences rather than exceptions in certain cases.

The Explanatory Memorandum to the Proposed Directive commented, “The proposal has indeed been developed consistently with principles of economic efficiency and social fairness. Firstly, the proposal does not apply to emissions allowed in permits and damage that cannot be predicted on

³⁵⁸ European Commission, White Paper on Environmental Liability, COM(2000) 66 final, p. 19 (9 February 2000).

³⁵⁹ European Commission, Proposal for a Directive of the European Parliament and of the Council on Environmental Liability with regard to the Prevention and Restoration of Environmental Damage, OJ C151 E/132 (23 January 2002).

³⁶⁰ COM(2002) 17 final, p. 4 (23 January 2002).

the basis of the state of scientific and technical knowledge at the time emissions are released or activities take place”.³⁶¹

Inclusion of the exceptions in the Proposed Directive did not mean that an imminent threat of, or actual, environmental damage would not be prevented or remediated. The Proposed Directive required a competent authority to carry out any necessary preventive or remedial measures if the operator who caused the threat or damage did not carry them out.³⁶²

The nature of the defences continued to change as the Proposed Directive progressed through the co-decision procedure.

At its first reading of the Proposed Directive, the European Parliament changed the exceptions to mitigating factors. That is, they were no longer “legal” exceptions, with the burden of proof on a competent authority; rather, a competent authority or court could take them into account on an equitable basis “when deciding the level of responsibility and the amount of financial compensation in respect of liability to be recovered from an operator”.³⁶³ The authority that granted the permit would be required to pay to remediate the environmental damage caused by emissions that were in accordance with the permit if the operator did not do so.³⁶⁴ This requirement was eventually deleted from the final version of the ELD in lieu of providing competent authorities with the power, but not the duty, to carry out preventive measures or remedial actions if the liable operator did not do so.

The defences changed for a final time at the Common Position stage when they reverted from equitable factors to their final form in the ELD.³⁶⁵ The two optional defences apply only to remedial actions; they do not apply to preventive measures.

As a result of the controversy surrounding the inclusion of the defences in the ELD, the ELD provides that Member States have the option whether to adopt them into their national law.

Article 8(4) of the ELD sets out the defences as follows:

“The Member States may allow the operator not to bear the cost of remedial actions taken pursuant to this Directive where he demonstrates that he was not at fault or negligent and that the environmental damage was caused by:

(a) an emission or event expressly authorised by, and fully in accordance with the conditions of, an authorisation conferred by or given under applicable national laws and regulations which implement those legislative measures adopted by the Community specified in Annex III, as applied at the date of the emission or event;

(b) an emission or activity or any manner of using a product in the course of an activity which the operator demonstrates was not considered likely to cause

³⁶¹ COM(2002) 17 final, p. 7 (23 January 2002).

³⁶² Proposed Directive, arts 4(1), 4(4), 5(1) and 5(2).

³⁶³ First Reading Proposal, art 11(3).

³⁶⁴ European Parliament legislative resolution on the proposal for European Parliament and Council Directive on environmental liability with regard to the prevention and remedying of environmental damage COM(2002) 17 - C5-0088/2002 – 2002/0021(COD)) (14 May 2003), art 11(3)(a).

³⁶⁵ Common Position, art 8(4). See Common Position, Statement of the Council’s Reasons, European Parliament Amendments at C277 E/29 (“[i]n case of ‘permit’ or ‘state of the art’ activities it is up to Member States to allow the operator not to bear the costs of remedial actions taken pursuant to the Directive – where the operator demonstrates that he is not at fault or negligent” (emphasis added)).

environmental damage according to the state of scientific and technical knowledge at the time when the emission was released or the activity took place”.

5.1.2 Scope of the defences

The permit and state-of-the-art defences are defences to costs; they are not defences to liability. That is, an operator must carry out remedial actions if its activities cause environmental damage. The operator may then seek to recover the costs of those measures. A defence to liability would have meant that the operator would not be required to carry out remedial actions if its activities cause environmental damage but could challenge its liability first. Only if the challenge failed, would the operator be required to carry out remedial actions. If the operator was successful, the competent authority could carry out remedial actions but is not required to do so.

The nature of the defences as defences to costs accords with the polluter pays principle in the ELD.³⁶⁶ The polluter pays principle is a costs principle. In adopting the ELD as the first EU legislation implementing the polluter pays principle,³⁶⁷ the EU created a liability system that allocates the costs of preventing or remediating environmental damage without regard to ultimate liability. This emphasis on cost allocation, rather than liability, is illustrated by recital 2, which states that the “fundamental principle” of the ELD is “that an operator whose activity has caused the environmental damage or the imminent threat of such damage is to be held financially liable, in order to induce operators to adopt measures and develop practices to minimise the risks of environmental damage so that their exposure to financial liabilities is reduced”.

Recital 2 is substantially similar to a statement in a 1990 report by the Business and Industry Advisory Committee to the Organisation for Economic Co-operation and Development (OECD), which introduced the polluter pays principle in 1972.³⁶⁸ The 1990 report stated that “the principal objective of liability regimes should be to promote environmental protection. This can best be achieved by linking liability to operational control” in order to create an “incentive for the controlling entity to adopt all precautions for environmental protection”.³⁶⁹

The permit and state-of-the-art defences, thus, do not enable an operator to avoid carrying out remedial actions at its cost; the operator remains the “polluter” who must pay.³⁷⁰ The ELD is explicit in this respect. For example, the amendments to the proposed Directive at the Common Position

³⁶⁶ ELD, recital 2.

³⁶⁷ See European Commission press release, Environmental Liability: Commission welcomes agreement on new Directive (IP/04/246, 20 February 2004).

³⁶⁸ See OECD, Recommendation of the Council on Guiding Principles concerning International Economic Aspects of Environmental Policies (C(72)128, 1972).

³⁶⁹ OECD, The Polluter-Pays Principle; OECD Analyses and Recommendations, Environment Directorate (OCDE/GD(92)81, 1992), Explanatory Reports, Compensation for Victims of Accidental Pollution, section C, para. 9.

³⁷⁰ See Opinion of the Commission pursuant to Article 251(2), third subparagraph, point (c) of the EC Treaty, on the European Parliament’s amendments to the Council’s common position regarding the proposal for a Directive of the European Parliament and of the Council on environmental liability with regard to the prevention and remedying of environmental damage, p.2, section. COM(2004) 55 final, p. 26 (January 2004) (“Subject to certain exceptions, the operator that has caused the environmental damage or an imminent threat of such damage occurring is required, in accordance with the ‘polluter pays’ principle, to bear the cost associated with the implementation of the necessary preventive or remedial measures” (referring to the mandatory as well as the optional defences).

stage were to make “explicit what was implicit in the Commission proposal, i.e., that the operator concerned is to bear the costs”.³⁷¹

Not only is the operator the only person who is induced by the ELD to adopt precautions for environmental protection; the operator is the person with authority to carry out “remedial actions” in respect of environmental damage caused by its actions.

The term “remedial actions” in the ELD includes short-term emergency remedial actions to abate environmental damage (ELD, art 6(1)(a)) and long-term “remedial measures” (ELD, art 6(1)(b), as defined in ELD, art 2(1)). The short-term emergency remedial actions are “all practicable steps to immediately control, contain, remove or otherwise manage the relevant contaminants and/or any other damage factors in order to limit or to prevent further environmental damage and adverse effects on human health or further impairment of services”.³⁷² These actions must be carried out “immediately”. The optional defences do not apply to preventive measures.

If an operator would not be obliged to carry out such actions until an appeal process was finalised, the ELD, as the first EU legislation implementing the polluter pays principle,³⁷³ would be in conflict with Article 191(2) of the TFEU, which provides that “Union policy on the environment shall aim at a high level of protection taking into account the diversity of situations in the various regions of the Union. It shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay”. The environment would not be protected because environmental damage may not be remediated during the appellate procedure, which may take many years, or at all if the operator succeeded in the appeal.

An operator who carries out remedial actions at its cost is not without recourse. Article 8(3) of the ELD directs Member States to “take the appropriate measures to enable the operator to recover the costs incurred”. The risk of recovering – or not recovering – the costs, however, lies solely with the operator whose activities caused the environmental damage.

5.1.3 Status of the permit defence in Member States

Fourteen Member States adopted the permit defence with no exceptions to them. They are: Belgium (Regions only), Croatia, Cyprus, the Czech Republic, Denmark, Greece, Italy, Lithuania, Malta, Portugal, Romania, Slovakia, Spain, and the United Kingdom (England, Scotland, Northern Ireland and Gibraltar).

Estonia, Latvia, and the United Kingdom (Wales), adopted the permit defence with an exception for GMOs. The Danish transposing legislation provides that an operator in respect of GMOs is the person who uses GMOs. If, however, that person cannot be considered as the responsible person, the person who, as part of their occupational activities, produced or imported the GMOs is the person responsible; the permit defence is not available to producers or importers.

Table 3 below summarises the status of the permit defence in EU Member States:

³⁷¹ Communication from the Commission to the European Parliament pursuant to the second subparagraph of Article 251(2) of the EC Treaty concerning the Common Position of the Council on the adoption of a Directive of the European Parliament and of the Council on environmental liability with regard to the prevention and remedying of environmental damage. SEC(2003) 1027 final (19 September 2003), p. 7, section 3.2.

³⁷² ELD, art 6(1)(a).

³⁷³ ELD, recital 2; see European Commission press release, Environmental Liability: Commission welcomes agreement on new Directive (IP/04/246, 20 February 2004).

Table 3: Status of the permit defence in EU Member States

Member State	Permit defence
Austria	No
Belgium	Yes: Regions No: Federal Government
Bulgaria	No
Croatia	Yes
Cyprus	Yes
Czech Republic	Yes
Denmark	Yes
Estonia	Yes except for GMOs
Finland	Yes
France	No
Germany	No
Greece	Yes
Hungary	No
Ireland	No
Italy	Yes
Latvia	Yes except for GMOs
Lithuania	Yes
Luxembourg	No
Malta	Yes

Member State	Permit defence
Netherlands	No
Poland	No
Portugal	Yes
Romania	Yes
Slovakia	Yes
Slovenia	No
Spain	Yes
Sweden	No
United Kingdom	Yes except for GMOs in Wales

The situation in Finland, the Netherlands, and Sweden is more complex than the situation in other Member States.

Finland

Competent authorities in Finland consider whether the amount of costs incurred by an operator who caused environmental damage in carrying out remedial measures, assessing environmental damage, selecting remedial measures and monitoring may be reduced on the basis of reasonableness.

The transposing legislation, which reflects Finnish environmental law that already existed when the ELD was transposed, states that: “An operator who shows it has proceeded with care will not be fully liable for [costs incurred in remedial measures, assessing damage and its immediate risk, and deciding on remedial measures and monitoring]”. Instead, “[r]easonable costs will apply provided that: 1) the damage is due to an emission or event that complies with the conditions of the permit granted for the activity or other decision of any authority; or 2) the activity that caused the damage has been in compliance with the legal obligations regarding the activity”.

Guidance issued by the Finnish Ministry of the Environment states that the operator must prove that the damage was not caused deliberately or negligently. It further states that “[c]osts can be *made equitable* under some circumstances, if the damage is due to operations that were in compliance with the relevant obligations prescribed under legislation. In accordance with the [transposing legislation], the latter restriction mainly applies to accidents occurring during the transport of dangerous goods” (italics original). The Guidance refers to the Act on Transport of

Dangerous Goods, stating that “This limitation on liability is recorded in the national legislation under a wider scope than is set down in the [ELD]”.³⁷⁴

The Netherlands

The Netherlands takes into account environmental damage caused by emissions in compliance with a permit in deciding whether it is reasonable to recover part or all of the costs of remedial measures.

Article 17.16(4) of the Dutch Environmental Liability Act, which transposed the ELD, includes the phrase “in so far as [the costs] cannot, in whole or in part, be reasonably attributed to the operator”. This term, which is not in the ELD, applies a mitigation threshold similar to the threshold that exists under Dutch administrative law in respect of the recovery of costs by public authorities. The term “reasonably” is not defined; the Explanatory Memorandum to the draft parliamentary Bill³⁷⁵ mentions “exceptional circumstances” as being “unreasonable”.³⁷⁶

Dutch case law shows that exceptions to the recovery of costs are narrow. In respect of ELD incidents, the Guidelines to the Dutch transposing legislation note that the size of the costs cannot be a factor because considering the size would breach the polluter pays principle.³⁷⁷ They thus state that the risk of insolvency and possible loss of employment of the operator may not be considered in determining whether costs should be recovered.³⁷⁸

The Dutch Guidelines further state that the reasonableness test does not permit a competent authority to waive any costs except the costs of remedial measures. That is, the test does not apply to administrative, legal, or other costs under Title 17.2 of the Environmental Management Act.³⁷⁹

It is not clear from the transposing legislation of other Member States whether such a limitation applies or whether the defence applies to other costs; the latter appears to be the case.

Sweden

Competent authorities in Sweden consider, as a mitigating factor, whether an activity has been carried out in accordance with a permit.

The Amendment of the Environmental Code Act, the Swedish legislation that transposed the ELD, provides that a competent authority shall take account of “whether the damage was caused by emissions or other measures which, when they took place, were expressly permitted by the provisions of a law or other legislation” in deciding the extent of liability of an operator.

³⁷⁴ Remediation of Significant Environmental Damage; Manual on Procedures (2012). Available in Finnish and English; only on the internet at <http://www.ymparisto.fi/default.asp?contentid=414961&lan=en>

³⁷⁵ No 30 920, *Voorstel van wet tot wijziging van de Wet milieubeheer in verband met de implementatie van richtlijn nr. 2004/35/EG (milieuaansprakelijkheid)* (available only in Dutch).

³⁷⁶ See Gerd Winter, Jan H. Jans, Richard Macrory and Ludwig Krämer, Weighing up the EC Environmental Liability Directive, *Journal of Environmental Law*, vol. 20(2), pp. 163, 178 (2008).

³⁷⁷ Guidelines for Title 17.2 of the Dutch Environmental Management Act: measures in the event of environmental damage or its imminent threat (English translation of original version dated 8 January 2008); available from http://ec.europa.eu/environment/legal/liability/eld_guidance.htm and www.infomil.nl (search for *Handreiking milieuschade* (available only in Dutch) (Dutch Guidelines).

³⁷⁸ Dutch Guidelines, p. 60, chapter 4, section 4.4.

³⁷⁹ Dutch Guidelines, p. 59, chapter 4, section 4.4.

The mitigating factors apply only to environmental damage under the ELD regime; they do not apply to pollution damage under existing environmental legislation, to which a reasonability test applies. Thus, rather than reflecting existing environmental law, the Swedish law transposing the ELD differs from it.

5.1.4 Uneven adoption of the permit defence

A review of the permit defence in the national law of those Member States that adopted it in their transposition of the ELD shows variations in the legislation by which it was adopted.

The Czech Republic

Section 12(4)(a) of the Act on the prevention and remedying of environmental damage, which transposed the ELD into national law in the Czech Republic, states that the permit defence applies if “the operator did not breach any legislation or decisions issued pursuant to such legislation and the environmental damage was caused by an emission or event expressly authorised in accordance with specific legislation 15)”.

Footnote 15 states “E.g. Act No 76/2002 on integrated pollution prevention and control and the integrated pollution register and amending certain laws (the IPPC Act), as amended, Act No 254/2001, as amended, Act No 86/2002 on the protection of the air and amending certain other laws (the Clean Air Act), as amended, Act No 185/2001 on waste and amending certain other laws, as amended, Act No 78/2004 on the use of genetically modified organisms and genetic products, as amended”.

The Czech legislation does not specify that the operator must prove that it was not at fault or negligent in respect of the emissions although this is, perhaps, implicit in the above provision. Further, the use of the term “E.g.” makes the extent of the permits to which the defence applies unclear.

Estonia

Section 26(5)(1) of the Act on Environmental Liability, which transposed the ELD into Estonian national law, states that the permit defence applies if environmental damage is caused by: “waste or an event which corresponds to the conditions laid down in the authorisation, if the authorisation was given for the activity specified in subsection 8(2) of this Act [the equivalent of Annex III of the ELD] and a person causing damage followed the obligations assigned thereto by law or on the basis thereof”.

The Estonian legislation does not refer to an operator being required to prove that it was not at fault or negligent in respect of the event. Further, it does not refer to “emissions”. Still further, it includes “waste” within the defence without relating it to any specific legislation.

Greece

Article 11(5.1)(a) of Presidential Decree No. 148/2009, which transposed the ELD into Greek law, states that the permit defence applies “the emission or event which was the immediate cause of the environmental damage was expressly stipulated in the permit or authorisation granted by a public authority, in accordance with relevant existing provisions, for the operator to exercise its activity lawfully, as included in Annex III. In that case, the operator must have strictly complied with the terms and conditions stipulated in said permit or authorisation at the time when the emission or event occurred”.

The addition of the word “immediate” narrows the defence from that in the ELD.

Article 7(2) further provides that “Compliance with the terms and conditions laid down in environmental terms approval decisions and/or permits or authorisations that are necessary according to existing provisions for the lawful exercise of occupational activities, shall not relieve operators of environmental liability”.

This latter provision reflects the Proposed Directive in stating that the permit defence applies to measures that an operator is required to take to prevent an imminent threat of environmental damage, and not to measures to prevent environmental damage occurring at all (see section 5.1.1).

Lithuania

Article 32 of the Environmental Protection Law, which transposed the ELD into Lithuanian law, states that the permit defence applies if environmental damage is “caused by economic activities which are authorised in accordance with the prescribed procedure by competent authorities and which are pursued in compliance with environmental-protection requirements ... in accordance with the environmental-protection and other requirements laid down by this Law and other laws”.

There thus appears to be an added duty for an operator to carry out measures in addition to complying with a permit. In addition, due to Lithuania not specifying the Annex III legislation in its transposing legislation, the permits to which the defence applies is unclear.

Slovakia

Section 11(4)(a) of the Act on the prevention and remedying of environmental damage, which transposed the ELD into Slovakian national law, states that the permit defence applies if environmental damage is caused by “an emission or event permitted in the decision on performing work referred to in Section 1 (2) [equivalent of Annex III of the ELD], whereas the decision on performing this work must comply with special rules on the environment ... and be applicable at the date the emission or event authorised by, and fully in accordance with the conditions of, an authorisation conferred”.

Footnote 47 begins with the words “For example” before listing various Acts. The scope of the permit defence is, therefore, as in the Czech Republic, unclear.

United Kingdom

The UK Government adopted the permit defence but did not apply it to all Annex III activities. The Government decided that even though notification, packaging or labelling requirements may be required, there is no express authorisation for the following activities: the manufacture, use, storage, processing, filling, release into the environment and onsite transport of dangerous substances and preparations (unless the activity is authorised under other legislation in annex III of the ELD); the transport of dangerous or polluting goods by road, rail, inland waterways, sea or air; and transboundary shipments of waste.³⁸⁰

Further, the transposing legislation in the United Kingdom transposed the permit defence (and the state-of-the-art defence) as defences to liability, not defences to costs.

³⁸⁰ Defra, Welsh Assembly Government, Environmental Liability Directive; Consultation on the draft regulations and guidance implementing Directive 2004/35 on environmental liability with regard to the prevention and remedying of environmental damage, para 120 (February 2008).

Application of the permit defence in the IPPC / Industrial Emissions Directive

The application of the permit defence to the IPPC / Industrial Emissions Directive results in an uneven application across the EU. As Pål Wennerås commented, the IPPC (and now the Industrial Emissions Directive) directs competent authorities to take account of the geographic location of an installation, local environmental conditions, and technical characteristics of an installation in establishing emission limit values based on Best Available Technology in a permit for that installation. The IPPC / Industrial Emissions Directive, thus, do “not seek to harmonise the substantive conditions for operating large installations in the [EU], but rather provides for uniform procedural rules, leaving national authorities considerable discretion to determine the substance of permits”. The effect of the application of the permit defence to this “fundamental move away from uniform standards” is a variance in the stringency of the ELD throughout the EU.³⁸¹

Application of the permit defence to pesticides

It is unclear whether the permit defence applies to the application of pesticides. Its application under the Superfund legislation in the United States (see section 5.2.1) does not extend it to this.³⁸²

The UK Government considered that the defence does not apply to such applications because a pesticide authorisation does not expressly authorise individual applications but considered instead that the state-of-the-art defence may be applicable.³⁸³ Some other Member States are silent on the issue.

5.1.5 Status of the state-of-the-art defence in Member States

Fifteen Member States adopted the state-of-the-art defence with no exceptions. They are: Belgium (Regions), Croatia, Cyprus, the Czech Republic, France, Greece, Italy, Luxembourg, Malta, the Netherlands, Portugal, Romania, Slovakia, Spain, and the United Kingdom.

Table 4 summarises the status of the state-of-the-art defence in EU Member States.

Table 4: Status of the state-of-the-art defence in EU Member States

Member State	State-of-the-art defence
Austria	No
Belgium	Yes: Regions No: Federal Government
Bulgaria	No
Croatia	Yes

³⁸¹ Pål Wennerås, Permit Defences in Environmental Liability Regimes – Subsidizing Environmental Damage in the EC?, 4 Yearbook of European Environmental Law, p. 149, 177 (Oxford University Press, 2004).

³⁸² See COM(2002) 17 final, p. 12 (23 January 2002) (commenting that application of pesticides is not within the CERCLA defence).

³⁸³ Defra and Welsh Assembly Government. The Environmental Damage (Prevention and Remediation) Regulations 2009; Guidance for England and Wales 2nd Update, para. 8.2(d) (November 2009).

Member State	State-of-the-art defence
Cyprus	Yes
Czech Republic	Yes
Denmark	No
Estonia	Yes except for GMOs
Finland	No
France	Yes
Germany	No
Greece	Yes
Hungary	No
Ireland	No
Italy	Yes
Latvia	Yes except for GMOs
Lithuania	No
Luxembourg	Yes
Malta	Yes
Netherlands	Yes
Poland	No
Portugal	Yes
Romania	Yes
Slovakia	Yes

Member State	State-of-the-art defence
Slovenia	No
Spain	Yes
Sweden	No
United Kingdom	Yes

Estonia and Latvia adopted the state-of-the-art defence with an exception for GMOs.

The state-of-the-art defence in France specifically applies to products. The French transposing legislation provides that the defence applies in the absence of fault or negligence, if a product, used in the framework of an activity was not considered likely to cause environmental damage on the basis of the scientific and technical state-of-the-art when the damage occurred.

The Netherlands and Sweden have adopted the same approach as they adopted in respect of the permit defence.

The Netherlands

A competent authority in the Netherlands takes information concerning the state-of-the-art into account in determining whether an operator is obliged to pay all the costs of remediating environmental damage. As with the legislation adopting the variation of the permit defence, the legislation in respect of the state-of-the-art defence includes the phrase “in so far as [the costs] cannot, in whole or in part, be reasonably attributed to the operator”. Again, this term is not in the ELD.

The mitigation threshold applies, as with the permit defence, when it is unreasonable for the competent authority to recover its costs. Reasonableness must relate to the state-of-the-art defence itself, that is, if the operator demonstrates that it “was not at fault or negligent [and] the damage was caused by an activity, emission or event that, at the time it occurred ... was not considered damaging on the basis of existing scientific and technical knowledge”. The Dutch Guidelines to the transposing legislation state that the objective level of science and technology at the time of the activity, emission or event is the relevant issue.³⁸⁴

The discussion in section 5.1.3 above, under the permit defence, concerning reasonableness factors also applies to the state-of-the-art defence. The reference to the “objective” level of science and technology is not explicit in the ELD but, rather, is implicit (see section 5.1.6 below).

Sweden

A competent authority in Sweden considers the state-of-the-art as a mitigating factor in determining liability. That is, a competent authority shall take account of “whether the damage was caused by emissions or other measures which ... were not considered harmful by scientific and technical expertise available at the time” in deciding the extent of liability of an operator. The mitigating

³⁸⁴ Dutch Guidelines, p. 58, chapter 4, section 4.4.

factors apply only to environmental damage under the ELD regime; they do not apply to pollution damage under existing environmental legislation, to which a reasonability test applies.

5.1.6 Permit and state-of-the-art defences in existing national legislation

A review of the environmental law in the Member States into which the ELD was transposed shows that it is extremely rare for existing environmental law to include either the permit defence or the state-of-the-art defence as a defence to the remediation of environmental damage.

Examples of Member States that have not included them in existing environmental legislation are Belgium, France, Germany, Ireland, Italy, Slovakia, and the United Kingdom.

Indeed, the United Kingdom specifically rejected both defences when it enacted Part 2A of the Environmental Protection Act 1990, the regime to remediate contaminated land. The Government's spokesman in the House of Lords stated that the state-of-the-art defence would be unworkable and would create the possibility of significant legislation, commenting that a "perverse effect [of the defence] could be to provide an incentive to hold back developments in the state of science, as greater understanding could result in greater future liabilities".³⁸⁵ He also stated that the permit defence would encourage regulatory authorities to impose more stringent conditions.³⁸⁶

Further, in 2012, the Court of Appeal in England and Wales rejected an argument that compliance with an environmental permit to operate a landfill was a defence to a private nuisance action.³⁸⁷

Still further, in 2013, the Government adopted a quasi-permit defence in respect of the offence of causing water pollution in England and Wales;³⁸⁸ no such defence applies to liability for the remediation of water pollution.

Compliance with a permit is a defence to civil liability in some Member States. But this is with respect to tort, not public / administrative, liability (that is, it applies to claims for bodily injury, property damage, and economic loss).

The Lithuanian Law on Environmental Protection provides that a person whose "health, property, or interests have been damaged" may bring a claim for such damage if the damage was caused by unlawful activities. Compliance with a permit would thus be a defence because any such damage would not be caused by unlawful activities.

Another variation is article 133 of the Slovenian Code of Obligations, which does not allow a claim for compensation for bodily injury or property damage from an activity for which an environmental permit has been issued; compensation is authorised only for harm that exceeds the limit values of that permit.

Under the Estonian Law of Obligations, the owner of a dangerous structure or thing is strictly liable for bodily injury and property damage caused by the structure or thing or from hazardous substances. Section 1058 of the Law establishes a rebuttable presumption that the operator is liable, which the operator may rebut by, among other things, proving that the damage resulted from

³⁸⁵ *Hansard*, House of Lords, vol. 560, col. 1457 (31 January 1995) (statement of Viscount Ullswater); *Hansard*, House of Lords, vol. 562, col. 211 (7 March 1995).

³⁸⁶ *Hansard*, House of Lords, vol. 560, col. 1457 (31 January 1995) (statement of Viscount Ullswater).

³⁸⁷ *Batt v Biffa Waste Services* [2012] EWCA Civ 312 (Court of Appeal).

³⁸⁸ Environmental Permitting (England and Wales) Regulations 2010/675, reg 40(4).

normal operations and the operator carried out the activity in compliance with all requirements pertaining to it.

The German Environmental Liability Act 1991, which imposes liability for claims for bodily injury and property damage, contains a quasi-permit defence. The Act imposes strict, joint and several liability on operators of specified commercial and industrial installations that are permitted under the Federal Emission Control Act. That Act includes a rebuttable presumption that provides that the operator of a specified installation is liable unless the operator proves that only normal operations at the installation were carried out at the time of the damage.

In contrast to the above Member States, compliance with a permit is not a defence to civil liability under the law of Luxembourg.

5.1.7 Application of the polluter pays principle to the defences

A review of the defences according to the polluter pays principle advocates against their inclusion in the ELD.

Limiting internalisation of the costs of remediating environmental damage to environmental damage caused by unlawful discharges is counter to the polluter pays principle.³⁸⁹ In addition, the permit defence does not further the preventive principle because, by barring application of the polluter pays principle to pollution caused by discharges that are in accordance with a permit, it fails to encourage polluters to reduce the harm caused by the pollutants or the quantity of pollutants that are discharged below the limits set by the permit.³⁹⁰ Further, if the permit does not include an emission limit for a pollutant that is subsequently discovered to have caused environmental damage, the permit will not have been breached (see section 2.2.2.2 describing the leakage of uranium and cadmium from a storage pond; these substances were not specified in the permit for the Talvivaara mine in Finland).

In effect, inclusion of the defences weakens the strict liability regime applicable to Annex III activities by changing it to a negligence system. The negligence system is, moreover, weaker than a traditional negligence system because it allows a government's decision in respect of the terms and conditions of a permit to outweigh a court's own judgment. As Professor Stavang states, "strict liability with the regulatory compliance or permit defence has even less teeth than traditional negligence".³⁹¹

Further, if the polluter does not pay because it prevails in the defence (in the minority of Member States that consider that the defence is a defence to liability, not costs) and the competent authority does not remediate the environmental damage, the public has to pay in that they have to accept that their environment has been damaged and that they do not have a remedy to remediate it.³⁹²

As indicated above, the UK Government specifically rejected introducing the permit defence into the regime to remediate contaminated land. The Government spokesman in the UK House of Lords commented that:

³⁸⁹ See Valerie Fogleman, *The Polluter Pays Principle for Accidental Environmental Damage; Its Implementation in the Environmental Liability Directive*, in *Principi Europei e Illecito Ambientale* (Alessandro D'Adda, Ida Angela Nicotra & Ugo Salanitro, editors, G. Giappichelli Editore – Torino, 2013), pp. 114-159.

³⁹⁰ See Nicolas de Sadeleer, *Environmental Principles: From Political Slogans to Legal Rules* (Oxford University Press, 2008), p. 40.

³⁹¹ Endre Stavang, *Two challenges for the ECJ when examining the Environmental Liability Directive*, [2010] 5 *Environmental Liability*, p. 198, 199.

³⁹² *Wicklow County Council v Fenton (No. 2)* [2002] IEHC 102 (Ireland), para 115.

“Introducing exemptions from liability of this kind would run clearly against the widely accepted ‘polluter pays’ principle. As regulatory action under these provisions can be required only to deal with cases of risk to health or the wider environment, the exemption could only have the effect of transferring the necessary costs of remediation to someone else, whether another person or the public at large”.³⁹³

5.2 Application of the law and economics approach

A review of the defences according to the law and economics approach also advocates their removal from the ELD.

Michael Faure and André Nollkaemper have commented that the permit defence removes the beneficial effects of a liability rule including the incentive to take precautions that exceed permit limits.³⁹⁴

Kristel De Smedt reached the same conclusion following a detailed analysis of the defences in the ELD.³⁹⁵ She commented that “a permit defence implicitly assumes that regulation represents optimal standards and that regulators are capable of determining such standards” when, in reality, collecting information to determine the standards is difficult. She noted that regulators are often dependent on industry to provide such information, which industry has no incentive to produce. She further stated that “many or most environmental standards are only minimum requirements”, thus “compliance with regulatory standards may be an insufficient ground to exempt an operator from liability”.³⁹⁶

Professor De Smedt cited Professor Faure, stating that a result of the permit defence is that “the potential injurer would have no incentive to invest more in care than required by these standards, even if additional care could significantly reduce the expected accident costs. Thus a complete permit defence thwarts any initiative to take precautions in excess of the regulatory standard”.³⁹⁷ After weighing further arguments against and in favour of the permit defence, she concluded that “the case that the regulator will be able to define the optimal standard, which would justify a permit defence, seems more to be an exceptional case than the general rule. Therefore, in general, the economic theory on tort law indicates that compliance with regulatory standards should not exempt an operator from liability”.³⁹⁵ As further noted by Mr Wenneras, “‘optimal standards’ are rapidly

³⁹³ *Hansard*, House of Lords, vol. 560, col. 1457 (31 January 1995) (statement of Viscount Ullswater).

³⁹⁴ Michael G. Faure & André Nollkaemper, *International liability as an instrument to prevent and compensate for climate change*, *Stanford Journal of International Law* (2007), vol. 43, pp. 123, 156. The state-of-the-art defence is also counter to the economics approach in that it could deter the operator from obtaining information on optimal precautionary measures. Michael Faure, *The White Paper on Environmental Liability: Efficiency and insurability analysis*, *Environmental Liability* (2001), vol. 4, pp. 188, 193.

³⁹⁵ Kristel De Smedt, *Environmental Liability in a Federal System; A Law and Economics Approach* (Intersentia, 2007), p. 228.

³⁹⁶ Kristel De Smedt, *Environmental Liability in a Federal System; A Law and Economics Approach* (Intersentia, 2007), p. 226 (citing Pal Wenneras, *Permit Defences in Environmental Liability Regimes – Subsidizing Environmental Damage in the EC?*, in T. Ety and H. Somsen (eds), *The Yearbook of European Law*, vol. 4 (2005), p. 154).

³⁹⁷ Kristel De Smedt, *Environmental Liability in a Federal System; A Law and Economics Approach* (Intersentia, 2007), pp. 226-27 (citing Michael Faure, *How Law and Economics may Contribute to the Harmonization of Tort Law in Europe*, in R. Zimmermann (ed.), *Grundstrukturen des Europäischen Deliktsrechts* (Baden-Baden, Nomos Verlagsgesellschaft, 2003), p. 31, 55-56).

outdated, and would need constant amendment, something which is simply not realistic or even desirable”.³⁹⁸

Professor De Smedt’s final conclusion concerning the permit defence, after tracing its history in the ELD, is that:

“the permit defence provision in the ELD is out of step with the economic theory on tort law and the normal practice within the Member States. The permit defence might even undermine the ability of the Directive to ensure prevention and restoration of environmental damage. Furthermore, as Member States have the discretion to acknowledge the permit defence or not, the burden for the industry might vary significantly within Member States. It therefore would have been preferable if the ELD had not foreseen the option of a permit defence in order to achieve its objectives of prevention and remedying of environmental damage”.³⁹⁹

Further, Professor Faure has commented that the state-of-the-art defence is counter to the economics approach in that it could deter an operator from obtaining information on optimal precautionary measures.⁴⁰⁰ Professor De Smedt also referred to industry having “a considerable impact over the content of the regulation” as well as the discovery of new scientific evidence and technical innovations.⁴⁰¹

A further law and economics reason against inclusion of the defences is derived from Coase’s landmark article, “The Problem of Social Cost”. Professor Stavang commented in this respect that “it is unrealistic ... to rely solely on the good will of the Member States’ governments to perfect the system of environmental liability” when the State may itself be “the one causing or enabling the causation of environmental harm”.⁴⁰² Professor Stavang further commented that the permit and state-of-the-art defences could potentially be considered as state aid, depending on their transposition into national law.⁴⁰³

5.2.1 Permit defence in Superfund in the United States

Some of the impetus for inclusion of the permit defence in the ELD was the inclusion of somewhat similar language in the US Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund).⁴⁰⁴ In reviewing the so-called permit defence in Superfund when it issued the Proposed Directive, the Commission commented that Superfund did “not cover the

³⁹⁸ Pål Wennerås, *Permit Defences in Environmental Liability Regimes – Subsidizing Environmental Damage in the EC?*, 4 *Yearbook of European Environmental Law*, p. 149, 161 (Oxford University Press, 2004).

³⁹⁹ Kristel De Smedt, *Environmental Liability in a Federal System; A Law and Economics Approach* (Intersentia, 2007), pp. 230-31.

⁴⁰⁰ Michael Faure, *The White Paper on Environmental Liability: Efficiency and insurability analysis*, *Environmental Liability* (2001), vol. 4, pp. 188, 193.

⁴⁰¹ Kristel De Smedt, *Environmental Liability in a Federal System; A Law and Economics Approach* (Intersentia, 2007), p. 226 (citing Pål Wennerås, *Permit Defences in Environmental Liability Regimes – Subsidizing Environmental Damage in the EC?*, in T. Eddy and H. Somsen (eds), *The Yearbook of European Law*, vol. 4 (2005), p. 154).

⁴⁰² Endre Stavang, *Two challenges for the ECJ when examining the Environmental Liability Directive*, [2010] 5 *Environmental Liability*, p. 198, 201 (referring to Ronald H. Coase, *The Problem of Social Cost*, *Journal of Law and Economics*, vol. 3, pp. 1-44 (1960)).

⁴⁰³ Endre Stavang, *Two challenges for the ECJ when examining the Environmental Liability Directive*, [2010] 5 *Environmental Liability*, p. 198, 200.

⁴⁰⁴ See European Commission Proposal for a Directive of the European Parliament and of the Council on environmental liability with regard to the prevention and remedying of environmental damage, Explanatory Memorandum (COM(2002) 17 final, 23 January 2002), section 4.

clean-up of contamination caused by permitted releases of hazardous substances. It provides a defence against potential liabilities for damage, caused by facilities or projects operating within the terms of their permits or licences, to natural resources identified and authorised in environmental impact statements. And it does not apply to damage caused by the application of registered pesticide products”.⁴⁰⁵

CERCLA provides that a person is not liable under that Act (but not under any other law) when damage is caused by an emission authorised by a permit issued under specified federal laws.⁴⁰⁶ Similar to the permit defence in the ELD, the CERCLA defence is narrow; it does not apply to emissions that exceed restrictions in a permit, occurred prior to a permit being effective, or are not expressly allowed by the permit.⁴⁰⁷

A leading US law firm, Baker Botts LLP, has commented that the “federally-permitted releases’ exemptions have been misinterpreted in many cases”. The law firm commented:

“[The] CERCLA exemption was not included as a means to avoid imposing any liability on responsible parties, but rather to ensure that permitting issues were instead properly addressed under the respective federal regulatory programs in which they were administered in the first place. Indeed, in enacting this particular exclusion, Congress specifically recognized that ‘in view of the large sums of money spent to comply with specific regulatory programs,’ any liability for releases of hazardous substances in accordance with duly issued permits ‘should be determined based on the facts of each individual case’. Accordingly, Congress provided that liability for these types of releases should not arise under CERCLA, but should more properly be determined under the law pursuant to which the release was authorized or under common law so as to ‘give regulated entities clarity in their legal duties and responsibilities.’”⁴⁰⁸

As discussed in section 5.4 below, this situation is different from that concerning the permit defence in the ELD.

5.2.2 Extent of the permit defence

The permit and state-of-the-art defences may be more illusory than real. That is, their potential application appears to be severely limited as evidenced by Member States reporting only one ELD incident concerning the permit defence in their Article 18(1) reports, and no incidents concerning the state-of-the-art defence.

As indicated above, the permit defence applies only if an operator proves that it was not at fault or negligent and that “an emission or event [is] expressly authorised by, and fully in accordance with the conditions of, an authorisation conferred by or given under applicable national laws and regulations which implement those legislative measures adopted by the Community specified in Annex III, as applied at the date of the emission or event” (ELD, art 8(4)(a)).

Any sudden emission, incident or event that causes environmental damage that exceeds the thresholds in the ELD for water, biodiversity, or land damage is necessarily in breach of a permit.

⁴⁰⁵ COM(2002) 17 final , p. 12 (23 January 2002).

⁴⁰⁶ 42 U.S.C. ss. 9601(10), 9607(j).

⁴⁰⁷ Idaho v Bunker Hill Company, 635 F. Supp. 665 (D. Idaho, 1986).

⁴⁰⁸ Baker Botts LLP, Superfund, p. 3 (April 2009) (quoting S. Rep. No. 96-848 at 46 (1980), and 126 Cong. Rec. S 14965 (24 November 1980) (statement of Sen. Randolph), respectively)).

The application of the permit defence in the USA indicates its narrow confines.

In 2012, in one of the rare cases in which the defence under CERCLA has been considered, the operator of a storm drainage system argued that it was not liable for remediating contaminated sediment in water courses from hazardous substances in highway runoff because it had operated the system in compliance with a permit since 1995. Whilst the court agreed that the defence applied to discharges after the permit had been issued, it concluded that it was impossible to divide damage caused prior to the permit from damage caused after it. The operator was, therefore, jointly and severally liable for remediating the contamination.⁴⁰⁹

In essence, therefore, the permit defence is likely to apply only to pollution that has occurred over a long period of time if, as is rarely the case, an operator has not exceeded a single emission limit value in its permit during that period. If there is a sudden discharge of a permitted substance that causes environmental damage, at least one emission limit value in a permit will inevitably have been exceeded.

Practical effect of the permit defence

The UK Department for Environment, Food and Rural Affairs commented on the “wider effects” of the adoption of the permit defence in the United Kingdom. The Department stated that:

- i) Permitting authorities may respond to the permit defence by tightening permit conditions. If this happens it could increase costs of permit compliance by many £millions. In most cases compliance conditions are already set at high levels.
- ii) Operators may invest more time in the development of permit conditions to ensure that all their activities are ‘expressly authorised’ so they fall within the terms of the permit defence. This is likely to be limited to a few of the very large operators if it occurs.
- iii) A permit defence may make insurers more willing to offer products.
- iv) The inclusion of a permit defence may increase the risk of litigation but alternatively it may give operators a measure of certainty.
- v) In Wales the lack of permit and state of knowledge defences in respect of GMOs means that businesses may choose to take more anticipatory actions”.⁴¹⁰

The comments are, to a lesser or greater degree, relevant to other Member States, with the caveat that the adoption (or not) by Member States of the permit and state-of-the-art defences, does not appear to have had any effect on the availability of insurance products for liabilities under the ELD.

Another “wider effect” is the deterrent effect of inclusion of the permit defence to individuals and environmental NGOs in seeking to show that an operator has breached permit conditions due to the substantial costs and difficulties involved in doing so.⁴¹¹ This deterrence argument is also valid for competent authorities.

⁴⁰⁹ United States v Washington State Department of Transportation (W.D. Wash. 2012). The cost of remediating the contamination, which included heavy metals and hydrocarbons, was \$9.3 million (approximately EUR 6,750,900).

⁴¹⁰ Department for Environment, Food and Rural Affairs and Welsh Assembly Government, Impact Assessment of the Environmental Damage Regulations (England) and the Environmental Damage Regulations (Wales) 2008, p. 23 (16 December 2008).

⁴¹¹ Pål Wennerås, Permit Defences in Environmental Liability Regimes – Subsidizing Environmental Damage in the EC?, 4 Yearbook of European Environmental Law, pp. 149, 162-63 (Oxford University Press, 2004).

Effect on SMEs

As indicated in this section directly above (point (ii)), the permit defence favours large companies compared to SMEs. The effect on SMEs is not limited to non-standardised permits negotiated by large companies with competent authorities; it also relates to large companies being more likely to have a permit for their activities under the IPPC / Industrial Emissions Directive than SMEs (see, e.g. section 2.1.1).

Thus, the permit defence results in a shifting of liability to SMEs, with “the paradoxical situation that SMEs are subject to a much stricter liability regime than large installations”.⁴¹²

Still further, the effect of the permit defence in Member States that have adopted pure or modified joint and several liability may result in a non-Annex III operator being liable for costs of remediating damage caused by an Annex III operator. That is, if an Annex III operator and a non-Annex III operator cause environmental damage to protected species or natural habitats and the non-Annex III operator is negligent, both operators would be jointly and severally liable. If the Annex III operator has a permit defence, therefore, the non-Annex III operator would be solely liable for remediating the environmental damage.

5.2.3 Extent of the state-of-the-art defence

The state-of-the-art defence is based, to a large extent, on Article 7(e) of the Product Liability Directive (865/374/EEC), as amended. Article 7(e) provides that:

“The producer shall not be liable as a result of this Directive if he proves ... that the state of scientific and technical knowledge at the time when he put the product into circulation was not such as to enable the existence of the defect to be discovered”.

The extent of the state-of-the-art defence in the ELD will be narrow if, as seems likely, the same approach to the development risks defence in the Products Liability Directive is taken.⁴¹³

In *Commission v United Kingdom*, the CJEU provided guidance on the extent of the exception. The CJEU stated that “the producer of a defective product must prove that the objective state of scientific and technical knowledge, including the most advanced level of such knowledge, at the time when the product in question was put into circulation was not such as to enable the existence of the defect to be discovered”. That is, an objective standard applies, not the subjective view of the producer. Second, the information must be available. Third, “Article 7(e) is not specifically directed at the practices and safety standards in use in the industrial sector in which the producer is operating, but, unreservedly, at the state of scientific and technical knowledge, including the most advanced level of such knowledge, at the time when the product in question was put into circulation”.⁴¹⁴

The CJEU referred to the Advocate General’s opinion as follows: “the ‘state of knowledge’ must be construed so as to include all data in the information circuit of the scientific community as a whole,

⁴¹² See Pål Wennerås, *Permit Defences in Environmental Liability Regimes – Subsidizing Environmental Damage in the EC?*, 4 *Yearbook of European Environmental Law*, p. 149, 178 (Oxford University Press, 2004).

⁴¹³ See Charles Pirotte, *The Environmental Liability Directive: A Harmonised Liability Regime?*, (2007) *Environmental Law & Management*, vol. 19, p. 237, 243; Kristel De Smedt, *Environmental Liability in a Federal System: A Law and Economics Approach* (Intersentia, 2007), p. 232 (citing *A v National Blood Authority* [2001] 3 All ER 289 (QBD)).

⁴¹⁴ CJEU, Case No. C-300/95, paras 27-29 (1997).

bearing in mind, however, on the basis of a reasonableness test, the actual opportunities for the information to circulate".⁴¹⁵ The Advocate General had further stated that "Where in the whole gamut of scientific opinion at a particular time there is also one isolated opinion (which, as the history of science shows, might become, with the passage of time, opinio communis) as to the potentially defective and/or hazardous nature of the product, the manufacturer is no longer faced with an unforeseeable risk, since, as such, it is outside the scope of the rules imposed by the directive" provided that the information is accessible and not, say, "carried out by an academic in Manchuria published in the local scientific journal in Chinese which does not go outside the boundaries of the region".⁴¹⁶

Thus, unless the so-called Manchurian exception applies, the existence of scientific knowledge that meets the above criteria anywhere in the world is relevant to the scope of the state-of-the-art defence.

Also, as with the permit defence, adoption of the state-of-the-art defence may cause potential problems in Member States that have adopted pure or modified joint and several liability. If an Annex III operator and a non-Annex III operator cause environmental damage to protected species or natural habitats and the non-Annex III operator is negligent, both operators would be jointly and severally liable. If the Annex III operator has a state-of-the-art defence, therefore, the non-Annex III operator (who is more likely to be an SME than an Annex III operator) would be solely liable for remediating the environmental damage.

5.3 Experience gained in application of the permit and state-of-the-art defences

The empirical analysis carried out in the framework of the study has highlighted a lack of data regarding the application of the permit and state-of-the-art defences in those EU Member States that have adopted such defences in their transposing legislation. This lack of data was put forward by the participants to the 2nd ELD Stakeholder Conference of June 2013, and reinforced by the analysis of the Member States' reports submitted to the Commission pursuant to Article 18(1) of the ELD, which seldom provide information regarding the use of these defences. Thus, Estonia indicated in its report that there were cases to which "the derogations provided for in the ELD" applied, but did not provide any information as to which "derogations" it was referring to.⁴¹⁷ In the UK, the application of the permit defence has been activated in one case ("no remediation notice was served because the operator had a permit defence"), but the state-of-the-art defence has not been invoked.⁴¹⁸

The feedback from experts and stakeholders in relation to these defences emphasised points relating to the following items:

- Defences in relation to the significance thresholds;
- Defences to costs rather than defences to liability;
- Harmonisation; and
- Legal certainty.

⁴¹⁵ CJEU, Case No. C-300/95, para 24 (1997).

⁴¹⁶ *A v National Blood Authority* 2001 WL 239806, para 49 (High Court, 2001) (England) (quoting opinion of Advocate General Tesouro).

⁴¹⁷ Report submitted by Estonia under ELD Article 18(1).

⁴¹⁸ Report submitted by the UK under ELD Article 18(2).

5.3.1 Defences in relation to the significance thresholds

One expert expressed the opinion that the permit defence is not clear, especially in the light of the significance thresholds required for all types of environmental damage, e.g. a competent authority would generally not grant a water permit if it assesses that the activity would have adverse effects on the environment (water). When there is a significant impact, it therefore usually indicates that the operator did not comply with its permit. As to the state-of-the-art defence, given the polluter-pays principle is based notably on the fact that the operator is making a profit as a result of carrying out dangerous activities, he should not be relieved of his liability (through not having to pay the costs) by using the state-of-the-art defence.⁴¹⁹ Consequently, it may be considered that these defences prevent the effective implementation of the ELD given the current thresholds that apply. They would be relevant if the thresholds were lower.⁴²⁰

According to the Ad-Hoc Industry Natural Resource Management Group, the use of the defences does not necessarily have an effect on the remediation of environmental damage; in addition, those defences are not intended to avoid liability.⁴²¹ The view was also expressed that the actual wording in the ELD for defences was very limited (and the burden of proof is on the operator), therefore not really impacting effectiveness of the ELD.⁴²² Nonetheless, if costs are not borne by the liable operator, it may be that the competent authorities will not have the financial means to ensure remediation of environmental damage; such remediation will fall back on the public purse.⁴²³

Finally, it was observed that these defences are not necessary under public law and should therefore not be included in the ELD, even as optional defences. Guiding principles should be “strict rules but reasonable application”; compliance with a permit should be a mitigating factor rather than a full defence. However, this may be a politically difficult issue as it means relying on national competent authorities to behave in a sensible way, which may lead to diverging applications.⁴²⁴

5.3.2 Defences to costs rather than defences to liability

As indicated in the previous section, among those EU Members States that have adopted the permit and/or state-of-the-art defences, some consider that they are defences to liability rather than defences to costs (e.g., Denmark, the UK). In light of these variations in the transposition of the ELD by Member States, the Commission further clarified that these defences were to be understood as defences to costs (and not as defences to liability which would constitute exemptions from the application of the ELD), and such was the intention when the ELD was adopted. This was also emphasised during the 2013 2nd ELD stakeholders meeting.⁴²⁵

⁴¹⁹ Interview with Expert in the framework of this study.

⁴²⁰ Interview with Prof. Luc Lavrysen, Environmental law professor at Ghent University, in the framework of this study.

⁴²¹ Written feedback provided by Barbara Goldsmith, from the Ad-Hoc Industry Natural Resource Management Group, in the framework of this study.

⁴²² Interview with Hannes Descamps, researcher and lecturer at the Institute for environmental and energy law at Leuven University, in the framework of this study.

⁴²³ Interview with Stakeholder in the framework of this study.

⁴²⁴ Interview with Expert in the framework of this study.

⁴²⁵ 2nd ELD Stakeholder Conference, 11 June 2013, Summary Report : “It was clarified that from a legal point of view these defences relate only to the costs of remediation but not to the application of the ELD as such – the scope of the ELD stays untouched”.

http://ec.europa.eu/environment/legal/liability/eld_conf_11_06_2013.htm

Other stakeholders share this opinion that these defences should remain defences to costs and should therefore not be treated as exemptions, in which case the environmental damage would not be treated at all.⁴²⁶

If these defences are maintained, it was pointed out that the ELD should be clearer as to how the cost recovery system should work. Indeed, although the operator has an obligation to take preventive and remedial measures (as the case may be), it is however not clear who should pay the costs: Should the operator advance the costs and then recover them from a third party? Should the operator receive funds from a third-party before it is obliged to take the measures (e.g., if he has no money to carry them out)? etc.⁴²⁷ The use of permit and state-of-the-art defences, which are defences to costs, entails that the public may ultimately pay those costs, which is contradictory with the spirit of the ELD (i.e. the polluter pays principle).⁴²⁸

5.3.3 Harmonisation

At the 2nd ELD Stakeholder Conference in June 2013, the argument was raised that harmonisation of defences among EU Member States (and hence at EU level) might be needed in order to avoid competitiveness issues. Such issues may indeed occur if an operator in a Member State may use such defences while a competitor in another Member State may not do so. Some thus consider that, as a matter of fairness, defences should be harmonised throughout the EU.⁴²⁸ For instance, according to FERMA, these defences should not be optional but mandatorily included in the transposing legislation of all EU Member States, pointing out that there are easy-to-use tools, which is important for companies that lack human and financial resources to deal with environmental damage.⁴²⁹ This view is shared by NICOLE, which would welcome a level playing field through the mandatory inclusion of these defences, pointing out that it is then up to Member States to provide good and well enforced legislation regarding operational permit, to prevent environmental damage from occurring.⁴³⁰ An expert added that defences should be mandatory for all Member States and shares NICOLE's view that harmonisation would assist a more level playing field.⁴³¹ In addition, the Ad-Hoc Industry Natural Resource Management Group indicated that harmonisation at EU level would permit keeping the ELD reasonable, balanced and predictable and would promote its preventive objective.⁴³² Cefic considers that both the "permit defence" and "state-of-the-art defence" are needed to maintain a certain level of fairness and proportionality for operators subject to strict liability. If further harmonisation is considered at EU level, it should not be such as to force those Member States who adopted these defences to withdraw them.⁴³³

However, some consider that the permit and state-of-the-art defences undermine strict liability as they turn the ELD's liability regime into one that is *de facto* fault-based; these defences are in any case not appropriate to this kind of regime as they are tools used in civil (and not administrative)

⁴²⁶ E.g. Interview with Magdalena Bar, from environmental law firm Jendroška Jerzmański Bar & Partners. Environmental Lawyers, in the framework of this study.

⁴²⁷ Notably by Magdalena Bar, from environmental law firm Jendroška Jerzmański Bar & Partners. Environmental Lawyers, in the framework of this study.

⁴²⁸ Interview with Stakeholder in the framework of this study.

⁴²⁹ Interview with Julien Bedhouche, from FERMA, in the framework of this study.

⁴³⁰ Interview with Anja Sinke and Johan de Fraye from NICOLE, in the framework of this study.

⁴³¹ Interview with Hannes Descamps, researcher and lecturer at the Institute for environmental and energy law at Leuven University, in the framework of this study.

⁴³² Written feedback provided by Barbara Goldsmith, from the Ad-Hoc Industry Natural Resource Management Group, in the framework of this study

⁴³³ Cefic Preliminary Views on: Key review points of the Environmental Liability Directive, 27 August 2013

liability approaches.⁴³⁴ Furthermore, it was pointed out that the ELD is often criticised for leaving too much space to Member States, and such harmonisation would render the ELD more effective as it would ensure the same level of protection.⁴³⁵ In this regard, it is interesting to note that at the breakout session on ELD Effectiveness at the stakeholders conference in Brussels on 11 June 2013, two insurance brokers said that operators were using the existence of the permit defence to mean that any operations that they carried out under the permit were not subject to liability under the ELD. The operators considered, therefore, that there was no need to purchase environmental insurance for their operations. That is, the brokers said that the operators told them that if a competent authority was to challenge them about any environmental damage caused by their activities, they would use the permit defence to make it difficult for the competent authority to show that the environmental damage was not within the permit defence.

Insurance Europe considers that these defences come down to individual practices of Member States and the common use of these defences in those Member States. Insurance Europe believes these optional defences should be maintained in the ELD, but are better dealt with at national level because they are often a reflection of their legal systems. Insurance Europe is thus not in favour of harmonising these defences at EU level, believing it should be left to the discretion of Member States whether to implement those defences or not.⁴³⁶

5.3.4 Legal certainty

Many stakeholders highlighted that the permit and state-of-the-art defences were important and, consequently, should be maintained as they ensure a certain degree of legal certainty for operators. During the 2nd ELD Stakeholder Conference, it was further highlighted that the possibility to use these defences was particularly important for SMEs, especially in a time of economic crisis. This view is also shared by FERMA.⁴³⁷ However, this opinion must be put in perspective with the fact that SMEs are often not subject to comprehensive permits (e.g. under the IED) (see section 5.2.2 above).

This view was further expressed during the stakeholders' consultation in the framework of this study, where Euromines considered that the potential effects of industrial activities which are compliant with the relevant EU / national regulations and permit conditions should not be considered as environmental damage under the ELD; the contrary view would compromise the legitimate expectation of operators according to which operations compliant with the law are lawful. In practice, this would mean that the ELD should not be used to sanction activities that are allowed under the relevant EU Directives.⁴³⁸

In addition, stakeholders in favour of these defences pointed out that operators are keener on complying with permits and constantly updating their installations, in order to be able to use these defences should the need arise.⁴³⁹ Others considered that including these defences as exemptions to the ELD (i.e. defences to liability) would be pertinent, especially if the activities to which they

⁴³⁴ Interview with Sandy Luk, from ClientEarth, in the framework of this study.

⁴³⁵ Interview with Magdalena Bar, from environmental law firm Jendroška Jerzmański Bar & Partners. Environmental Lawyers, in the framework of this study.

⁴³⁶ Interview with Carmen Bell, from Insurance Europe, in the framework of this study.

⁴³⁷ Interview with Julien Bedhouche, from FERMA, in the framework of this study.

⁴³⁸ Interview with Emmanuel Katrakis, from Euromines, in the framework of this study.

⁴³⁹ 2nd ELD Stakeholder Conference Brussels, "Evaluating the experience gained in the ELD implementation", 11 June 2013, http://ec.europa.eu/environment/legal/liability/eld_conf_11_06_2013.htm

would apply are covered by sectoral legislation that already provides for clean-up and remediation (e.g., the IED).⁴⁴⁰

It is interesting to note that Estonia opted to include the permit and state-of-the-art defences in its national transposing legislation “on the basis of the principle of legal certainty” and as defences to costs of remedial measures. However, the liable party is not released from bearing the costs of preventive measures, the obligation to provide information, or the obligation to cooperate.⁴⁴¹

5.4 Conclusions and recommendations

As indicated in this chapter, opinions are mixed on the deletion of the permit and state-of-the-art defences from the ELD.

The legal analysis showed that the defences:

- Are contrary to the polluter pays principle;
- Do not further the preventive principle;
- Are contrary to the law and economics approach;
- Are not appropriate to a public (administrative) liability approach; and
- May, in many cases, be illusory.

Further, the legal analysis showed that the permit defence:

- Subjects SMEs to a much stricter liability regime than large installations;
- Wrongly assumes that permit requirements are optimal limits when they are not;
- Changes the strict liability system to a fault-based system that is weaker than a tort-based negligence system;
- Removes the beneficial effects of a liability rule including the incentive to take precautions that exceed permit limits; and
- Is out of step with the economic theory on tort law and the normal practice within the Member States and may even undermine the ability of the ELD to ensure prevention and restoration of environmental damage.

The empirical analysis reiterated some of the above points and also indicated that:

- The defences ensure a certain degree of legal certainty;
- Would help achieve a level playing field if they were consistent throughout the EU; and
- Their use is particularly important for SMEs. This must however be compared to the finding that SMEs are often not subject to (comprehensive) permits and that many SMEs do not need permits because their operations are below the threshold level of the Industrial Emissions Directive, which it then partly contradicts.

If the Commission wishes to consider harmonisation of the permit and state-of-the-art defences, it could do so in several ways. These include revision of the ELD:

- To make the defences mandatory;

⁴⁴⁰ Interview with Liesbeth Timmermans, from CEFICCEFIC, in the framework of this study.

⁴⁴¹ Report submitted by Estonia under ELD Article 18(1).

- To delete the defences from the ELD;
- To include the defences as mitigating factors;
- To include the defences as exemptions; and
- To narrow the defences to exclude, for example, administrative, legal costs and other costs from the scope of the defence.

A revision of the ELD to make the defences mandatory would help create a level playing field across the EU. It would, however, lower the high level of protection of the environment in Member States that have not adopted the defences or that have adopted variants of them on the basis of reasonableness.⁴⁴² There is, thus, a strong argument against such a revision because it would be contrary to Article 191(2) of the TFEU.

Deleting the defences from the ELD would also help create a level playing field. Further, as discussed above, it would promote the polluter pays principle and be effective from the law and economics approach. It would, however, as also noted above, almost certainly result in strong opposition from industry despite the seemingly illusory nature of the defences.

Including the defences as mitigating factors was rejected during the legislative history of the ELD. Whilst some Member States have transposed the ELD to include mitigating factors, it would further differentiate the ELD from existing national legislation in Member States that do not have such considerations. It could thus lead to less application of the ELD than at present.

Including the defences as exemptions would lower the high level of protection of the environment in Member States that have not adopted the defences or that have adopted variants of them on the basis of reasonableness. As with making the defences mandatory, there is a strong argument against such a revision because it would be contrary to Article 191(2) of the TFEU, as stated above.

Narrowing the defences to exclude, for example, administrative, legal costs and other costs from the scope of the defence, is another option to consider.

⁴⁴² See Michael Faure & Kristel De Smedt, Should Europe Harmonise Environmental Liability Legislation?, [2001] Environmental Liability, vol. 9(5), p. 217, 227.

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Chapter 6: Analysis of the application of the international Conventions and instruments listed in Annexes IV and V of the ELD

This chapter analyses and compares regimes to prevent and remedy environmental damage under the international Conventions and instruments listed in Annexes IV and V of the ELD and the prevention and remediation of environmental damage under the ELD. The analysis and comparison is furthered, in particular, by an analysis of the treatment of incidents that have occurred between 1 May 2007 and 30 April 2013 that fall within the international Conventions and instruments listed in Annexes IV and V of the ELD and the treatment such incidents would have received under the ELD if it had applied.

The analysis concentrates on Conventions that are in force, with less analysis of those that have no incidents in the abovementioned time period and those that have not been brought into force as yet.

Some Member States, in the reports they submitted to the European Commission, highlighted that there has been no cause for application of the exemptions in Article 4.2 (Annex IV), 4.3 (LLMC) and 4.4 (Euratom Treaty and Annex V). This is notably the case of Ireland, albeit that Ireland (like Austria and Luxembourg) has not signed or ratified any nuclear Conventions.⁴⁴³

6.1 Analysis of international marine Conventions (ELD, Annex IV)

Article 4(2) of the ELD provides that the Directive does not apply to “environmental damage or to any imminent threat of such damage arising from an incident in respect of which liability or compensation falls within the scope of any of the International Conventions listed in Annex IV, including any future amendments thereof, which is in force in the Member State concerned.”

The international Conventions listed in Annex IV are as follows:

- International Convention of 27 November 1992 on Civil Liability for Oil Pollution Damage (1992 Civil Liability Convention or CLC);
- International Convention of 27 November 1992 on the Establishment of an International Fund for Compensation for Oil Pollution Damage (1992 Fund Convention);

⁴⁴³ Report submitted by Ireland under ELD Article 18(1).

- International Convention of 23 March 2001 on Civil Liability for Bunker Oil Pollution Damage (Bunker Oil Convention);
- International Convention of 23 March 2001 on Civil Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (superseded by 2010 Protocol) (HNS Convention) (not yet in force); and
- Convention of 10 October 1989 on Civil Liability for Damage Caused during Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels (Dangerous Goods Convention) (not yet in force).

In addition, Article 4(3) of the ELD provides that the Directive applies “without prejudice to the right of the operator to limit his liability in accordance with national legislation implementing:

- the Convention on Limitation of Liability for Maritime Claims, 1976 (LLMC), including any future amendment to the Convention, or
- the Strasbourg Convention on Limitation of Liability in Inland Navigation, 1988 [CLNI 1988], including any future amendment to the Convention.’

The LLMC has been amended by the Protocol of 1996 to amend the LLMC, 1976 (LLMC 1996 Protocol), which entered into force on 13 May 2004.

The CLNI has been amended by the Strasbourg Convention of 2012 on the Limitation of Liability in Inland Navigation (CLNI 2012). The CLNI 2012 has not entered into force as yet.

6.1.1 Annex IV Conventions

The key provisions of the Conventions listed in Annex IV of the ELD as they relate to the ELD are set out below, together with their definitions, so as to facilitate their comparative analysis with the ELD. The marine Conventions are issued under the auspices of the International Maritime Organisation (IMO), with the exception of the CLNI Conventions, which are issued by the Central Commission for the Navigation of the Rhine.

6.1.1.1 1992 Civil Liability Convention

The 1992 Civil Liability Convention entered into force on 30 May 1996. It largely supersedes the 1969 International Convention on Civil Liability for Oil Pollution Damage (1969 Civil Liability Convention).

The 1992 Civil Liability Convention provides that:

- the “owner”
 - that is, the registered owner
- of a “ship”
 - defined as “any sea-going vessel and seaborne craft of any type whatsoever constructed or adapted for the carriage of oil in bulk as cargo” provided the ship is carrying oil or other cargoes or during any voyage following the carriage of oil unless no such residues remain
- at the time of an “incident”
 - defined as “any occurrence, or series of occurrences having the same origin, which causes pollution damage or creates a grave and imminent threat of causing such damage”

- is strictly liable for any “pollution damage”
 - defined as
 - “(a) loss or damage caused outside the ship by contamination resulting from the escape or discharge of oil from the ship, wherever such escape or discharge may occur, provided that compensation for impairment of the environment other than loss of profit from such impairment shall be limited to costs of reasonable measures of reinstatement actually undertaken or to be undertaken;
 - (b) the costs of preventive measures and further loss or damage caused by preventive measures” (that is, “any reasonable measures taken by any person after an incident has occurred to prevent or minimise pollution damage”)
- resulting from the escape or discharge of “oil” from the ship as a result of the incident,
 - defined as “persistent hydrocarbon mineral oil such as crude oil, fuel oil, heavy diesel oil and lubricating oil, whether carried on board a ship as cargo or in the bunkers of such a ship” (that is, not including non-persistent oil such as gasoline, light diesel oil, or kerosene)
- provided that the pollution damage
 - is caused in the territory, territorial sea or exclusive economic zone (EEZ) or equivalent area of a State Party to the Convention (the limitation of territory does not apply to preventive measures, which may be carried out anywhere).

Liability is channelled to the owner of a ship. That is (with the limited exception described below), claims for compensation for “pollution damage” may be brought only against the owner of the ship that caused the pollution damage and only under the 1992 Civil Liability Convention. The owner may bring a recourse action against any other person.

The 1992 Civil Liability Convention further provides that claims against the following persons may only be made under the Convention or otherwise if the pollution “damage resulted from their personal act or omission, committed with the intent to cause such damage, or recklessly and with knowledge that such damage would probably result”:

- servants or agents of the owner, members of the crew, the pilot, a charterer (including a bareboat charterer), the manager or operator of a ship, a person carrying out salvage operations with the owner’s consent, any person carrying out preventive measures, or any of the servants or agents of such persons.

The above persons thus have limited immunity from claims. The categories of persons who have limited immunity were increased in the 1992 Civil Liability Convention. Article 3(4) of the 1969 Civil Liability Convention merely provides that “No claim for pollution damage under this Convention or otherwise may be made against the servants or agents of the owner”.

The owner of a ship is not liable if he proves that the pollution damage:

- “(a) resulted from an act of war, hostilities, civil war, insurrection or a natural phenomenon of an exceptional, inevitable and irresistible character, or
- (b) was wholly caused by an act or omission done with intent to cause damage by a third party, or

(c) was wholly caused by the negligence or other wrongful act of any Government or other authority responsible for the maintenance of lights or other navigational aids in the exercise of that function”.

Further, the owner of a ship is not liable in part or entirely if it proves that:

“the pollution damage resulted wholly or partially either from an act or omission done with intent to cause damage by the person who suffered the damage or from the negligence of that person”.

If an incident involves two or more ships and results in pollution damage, the owners of all the ships are “jointly and severally liable for all such damage which is not reasonably separable”.

The owner of a ship is entitled to limit his liability under the Convention in respect of any one incident to an aggregate amount calculated as follows:

- (a) 4,510,000 Special Drawing Rights (SDR) (approximately EUR 5,019,290) for a ship not exceeding 5,000 units of tonnage;
- (b) for a ship with a tonnage in excess of 5,000 units of tonnage, 631 SDR (approximately EUR 703) for each additional unit of tonnage in addition to the above amount, and
- (c) for a ship of 140,000 units of tonnage or over, 89,770,000 SDR (approximately EUR 100,035,000).

The owner is not entitled to limit his liability under the Convention if “it is proved that the pollution damage resulted from his personal act or omission, committed with the intent to cause such damage, or recklessly and with knowledge that such damage would probably result”.

The owner of a ship that carries more than 2,000 tons of oil in bulk as cargo must have mandatory “insurance or other financial security, such as the guarantee of a bank or a certificate delivered by an international compensation fund” for pollution damage.

Thus, even though liability is limited, a fund to pay claims under the Convention is guaranteed up to its limits.

6.1.1.2 1992 Fund Convention

The 1992 Fund Convention entered into force on 30 May 1996. It superseded the 1971 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (1971 Fund Convention), which ceased to be in force on, or to apply to incidents that occurred after, 24 May 2002. The 1971 Fund, which was established by the 1971 Fund Convention, will be wound up after compensation to persons subject to the 1971 Fund Convention has been paid.

A party to the 1992 Fund Convention automatically becomes a member of the 1992 Fund, which was established by the 1992 Fund Convention. A key purpose of the 1992 Fund Convention is to provide a second tier of compensation above the limit of compensation for which the owner of a ship is liable under the 1992 Civil Liability Convention. The 1992 Fund Convention does this by paying compensation to persons who suffer pollution damage in a State that is a party to the 1992 Fund Convention who do not obtain full compensation under the 1992 Civil Liability Convention for one of the following reasons:

- (a) the owner is exempt from liability under the 1992 Civil Liability Convention because one of the exemptions in that Convention applies;

- (b) the owner is financially incapable of meeting his obligations under the 1992 Civil Liability Convention in full and his insurance is insufficient to satisfy the claims for compensation for pollution damage; or
- (c) the pollution damage exceeds the owner's liability under the 1992 Civil Liability Convention.

The 1992 Fund Convention is not liable to pay compensation if it proves that:

- “(a) the damage occurred in a State that is not a Member of the 1992 Fund;
- (b) the pollution damage resulted from an act of war, hostilities, civil war or insurrection or was caused by oil which has escaped or been discharged from a warship or other ship owned or operated by a State and used, at the time of the incident, only on Government non-commercial service;
- (c) the claimant cannot prove that the damage resulted from an incident involving one or more ships.”

Further, the 1992 Fund is not responsible for paying pollution damage in part or entirely if it proves that:

“the pollution damage resulted wholly or partially either from an act or omission done with intent to cause damage by the person who suffered the damage or from the negligence of that person”.

The above limitation does not apply to preventive measures.

There have been various Protocols to the 1992 Fund Convention. The key Protocol for purposes of the comparison with the ELD is the Protocol of 2003 to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1992 (Supplementary Fund Protocol).

The adoption of the Supplementary Fund Protocol was largely at the urging of the EU. Following the oil spill from the *Erika*, the Commission proposed establishing an EU fund (COPE Fund) for compensation for oil pollution because the 1992 Fund was considered insufficient. Following liaison with the IMO, the Commission did not pursue the establishment of an EU Fund and the IMO adopted the Supplementary Fund Protocol to increase the limits of compensation under its Conventions.⁴⁴⁴

The Supplementary Fund Protocol entered into force on 3 March 2005. It established a Supplementary Fund of 750 million SDR. Ratification or accession to the Supplementary Fund Protocol is optional for any State that is a member of the 1992 Fund.

The 1992 Fund Convention provides that the following words have the same meaning as in the 1992 Civil Liability Convention:

- “ship”;
- “person”;
- “owner”
- “oil”;
- “pollution damage”

⁴⁴⁴ See generally Michael Faure & Hui Wang, Liability for oil pollution – the EU approach, *Environmental Liability*, vol. 12(2), pp. 55, 58-61 (2004).

- “preventive measures”; and
- “incident”.

The maximum aggregate limit payable by the 1992 Fund, including the amount payable by an owner of a ship or his insurer, for any one incident is 203 million SDR (approximately EUR 226,120,000).

The 1992 Fund is funded by a levy on any person who imports more than 150,000 tonnes of crude oil and heavy fuel oil (called “contributing oil”) in a calendar year in a State that is a party to the 1992 Fund Convention. Levies are paid by individual contributors, based on the amount of contributing oil received.

Annual contributions are paid into the General Fund for expenses and claims for the following year in an amount decided by the Assembly (the highest governing body of the IMO). The maximum aggregate amount for an incident covered by the General Fund is 4 million SDR. A Major Claims Fund is established for levels above this amount. Any monies that remain from the Major Claims Fund following payment of claims and expenses is repaid to contributors.

Annual contributions to the Supplementary Fund are made, in respect of each Member State, by any person who, in any calendar year, has received total quantities of oil exceeding 150,000 tonnes after sea transport in ports and terminal installations in that State. For the purpose of paying contributions to the Supplementary Fund, at least one million tonnes of contributing oil is deemed to have been received each year in each Member State.

The Supplementary Fund has a General Fund that covers only administrative expenses. If an incident occurs, and the Supplementary Fund is responsible for paying compensation, a Claims Fund is established.

There are, therefore, three tiers of compensation under the 1992 Fund Convention as follows:

- First tier: the owner of the ship (or its P&I Club insurer) is liable for pollution damage under the 1992 Civil Liability Convention;
- Second tier: if a claimant is unable to obtain full compensation from the ship owner, the 1992 Fund pays; and
- Third tier: the Supplementary Fund (for losses from pollution damage up to 750 million SDR for parties to the Supplementary Fund Protocol).

Annex C sets out the Member States that are Contracting Parties to each of the three Conventions.

As described above, the funds established under the IMO are sophisticated. They do not depend on funds from the governments of Contracting Parties to the Conventions. Instead, they are funded by companies that import oil.

6.1.1.3 Bunker Oil Convention

The Bunker Oil Convention is modelled on the 1992 Civil Liability Convention. The Convention, which entered into force on 21 November 2008, applies to “pollution damage” from a spill of fuel oil from a non-tanker. It does not apply to “pollution damage” under the 1992 Civil Liability Convention. The Bunker Oil Convention provides that:

- the “shipowner”
 - defined as “the owner, including the registered owner, bareboat charterer, manager and operator of the ship” (which is defined as “any sea-going vessel and seaborne craft of any type whatsoever”)
- at the time of an “incident”
 - defined as “any occurrence, or series of occurrences having the same origin, which causes pollution damage or creates a grave and imminent threat of causing such damage” (this definition is identical to the definition in the 1992 Civil Liability Convention)
- is strictly liable for any “pollution damage”
 - defined as:
 - “(a) loss or damage caused outside the ship by contamination resulting from the escape or discharge of bunker oil from the ship, wherever such escape or discharge may occur, provided that compensation for impairment of the environment other than loss of profit from such impairment shall be limited to costs of reasonable measures of reinstatement actually undertaken or to be undertaken;
 - (b) the costs of preventive measures and further loss or damage caused by preventive measures” (that is, “any reasonable measures taken by any person after an incident has occurred to prevent or minimise pollution damage”) (these definitions are identical to those in the 1992 Civil Liability Convention with the substitution of the term “bunker oil” for “oil”)
- resulting from the escape or discharge of “bunker oil” from the ship as a result of the incident,
 - defined as “any hydrocarbon mineral oil, including lubricating oil, used or intended to be used for the operation or propulsion of the ship, and any residues of such oil”
- provided that the pollution damage
 - is caused in the territory, territorial sea or exclusive economic zone (EEZ) or equivalent area of a State Party to the Convention (the limitation of territory does not apply to preventive measures, which may be carried out anywhere) (this provision equates with the jurisdiction provision in the 1992 Civil Liability Convention).

Unlike the 1992 Civil Liability Convention, liability under the Bunker Oil Convention is, thus, not channelled exclusively to the owner of a ship; instead the term “shipowner” is defined to include, not only the owner of the ship but also the bareboat charterer, manager and operator of the ship.

The shipowner is not liable for pollution damage if he proves that:

- “the damage resulted from an act of war, hostilities, civil war, insurrection or a natural phenomenon of an exceptional, inevitable and irresistible character; or
- The damage was wholly caused by an act or omission done with the intent to cause damage by a third party; or

- The damage was wholly caused by the negligence or other wrongful act of any Government or other authority responsible for the maintenance of lights or other navigational aids in the exercise of that function”.

The above defences are the same as those in the 1992 Civil Liability Convention.

As with the 1992 Civil Liability Convention, the Bunker Oil Convention mandates financial security, described as “insurance or other financial security, such as the guarantee of a bank or similar financial institution” to cover liability for pollution damage.

Unlike the 1992 Fund Convention, there is no supplementary fund to the Bunker Oil Convention.⁴⁴⁵

Also unlike the 1992 Fund Convention, the Bunker Oil Convention does not specify limits of liability; instead the limits of liability in the LLMC were adopted (see section 6.1.1.6 below).

In 2002, the Council of the EU authorised Member States to join the Bunker Oil Convention.⁴⁴⁶ Annex C sets out the Member States that are Contracting Parties to the Convention.

6.1.1.4 HNS Convention

The HNS Convention is also modelled on the 1992 Civil Liability Convention. It has not yet entered into force. Its ratification was delayed for many years due to some States objecting to some of its provisions. In April 2010, the impasse was broken when a Protocol to the Convention was signed to facilitate ratification by making various amendments to the text.

The Convention, as amended by the 2010 Protocol, provides that:

- the “owner”
 - that is, the registered owner
- of a “ship”
 - defined as “any sea-going vessel and seaborne craft of any type whatsoever”
- at the time of an “incident”
 - defined as “any occurrence, or series of occurrences having the same origin, which causes pollution damage or creates a grave and imminent threat of causing such damage” (this definition is the same as the 1992 Civil Liability Convention)
- is strictly liable for any “damage”
 - defined as:
 - “(a) loss or personal injury on board or outside the ship carrying the hazardous and noxious substances caused by those substances;
 - (b) loss of or damage to property outside the ship carrying the hazardous and noxious substances caused by those substances;

⁴⁴⁵ See Peter Weterstein, Environmental impairment liability after the Erika and Prestige accidents. Scandinavia Law. p. 230, 236 (2010). Available at www.scandinavianlaw.se/pdf/46-12.pdf

⁴⁴⁶ Council Decision of 19 September 2002 authorising the Member States, in the interest of the Community, to sign, ratify or accede to the International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001, OJ L 256/7 (25 September 2002).

(c) loss or damage by contamination of the environment caused by the hazardous and noxious substances, provided that compensation for impairment of the environment other than loss of profit from such impairment shall be limited to costs of reasonable measures of reinstatement actually undertaken or to be undertaken;

(d) the costs of preventive measures and further loss or damage caused by preventive measures” (that is, “any reasonable measures taken by any person after an incident has occurred to prevent or minimise pollution damage”) (this definition differs from the 1992 Civil Liability Convention in its claims for bodily injury and property damage; it is broadly similar to the 1992 Civil Liability Convention in respect of compensation for impairment of the environment other than loss of profit; it is identical to the 1992 Convention in respect of preventive measures)

- resulting from the escape or discharge of “hazardous and noxious substances” from the ship as a result of the incident,
 - the Convention sets out a detailed definition of hazardous and noxious substances
- provided that the damage
 - is caused in the territory, territorial sea or exclusive economic zone (EEZ) or equivalent area of a State Party to the Convention (the limitation of territory does not apply to preventive measures, which may be carried out anywhere).

Liability under the Convention is channelled to the owner of a ship. That is (with the limited exception described below), claims for compensation for pollution damage may be made only against the owner of a ship and only under the HNS Convention. The owner may bring a recourse action against any other person.

The owner is not liable if he proves that:

- “(a) the damage resulted from an act of war, hostilities, civil war, insurrection or a natural phenomenon of an exceptional, inevitable and irresistible character;
- (b) the damage was wholly caused by an act or omission done with intent to cause damage by a third party; or
- (c) the damage was wholly caused by the negligence or other wrongful act of any Government or other authority responsible for the maintenance of lights or other navigational aids in the exercise of that function” (these defences are the same as those in the 1992 Civil Liability Convention).

Claims against the following persons may be made only under the Convention or otherwise if the pollution “damage resulted from their personal act or omission, committed with the intent to cause such damage, or recklessly and with knowledge that such damage would probably result”:

servants or agents of the owner, members of the crew, the pilot, a charterer (including a bareboat charterer), the manager or operator of a ship, a person carrying out salvage operations with the owner’s consent, any person carrying out preventive measures, or any of the servants or agents of such persons (this limited immunity is the same as under the 1992 Civil Liability Convention).

The HNS Convention further provides that the owner is not liable if he proves that:

“(d) the failure of the shipper or any other person to furnish information concerning the hazardous and noxious nature of the substances shipped either:

- (i) has caused the damage, wholly or partly; or
- (ii) has led the owner not to obtain insurance in accordance with [the Convention];

provided that neither the owner nor its servants or agents knew or ought reasonably to have known of the hazardous and noxious nature of the substances shipped”.

If an incident involves two or more ships and results in pollution damage, the owners of all the ships are “jointly and severally liable for all such damage which is not reasonably separable”.

As with the 1992 Civil Liability Convention, the HNS Convention mandates financial security, described as “insurance or other financial security, such as the guarantee of a bank or similar financial institution” to cover liability for pollution damage.

Unlike the 1992 Civil Liability Convention, the HNS Convention does not specifically limit liability. Instead, it states that it does not prevent the application of national and international rules on limitation of liability.⁴⁴⁷

The Council of the EU has authorised Member States to join the HNS Convention.⁴⁴⁸ Annex C sets out the Member States that are parties to the Convention.

6.1.1.5 Dangerous Goods Convention

The Dangerous Goods Convention has not yet been brought into force.

The Convention provides that:

- the “carrier” of a “road vehicle”, “vehicle”, or “ship”
 - basically, the person in control of the use of the vehicle carrying the dangerous goods, the owner of the registered vehicle, or “the person or persons operating the railway line on which the incident occurred”
- at the time of an “incident”
 - defined as “any occurrence, or series of occurrences having the same origin, which causes pollution damage or creates a grave and imminent threat of causing such damage” (the definition is the same as the 1992 Civil Liability Convention)
- is strictly liable for any “damage”
 - defined as:
 - “(a) loss of life or personal injury on board or outside the vehicle carrying the dangerous goods caused by those goods;

⁴⁴⁷ See Peter Weterstein, Environmental impairment liability after the Erika and Prestige accidents. Scandinavia Law. p. 230, 236 (2010). Available at www.scandinavianlaw.se/pdf/46-12.pdf

⁴⁴⁸ Council Decision 2002/971/EC of 18 November 2002 authorising the Member States, in the interest of the Community, to ratify or accede to the International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 1996, OJ L337/55 (13 December 2002).

(b) loss of or damage outside the vehicle carrying the dangerous goods caused by those goods to the exclusion of any loss of or damage to other vehicles in the same train of vehicles or any loss of or damage to property on board such vehicles;

(c) loss of or damage by contamination to the environment caused by the dangerous goods, provided that compensation for impairment of the environment other than for loss of profit from such impairment shall be limited to costs of reasonable measures of reinstatement actually undertaken or to be undertaken;

(d) the costs of preventive measures and further loss or damage caused by preventive measures” (that is, “any reasonable measures taken by any person after an incident has occurred to prevent or minimise pollution damage”) (this definition differs from the 1992 Civil Liability Convention in its claims for bodily injury and property damage; it is broadly similar to the 1992 Convention in respect of compensation for impairment of the environment other than loss of profit; it is identical to the 1992 Convention in respect of preventive measures)

- resulting from the escape or discharge of “dangerous goods” from the road vehicle, vehicle or ship as a result of the incident,
 - defined by reference to the European Agreement concerning the International Carriage of Dangerous Goods by Road
- provided that the damage
 - “is sustained in the territory of a State Party and caused by an incident occurring in a State Party” (the limitation of territory does not apply to preventive measures, which may be carried out anywhere).

Liability under the Dangerous Good Convention is channelled to the carrier. That is, claims for compensation for pollution damage may be made only against the owner and only under the Dangerous Goods Convention. The carrier may bring a recourse action against any other person.

The carrier is not liable if he proves that:

- “(a) the damage resulted from an act of war, hostilities, civil war, insurrection or a natural phenomenon of an exceptional, inevitable and irresistible character, or
- (b) the damage was wholly caused by an act or omission done with intent to cause damage by a third party, or
- (c) the consignor or other person failed to meet his obligation to inform him of the dangerous nature of the goods, and that neither he or his servants or agents knew or ought to have known of their danger” (Sub-paragraphs (a) and (b) are identical to the 1992 Civil Liability Convention).

Annex C sets out the Member States that are Contracting Parties to the Dangerous Goods Convention.

6.1.1.6 Convention on Limitation of Liability for Maritime Claims, 1976 (LLMC), as amended by the LLMC 1996 Protocol

The LLMC, as amended by the LLMC 1996 Protocol, limits the liability of a “shipowner” (defined as “the owner, charterer, manager and operator of a seagoing ship”) for various specified claims, all of which are claims for bodily injury, property damage and economic loss.

The Convention specifically excludes “claims for oil pollution damage within the meaning of the [1992 Convention on Civil Liability, as may be amended from time to time]”. The LLMC, as amended, does not, therefore, overlap with the ELD due to its focus on third-party claims for civil liability.

The Bunker Oil Convention, however, adopted the limits of liability in the LLMC, as amended. Some commentators have reportedly suggested that the LLMC, as amended, could, therefore, limit liability for “pollution damage” under the Bunker Oil Convention.⁴⁴⁹ Due to the specific references only to claims for civil liability and not pollution damage in the LLMC, as amended, an argument that they could limit liability for environmental damage under the Bunker Oil Convention is tenuous.

The Legal Committee of the IMO has decided to increase the limits of liability under the LLMC. The new limits are expected to come into force on 19 January 2015 unless there are any objections. The limits specifically refer to liability for bodily injury and property damage; they do not refer to liability for preventing or remediating environmental damage.⁴⁵⁰

Annex C sets out the Member States that are Contracting Parties to the LLMC and the LLMC 1996 Protocol.

6.1.1.7 Strasbourg Convention on Limitation of Liability in Inland Navigation, 1988 [CLNI 1988], as amended by the CLNI 2012

The CLNI 1988 applies to navigation on the Rhine and its tributaries. The CLNI 2012, when it enters into force, will extend the application of the Convention to the Danube, the Elbe, the Oder, the Save, and other major rivers of importance to international transportation. It will also increase the limits of liability.

The Convention will also be extended in that, whereas the CLNI 1988 limited States that are party to it to States that border the Rhine and the Moselle, the CLNI 2012 is open to any interested State.

The CLNI 1988 and the CLNI 2012, which are based on the LLMC, limit the liability of vessel owners, their crew and salvors for various specified claims, all of which are claims for bodily injury, property damage and economic loss. The Conventions do not, therefore, overlap with the ELD due to their focus on claims for civil liability.

Annex C sets out the Member States that are Contracting Parties to the CLNI 1988 and the CLNI 2012.

⁴⁴⁹ See Britannia News Conventions, Convention on Limitation of Liability for Maritime Claims (LLMC), 1976 (3 June 2011) (referring to unnamed commentators).

⁴⁵⁰ See <http://www.ipta.org.uk/llmc%20limits.htm>

6.1.2 Extent to which the marine Conventions bar application of the ELD

As indicated above, Article 4(2) of the ELD provides that the Directive “shall not apply to environmental damage or to any imminent threat of such damage arising from an incident in respect of which liability or compensation falls within the scope of any of the International Conventions listed in Annex IV, including any future amendments thereof, which is in force in the Member State concerned”.

The meaning of the above clause is not absolutely clear. That is, does it mean that application of the ELD is barred in a Member State that has ratified the Annex IV Convention at issue? Or is the bar limited to the extent to which liability or compensation falls within the scope of the Annex IV Convention at issue? Commentators are split on the issue.

Michael Faure and Hui Wang consider that, due to the limitation in the term “pollution damage”, “one could probably still hold that for environmental damage not covered under the [1992 Civil Liability Convention and the 1992] Fund Convention (damage other than reasonable restoration costs) the much broader regime of the [ELD] might still apply”.⁴⁵¹

Colin de la Rue and Charles Anderson reached a similar conclusion, commenting that:

“Some cases ... have demonstrated that if a pollution claim under the [1992 Civil Liability] Convention is rejected on the ground that it is not admissible as “pollution damage” then by the same token it is unaffected by prohibition against pursuit of other remedies. This can be significant when domestic laws in some jurisdictions allow recovery of certain types of pollution claim which would not be admissible under [the 1992 Civil Liability Convention]. The best known example of this is a claim by government authorities for damage to the marine environment which is unrelated to any costs incurred and is calculated on an abstract or theoretical basis”.⁴⁵²

In contrast, Måns Jacobsson, Former Director of the IOPC Fund, considers that, even though the concept of environmental damage in the ELD is wider in certain respects, “if a particular incident falls within the scope of any of [the IMO] Conventions, any type of damage arising from such an incident is therefore excluded from the application of the Directive, provided the Convention is in force and applies to the incident”.⁴⁵³

The better reasoning appears to be that the bar applies only to the extent to which liability or compensation falls within the scope of the Annex IV Convention at issue due to the following phrase in the exclusion: “an incident in respect of which liability or compensation falls within the scope of any of the International Conventions listed in Annex IV”. If the bar applies regardless of whether liability for an imminent threat of, or actual, environmental damage under the ELD is covered by an Annex IV Convention, there would be no need to include this phrase.

Regardless of the interpretation of the clause, however, it is generally perceived as excluding the application of the ELD in Member States in which an Annex IV Convention at issue is in force.

⁴⁵¹ Michael Faure & Hui Wang, *Liability for oil pollution – the EU approach*, [2004] *Environmental Liability*, vol. 12(2), p. 55, 66.

⁴⁵² Arcopol, *Comparative study of the situations regarding environmental damages (Activity 6, Task 6.1.3 (2010) (author: Yann Rabureau & Jacques Mangold) (28 October 2010) (quoting Colin de la Rue & Charles B. Anderson, *Shipping and the Environment*, p. 96 (LLP, London 1998))*.

⁴⁵³ Måns Jacobsson, *Perspective of the Global Compensation Regimes; The Relationship between EU Legislation and Maritime Liability Conventions*, *European Journal of Commercial Contract Law*, vol. 4, p. 63, 70 (2012).

6.1.3 Comparison of the marine Conventions and the ELD

A review of the marine Conventions and the ELD shows broad differences as well as similarities.

6.1.3.1 Commercial concerns

The person to whom liability under the 1992 Civil Liability Convention is channelled is the registered owner of a ship. The IMO designated the liable person under the 1992 Civil Liability Convention according to economic balancing criteria. Oil receivers pay into the 1992 Fund and the Supplementary Fund; ship owners may be liable under the 1992 Civil Liability Convention, with recourse to the 1992 Fund (and Supplementary Fund) depending on the amount of claims. The agreement for the application of strict liability to ship owners was reached only after oil receivers agreed to contribute by paying the second tier of payments for compensation.

Liability is also channelled to an operator under the ELD but there are no commercial concerns commensurate with liability under the Conventions. Instead, an operator is the person who is responsible for the costs of preventing and remediating environmental damage due to the application of the polluter pays principle.

Thus, if the ELD was to apply to “environmental damage” that overlapped with “pollution damage” under the 1992 Civil Liability Convention, it would mean that the operator of a ship, not necessarily its registered owner, would be liable. The commercial balancing under the IMO Conventions would, therefore, necessarily be disrupted.

6.1.3.2 Compensation regime versus regime to remediate environmental damage

The marine Conventions are compensation regimes. They provide compensation for claims against a ship owner, the 1992 Fund and the Supplementary Fund. The Claims Manual sets out the procedures for making claims including, amongst other things, claims for the costs of clean-up and preventive measures.

The Conventions are, thus, less proactive than the ELD in establishing a regime that requires operators, and directs competent authorities to require operators, to prevent or remediate an imminent threat of, or actual, environmental damage, respectively.

It is thus arguable that the Conventions are less protective of the environment than the ELD because of the focus of the ELD on carrying out preventive measures and emergency remedial actions “without delay” or “immediately”, respectively. This argument depends, however, in large part on advance preparations for a swift response to “pollution damage” and “damage” under the marine Conventions.

6.1.3.3 Decision makers

The entity that decides whether claims are covered under the 1992 Fund Convention is the 1992 Fund; it is not a competent authority. The Claims Manual for the 1992 Fund specifies that not all claims are compensable. It states, for example, “The fact that a government or other public body decides to take certain measures does not in itself mean that the measures are reasonable for the purpose of compensation under the Conventions”.⁴⁵⁴

⁴⁵⁴ International Oil Pollution Compensation Fund 1992, Claims Manual (October 2013 Edition). Adopted by the 1992 Fund Assembly, section 3.1.5.

Thus, rather than the decision maker under the 1992 Fund Convention (or the 1992 Civil Liability Convention) acting in the role of *parens patriae* on behalf of the public, as in the ELD, it could be argued that the decision maker is acting, at least in part, on behalf of the interests of oil receivers who fund the 1992 Fund (and the owner of a ship under the 1992 Civil Liability Convention).

6.1.3.4 Emphasis on human interests not on reducing the loss of biodiversity

The Conventions differ from the ELD in that their primary focus is on human interests, not species and natural habitats protected under the Birds and Habitats Directive, or other conservation legislation, or fauna and flora in general. Whilst claims for cleaning contaminated animals are payable by the 1992 Fund if they meet specifications for such claims, biodiversity damage is a secondary concern.

The Claims Manual provides: “For example, a high degree of cleaning beyond removal of bulk oil, of exposed rocky shores inaccessible to the public is rarely justified, since natural cleaning by wave action is likely to be more effective. On the other hand, thorough cleaning is usually necessary in the case of a public amenity beach, particularly immediately prior to or during the holiday season”.⁴⁵⁵

There is, thus, an absence of emphasis on preventing the loss of biodiversity as there is in the ELD (see also section 6.1.3.6 below, describing the scope of “pollution damage”).

6.1.3.5 Immunity of various persons

The operator of a ship, as provided by the ELD, has immunity to claims except for very limited circumstances.

The Commission has criticised the immunity granted under the 1992 Civil Liability Convention to “servants or agents of the owner, members of the crew, the pilot, a charterer (including a bareboat charterer), the manager or operator of a ship, a person carrying out salvage operations with the owner’s consent, any person carrying out preventive measures, or any of the servants or agents of such persons”.

The Commission stated that such protection “is counterproductive with regard to its efforts of creating a sense of responsibility in all parts of the maritime industry ... the prohibition of claiming compensation from a number of key players involved in the transport of oil at sea should be removed from the [1992 Civil Liability] Convention and ... to the extent protection of certain players is considered to be necessary for the functioning of the system, the threshold should at least be lowered to the same as that advocated for the shipowner As to the practicalities of such a measure, it can be noted that here, too, the regime that applied until 1996, when the 1992 protocols entered into force, provided for a much less rigorous channelling by only excluding the servants or agents of the shipowner, and even for them only insofar as the damage was not due to their own fault or privity”.⁴⁵⁶

⁴⁵⁵ International Oil Pollution Compensation Fund 1992, Claims Manual (October 2013 Edition). Adopted by the 1992 Fund Assembly, section 3.1.7.

⁴⁵⁶ European Commission, Proposal for a Regulation of the European Parliament and of the Council on the establishment of a fund for the compensation of oil pollution damage in European waters and related measures, Explanatory Memorandum, section 4.4.3. COM(2000) 802 final. OJ E 120/79 (24 April 2001).

Channelling liability has its advantages. For example, it simplifies a claimant's identification of a defendant and establishes "a clear line of responsibility".⁴⁵⁷ In addition, the ELD itself specifically channels liability to an operator. The ELD does not, however, provide immunity to other persons; it specifically provides an operator with recourse against third parties and other persons (ELD, art 8(3)).

6.1.3.6 "Pollution damage"

The 1992 Civil Liability and Bunker Oil Conventions impose liability on an owner of a ship for "pollution damage"; similarly, the 1992 Fund Convention limits funding to claims for "pollution damage".

The term "pollution damage" has an identical meaning under all three Conventions, that is:

"(a) loss or damage caused outside the ship by contamination resulting from the escape or discharge of [oil / bunker oil] from the ship, wherever such escape or discharge may occur, provided that compensation for impairment of the environment other than loss of profit from such impairment shall be limited to costs of reasonable measures of reinstatement actually undertaken or to be undertaken;

(b) the costs of preventive measures and further loss or damage caused by preventive measures" (that is, "any reasonable measures taken by any person after an incident has occurred to prevent or minimise pollution damage").

The HNS Convention and the Dangerous Goods Convention have similar meanings for the term "damage".

The phrase "provided that compensation for impairment of the environment other than loss of profit from such impairment shall be limited to costs of reasonable measures of reinstatement actually undertaken or to be undertaken" was added to the definition by the 1992 Civil Liability Convention and the 1992 Fund Convention, largely to limit claims for environmental damage against shipowners under the 1992 Civil Liability Convention and oil receivers under the 1992 Fund Convention, following rulings by courts that were regarded as too liberal by the Assembly of the IOPC Fund.⁴⁵⁸

The rulings followed a claim by the Soviet Union for compensation for damaged and destroyed natural resources in the littoral and benthic ecosystems off the coast of Latvia from a spill of 5,000 to 6,000 tonnes of crude oil from the tanker, *Antonio Gramsci*, in February 1979. The spill also led to claims by Sweden and Finland due to the spilled oil affecting those countries as well.

The basic methodology used for the Soviet claim was that one tonne of spilled oil pollutes a specified quantity of water. The Soviet Union then calculated the amount of the claim by using a notional two roubles for each cubic metre of polluted water. The Executive Committee of the IOPC Fund argued that the claim for the loss of marine resources from the oil spill was not "pollution damage", and also that the 1969 Civil Liability Convention and the 1971 Fund Convention did not allow the use of mathematical models to calculate compensatory damages.

⁴⁵⁷ See A.E. Boyle, *Globalising Environmental Liability: The Interplay of National and International Law*, *Journal of Environmental Law*, vol. 17(1), p. 3, 14 (2005).

⁴⁵⁸ See Michael Mason, *Civil liability for oil pollution damage: examining the evolving scope for environmental compensation in the international regime*, *Marine Policy* vol. 27, p. 1, 3 (2003).

In addition, the IOPC Fund Assembly unanimously adopted a Resolution on “pollution damage” to prohibit the use of theoretical models to assess compensation payable by the Fund. Further, the Assembly concluded that compensation for environmental damage was not compensable unless the claimant had suffered a quantifiable economic loss from the damage. The latter conclusion was subsequently affirmed by Contracting Parties to the Conventions during negotiations to amend them.⁴⁵⁹

The rulings that were subsequently regarded as too liberal were by Italian courts. The Messina Court of Appeal, in a claim by the Italian Government for the loss of enjoyment by a community affected by the oil spill from the *Patmos* in 1985, construed the term “pollution damage” to include “pure” environmental damage as a separate head of liability from economic loss. The court did this, not by using a theoretical model, but by assessing the damage on an equitable basis, based in large part on the opinion of an expert. The court considered that difficulties in quantifying losses of the beneficial use of the environment as a food source and for recreation and scientific research did not bar their recovery.⁴⁶⁰

Subsequent judicial rulings followed the oil spill from the *Haven* in April 1999 after the ship broke up off the coast of Genoa, Italy, following an explosion and fire whilst unloading at a floating platform. Approximately 50 million tonnes of crude oil spilled into the Mediterranean Sea resulting in widespread pollution. Italian governmental authorities subsequently claimed compensation for environmental damage. The IOPC Fund denied the part of the claim based on damage to marine natural resources on the basis that such damage was unquantifiable, and that the 1969 Civil Liability Convention did not provide compensation for it. A further claim by the Italian Government was also denied by the IOPC Fund.

The Italian claims were eventually settled in 1999, with the IOPC Fund continuing to argue that the 1969 Civil Liability Convention and the 1971 Fund Convention do not provide a right of compensation for environmental damage; and the Italian Government continuing to argue that the term “pollution damage” includes compensation for damage to natural resources.⁴⁶¹

As a result, the term “pollution damage” was revised in the 1992 Civil Liability Convention and the 1992 Fund Convention by the addition of the phrase “impairment of the environment other than loss of profit from such impairment shall be limited to costs of reasonable measures of reinstatement actually undertaken or to be undertaken”. This phrase does not, however, include a new and independent heading for “pure” environmental / ecological damage.⁴⁶²

⁴⁵⁹ See David Ong, *The Relationship between Environmental Damage and Pollution: Marine Oil Pollution Laws in Malaysia and Singapore*, in *Environmental Damage in International and Comparative Law; Problems of Definition and Valuation*, p. 191, 202 (Oxford University Press, 2002, Michael Bowman & Alan Boyle, eds); see also Erik Bonsdorff, *The Antonio Gramsci Oil Spill; Impact on the littoral and benthic communities*, *Marine Pollution Bulletin*, vol. 12(9), pp. 301-05 (1981).

⁴⁶⁰ See *Convention on Biological Diversity, Liability and Redress under the Convention on Biological Diversity, Review of relevant international legal instruments and issues for consideration*, Note by the Executive Secretary to the Intergovernmental Committee for the Cartagena Protocol on Biosafety, p. 23 (UNEP/CBD/WS-L&R/2, 15 May 2001).

⁴⁶¹ See David Ong, *The Relationship between Environmental Damage and Pollution: Marine Oil Pollution Laws in Malaysia and Singapore*, in *Environmental Damage in International and Comparative Law; Problems of Definition and Valuation*, pp. 191, 203-04 (Oxford University Press, 2002, Michael Bowman & Alan Boyle, eds).

⁴⁶² See David Ong, *The Relationship between Environmental Damage and Pollution: Marine Oil Pollution Laws in Malaysia and Singapore*, in *Environmental Damage in International and Comparative Law; Problems of Definition and Valuation*, p. 191, 200 (Oxford University Press, 2002, Michael Bowman & Alan Boyle, eds).

The Executive Secretary of the Intergovernmental Committee for the Cartagena Protocol on Biosafety criticised the lack of a separate head of pure ecological damage in a review of the marine and other Conventions. He commented that it was “doubtful whether pure ecological damage would be recoverable where the definition of damage is restricted to the costs of measures to reinstate or restore the damaged or destroyed components of the environment”.⁴⁶³

He further stated that:

“As regards damage to biological diversity, there are conceivably many situations where restoration or reinstatement may not be feasible. The cases of endemic species or unique ecosystems are good examples. In such cases, it would be manifestly unjust not to pay monetary compensation for the loss suffered, especially if the species or ecosystems played an important role in the socio-economic life of the inhabitants of the affected State in general, and of indigenous and local communities, in particular”.⁴⁶⁴

Other persons have criticised the phrase “impairment of the environment other than loss of profit from such impairment shall be limited to costs of reasonable measures of reinstatement actually undertaken or to be undertaken” for its limitations, being narrower than the term “environmental damage” in the ELD, as well as being a “rather vague and undefined notion”.⁴⁶⁵

The IMO has gone some way towards meeting such criticisms. The Assembly of the 1992 Fund made a further revision to the 1992 Civil Liability Convention in 2002 to provide that reinstatement measures taken some distance from a damaged natural resource may qualify for compensation under the Conventions if it could be shown that they would actually enhance the recovery of damaged natural resources.⁴⁶⁶ Again, however, this revision is narrower in scope than the ELD, under which an operator whose activities cause environmental damage is required to carry out complementary remediation measures when primary remediation does not result in the full restoration of a damaged natural resource and/or services provided by it to people and other natural resources.⁴⁶⁷

As Peter Weterstein subsequently commented, the 2002 revision to the definition of “pollution damage” was a “minor extension [that] does not satisfy modern environmental needs for protection”. He considers, instead, that “a real improvement requires a re-drafting of the pollution damage concept in the [1992 Civil Liability Convention]”.⁴⁶⁸

⁴⁶³ Convention on Biological Diversity, Liability and Redress for damage resulting from the transboundary movement of living modified organisms, Review of relevant international legal instruments and identification of elements, Note by the Executive Secretary to the Intergovernmental Committee for the Cartagena Protocol on Biosafety, p. 23 (UNEP/CBD/ICCP/2/2, 31 July 2001).

⁴⁶⁴ Convention on Biological Diversity, Liability and Redress for damage resulting from the transboundary movement of living modified organisms, Review of relevant international legal instruments and identification of elements, Note by the Executive Secretary to the Intergovernmental Committee for the Cartagena Protocol on Biosafety, p. 27 (UNEP/CBD/ICCP/2/2, 31 July 2001).

⁴⁶⁵ Michael Faure & Hui Wang, Liability for oil pollution – the EU approach, [2004] Environmental Liability, vol. 12(2), p. 55, 66.

⁴⁶⁶ Måns Jacobsson, Perspective of the Global Compensation Regimes; The Relationship between EU Legislation and Maritime Liability Conventions, European Journal of Commercial Contract Law, vol. 4, p. 63, 70 (2012).

⁴⁶⁷ ELD, Annex II, para 1.

⁴⁶⁸ Peter Weterstein, Environmental impairment liability after the Erika and Prestige accidents. Scandinavia Law. p. 230, 252-53 (2010). Available at www.scandinavianlaw.se/pdf/46-12.pdf

Criticism of the narrow scope of “pollution damage” under the marine Conventions is not limited to commentators. Even before the ELD was adopted, the European Commission stated that “Without prejudice to [proposals for the ELD], the Commission considers that the existing coverage of reinstatement costs could be expanded to include at least costs for assessing the environmental damage of the incident as well as costs for the introduction of components of the environment equivalent to those that have been damaged, as an alternative in case reinstatement of the polluted environment is not considered feasible”.⁴⁶⁹ The Commission further stated that “consistency with compensation of environmental damage from other sources of pollution is equally important. From a Community perspective it is not justifiable that compensation of environmental damage varies widely depending on whether the pollutant was an oil tanker, another ship or a factory on shore”.⁴⁷⁰

It is arguable that the term “pollution damage” does not include “environmental damage” under the ELD except, perhaps, to the limited extent that a person suffers economic loss in respect of such environmental damage. Indeed, Michael Mason has commented that “the oil pollution liability conventions were not *designed* to provide full compensation for environmental damage”.⁴⁷¹

Another indisputable limitation in the scope of “pollution damage” under the marine Conventions is the absence of compensation for “compensatory remediation”, as imposed by the ELD. A publication by the International Petroleum Industry Environmental Conservation Association and the International Tanker Owners Pollution Federation Limited states, in comparing the Conventions with the natural resource damage regulations under the US Oil Pollution Act 1990 (which specify liability for “natural resource damage”, which is roughly equivalent to “environmental damage” for water and protected species and natural habitats under the ELD), that the Conventions:

“do provide for the payment of compensation for the reasonable costs of technically justified reinstatement/restoration measures. ... However the [US Regulations] also provide, amongst other things, for compensatory restoration for the services that might have otherwise been provided by the injured resources (to the public and other components of the environment) and which are deemed to have been lost while the resources are recovering naturally or being restored. These and other theoretically-based assessments of environmental damage are not covered by the definition of pollution damage agreed by governments in the [Conventions]”.⁴⁷²

In summary, the term “pollution damage” is narrower than the term “environmental damage” under the ELD. The (real or perceived) exclusion in the ELD for compensation and liability under the marine Conventions, therefore, ensures that an imminent threat of, or actual, environmental damage under the ELD applies to the marine Conventions to a much more limited extent than it applies to other industrial / commercial sectors.

6.1.3.7 Incident

As indicated above, the ELD does not apply to an imminent threat of, or actual, environmental damage arising from an “incident” in respect of which liability or compensation falls within the scope of any of the International Conventions listed in Annex IV, including any future amendments

⁴⁶⁹ COM(2000) 802 final, p. 59.

⁴⁷⁰ COM(2000) 802 final, p. 58.

⁴⁷¹ Michael Mason, Civil liability for oil pollution damage: examining the evolving scope for environmental compensation in the international regime, *Marine Policy* vol. 27, p. 1, 5 (2003).

⁴⁷² IPIECA & ITOFF, *Oil Spill Compensation; A Guide to the International Conventions on Liability and Compensation for Oil Pollution Damage*, p. 22 (February 2007).

thereof, which is in force in the Member State concerned. The ELD does not define the word 'incident'.

All the Annex IV Conventions define the word "incident" as follows "any occurrence, or series of occurrences having the same origin, which causes pollution damage or creates a grave and imminent threat of causing such damage".

In contrast, the trigger for the ELD is imminent threat of damage of actual damage to land, waters and biodiversity provided the "significance threshold" is exceeded. The ELD includes the word "incident" in respect of the Conventions but does not define it. There is thus a mismatch between the Conventions and the ELD as to the trigger for their application.

It is, therefore, unclear whether the ELD could or should apply below the threshold of the marine Conventions. In particular, the term "grave and imminent threat of causing such damage" appears to be higher than the threshold in the ELD for an "imminent threat of damage", which is defined as "a sufficient likelihood that environmental damage will occur in the near future" (ELD, art 2(9)).

6.1.3.8 Exceptions and defences

The 1992 Civil Liability and 1992 Fund Conventions have an exception for pollution damage that "resulted from an act of war, hostilities, civil war, insurrection or a natural phenomenon of an exceptional, inevitable and irresistible character. This exception is similar to the exceptions in the ELD for "an act of armed conflict, hostilities, civil war or insurrection", and "a natural phenomenon of exceptional, inevitable and irresistible character" (ELD, art 4(1)).

6.1.3.9 Limits of liability

In contrast to the ELD, there is a three-tier system of compensation under the 1992 Fund Convention and a similar system under the other IMO Conventions. The limits of compensation in the Conventions, unlike the ELD, include claims for bodily injury, property damage and economic loss.

The Commission has criticised a shipowner's right to limit liability, stating that it "is practically unbreakable"; and further commenting that the right is not lost:

"unless it is proven that the damage 'resulted from his personal act or omission, committed with the intent to cause damage, or recklessly and with knowledge that such damage would probably result.' Negligence or even gross negligence on behalf of the owner does not meet these criteria and it is evident that in most circumstances it would be very difficult to breach this threshold".

The Commission further stated that:

"while it is true that the quoted phrase has its equivalents in some other maritime liability conventions, the Commission fails to see the justification for copying such an unassailable test for the loss of the limitation right into the oil pollution liability regime. It considers that the extraordinary risks involved in the transport of oil by sea need to be reflected in a greater exposure of the shipowner to unlimited liability".

The Commission continued that:

"[t]he problems of nearly unbreakable rights are further aggravated by the methods by which the shipowner's liability is established. It is solely calculated on the basis of the size of the ship, ignoring factors such as the nature of cargo carried and the amount of oil spilled. The owner of the Erika, for instance, could

thus count on a right to limit his liability to some EUR 13 million, with a very limited risk of losing this right due to any potential conduct on his part, whether before or during the incident”.⁴⁷³

As discussed in section 6.1.1.2, the IMO adopted the Supplementary Fund Protocol to raise the limits of liability after the *Erika* oil spill.⁴⁷⁴

6.1.3.10 Mandatory financial security requirements

The 1992 Civil Liability Convention imposes mandatory financial security on the owner of a ship for pollution damage, subject to the 1992 Fund paying pollution damage above this amount, and the fund established under the Supplementary Fund Protocol providing funds above that amount to 750 million SDR for Contracting Parties to that Protocol. The mandatory financial security includes liability for bodily injury, property damage and economic loss, which are not covered by the ELD.

The ELD does not impose mandatory financial security. Bulgaria, the Czech Republic, Greece, Hungary, Portugal, Romania, Slovakia, and Spain have included, or are in the process of including, mandatory financial security in varying amounts. None of the systems in these Member States, however, includes mandatory financial security for an imminent threat of, or actual, environmental damage from marine shipping.

Thus, the IMO Conventions ensure that there is substantial funding for “pollution damage” and “damage”, whereas the ELD does not ensure that an operator under the ELD has any funding to ensure the prevention and remedying of environmental damage unless a Member State has adopted more stringent provisions than the ELD to do so.

There is, however, a potential that the limit of liability could be reached due to the payment of compensation to third-party claimants, resulting in insufficient funding to remediate or compensate ecological damage (see the case involving the claims by the Commune de Mesquer in respect of the *Erika*, in section 6.1.5 below).

6.1.4 Other key differences between the marine Conventions and the ELD

Other key differences between the marine Conventions and the ELD are as follows.

- The Conventions apply to many more States globally than the ELD;
- The Conventions are voluntary in that States may decide to be parties to them; all Member States are not parties to the Conventions (see Annex C). Transposing the ELD is mandatory for all Member States;
- The Conventions contain exclusivity provisions that exclude claims for marine damage brought outside them. The ELD, like other EU law, is supreme to the law of any Member State,⁴⁷⁵ including law that ratifies an international agreement;

⁴⁷³ European Commission, Proposal for a Directive of the European Parliament and of the Council establishing a Community monitoring, control and information system for maritime traffic; Proposal for a Regulation of the European Parliament and of the Council on the establishment of a fund for the compensation of oil pollution damage in European waters and related measures; Proposal for a Regulation of the European Parliament and of the Council establishing a European Maritime Safety Agency, pp. 56-57. COM(2000) 802 final (6 December 2000).

⁴⁷⁴ See Michael Faure & Hui Wang, Liability for oil pollution – the EU approach, [2004] Environmental Liability, vol. 12(2), p. 55, 62 (“It was, therefore, probably thanks to the EU that a new Protocol to the Fund Convention was introduced at the London Diplomatic Conference of 12-16 May 2003, establishing a supplementary fund”).

- The Conventions do not require an operator to carry out measures to prevent or remediate pollution damage; instead the owner of a ship (Fund, or Supplementary Fund) is liable for the reasonable costs of pollution damage that is prevented or remediated by other persons;
- The Conventions include a cap on liability whereas the ELD does not do so. In this respect, some Member States have not ratified all the Conventions. Thus, owners of ships in these Member States are, therefore, subject to different limits of liability for “pollution damage” and “damage”; and
- The caps on liability under the Conventions are subject to States that are Contracting Parties to them paying claims that exceed the cap on the operator’s liability.

6.1.5 Experience in relation to marine Conventions and comparison with the ELD

This section aims to highlight feedback received from experts and stakeholders through consultation, as well as information gathered through desk-based research, on the experience gained in relation to the legal instruments listed in Annex IV to the ELD and, where relevant, to the LLMC. In addition, this section includes a review of incidents falling under these Conventions that occurred between 1 May 2007 and 30 April 2013 and analysis of how they would have been handled had they fallen within the scope of the ELD.

6.1.5.1 Practical experience in relation to marine Conventions

This section focusses mainly on the Conventions listed in Annex IV to the ELD that are in force, namely the CLC, 1992 Fund and Bunker Oil Conventions. It nevertheless includes some considerations in relation to the other legal instruments, in particular the HNS Convention. Distinction is made between the Conventions where relevant and necessary for a better understanding of the report.

Views and opinions expressed in relation to the above-mentioned Conventions may be divided into the following categories:

- Clear channelling of liability;
- Environmental damage that may be compensated;
- Practical handling of claims;
- Involvement of national courts; and
- The Conventions as exemptions to the ELD.

As a preliminary remark, it is worth noting that experts and stakeholders usually consider that the oil pollution regime established under the IMO Conventions works well and is effective,⁴⁷⁶ although

⁴⁷⁵ See *Queen v Secretary of State for Transport, ex parte: Factortame Ltd*, para 23 (CJEU, C-213/89,1990) (“Community law must be interpreted as meaning that a national court which, in a case before it concerning Community law, considers that the sole obstacle which precludes it from granting interim relief is a rule of national law must set aside that rule”).

⁴⁷⁶ See notably 2nd ELD Stakeholder Conference, Summary report, June 2013; and Lloyd’s presentation at said Conference, Remediation and prevention of environmental damage under IMO Conventions, available at http://ec.europa.eu/environment/legal/liability/pdf/eld_meetings/11_06_2013/Presentation%20-%20Remediation%20and%20prevention.pdf

And interview with Edward Brans, attorney at law, in the framework of this study.

it is not perfect and provisions regarding remediation of environmental damage are not as broad and comprehensive as under the ELD. However, the difference of approach adopted in IMO Conventions and the ELD is usually highlighted to explain the differences regarding environmental damage.

A clear channelling of liability

According to many experts and stakeholders, one of the main advantages of the IMO Conventions listed in Annex IV to the ELD, and that are in force, is that they implement a practical approach based on experience.

The IMO Conventions came into being as a result of a lack of legislation and/or a patchwork of legislation that would apply in the international shipping as it would depend on each State; it would thus be very difficult for ship owners (or other parties involved in the shipping) to know what their liabilities were. The Conventions were an answer to this issue, and established a mechanism of strict liability to ensure that money is available for prompt payment in case of a spill.⁴⁷⁷

The IMO Conventions currently in force are all based on the following:

- To provide compensation to victims in a swift way;
- Compulsory insurance, with direct action by the victims against insurers; and
- Clear liable party (usually the ship owner, although there are more liable parties under the Bunker Oil Convention), although this entails that the Conventions are not as “fair” as the ELD, as the person whose actions actually caused the pollution is not necessarily the liable party. The ELD definition of the “operator” as the liable party would be problematic for incidents arising under the IMO Conventions as it would render it difficult to determine in practice who the liable party is (it could be argued that it is the ship owner, operator, manager, the chartering companies, shipping banks, etc.), which are often difficult to trace in an international context.⁴⁷⁸

Thus, according to experts and stakeholders interviewed, the clear channelling of liability established under the IMO Conventions, as described in the legal analysis in the previous section, entails some undeniable advantages: the ship owner, who is required to have mandatory insurance, is the liable party in case of damage and there is no need for others to take out insurance. In exceptional circumstances, another party may be liable, such as classification societies. In addition, the liability limits set by the Conventions may not apply in certain circumstances, e.g. if the ship owner has been acting with intent or recklessly with knowledge that such damage was likely to occur. Furthermore, it was emphasised that mandatory insurance and direct action rights better protect the victims by making it easier to obtain compensation.⁴⁷⁸

In case of an incident under the CLC and Bunker Oil Convention, insurance will apply up to the limitation provided in the Convention. If the insurance financial ceiling is reached under the CLC, the IOPC Funds (and the Supplementary Fund) then take over to compensate costs that exceed this ceiling. Where costs to be compensated exceed the financial ceiling of the IOPC Funds (and now the Supplementary Fund,⁴⁷⁹ which is however not currently listed in Annex IV to the ELD), the

⁴⁷⁷ Interview with Stakeholder in the framework of this study.

⁴⁷⁸ Interview with Expert in the framework of this study.

⁴⁷⁹ The objectives of the 2003 Supplementary Fund Protocol, which entered into force in 2005, are to fill gaps in the 1992 Fund Convention in particular with regard to the amount of compensation. The Supplementary Fund thus provides additional compensation beyond the amount available under the 1992 Fund Convention, provided Member States are Parties to both the 1992 Fund and the Protocol.

Funds apply a pro rata payment in those cases. This aspect of the regimes under the IMO Conventions was highlighted by many stakeholders.⁴⁸⁰

However, the Bunker Oil Convention is a single-tier regime, with no international fund topping up compensation payments.⁴⁸¹ It was considered by many States necessary therefore to give victims the possibility to claim compensation from several parties, and as a result the Convention does not contain any channelling provisions.⁴⁸² Some stakeholders nonetheless highlighted that, although bunker spills may be significant, experience over the last decades has shown that these have been less so than tanker spills, and that an important issue, wherever it has been discussed, associated with the creation of a fund dealing with bunker oil spills would be, who would provide contributions. The answer cannot be as straightforward as with the CLC/Fund regime.⁴⁸³

The HNS Convention (2010 Protocol) establishes a two-tier system, very similar to the system created by the 1992 Civil Liability and Fund Conventions together. It is expected that the Fund to be set up under the HNS Convention will share a Secretariat with the IOPC Funds. The IOPC Funds' Secretariat has been tasked with working together with the IMO Secretariat in preparing for the entry into force of the HNS Convention, setting up the HNS Fund and preparing for the first session of the HNS Fund Assembly.⁴⁸⁴ There are currently 8 signatories to the 2010 HNS Protocol (including six EU member States), but no ratifications so far (although a number of States have indicated that they are moving towards ratification).⁴⁸⁵ It is important to note that although the Protocol was adopted to address a limited number of issues that had been considered obstacles to the entry into force of the original HNS Convention, there has been no demonstration of any great political will among EU Member States to ratify the Protocol; this may be attributed to the fact that there has been no serious HNS incident in the EU.⁴⁸⁶

The CLC and Bunker Oil Convention incorporate broadly similar mandatory insurance provisions whereby ships of a certain tonnage defined in the applicable Convention must maintain on board a certificate issued by the Flag State attesting that adequate financial security is in place to cover the liabilities under the applicable Convention. Such certificates are usually issued on the back of a Blue Card issued by P&I Clubs.⁴⁸⁶

P&I Clubs are likely to cover the requirements of the HNS Convention (once it comes into force) in terms of the scope of coverage, since they already provide cover for pollution damage arising from HNS incidents.

⁴⁸⁰ Interview, in the framework of this study, with Edward Brans, attorney at law, and Llyod's.

⁴⁸¹ Interviews with various experts and stakeholders in the framework of this study.

⁴⁸² Interview, in the framework of this study, with Måns Jacobsson, Former Director the IOPC Funds, expressing his personal view (and not that of the IOPC Funds).

⁴⁸³ Interview with Stakeholders, in the framework of this study.

⁴⁸⁴ Written feedback provided by IOPC Funds, and interview with Expert in the framework of this study.

⁴⁸⁵ Interview, in the framework of this study, with Måns Jacobsson, Former Director the IOPC Funds, expressing his personal view (and not that of the IOPC Funds), and with the European Commission's DG MOVE.

⁴⁸⁶ Interview with Stakeholders in the framework of this study.

The International Group of P&I Clubs is comprised of 13 marine mutual third party liability insurance associations that provide third party liability cover relating to the use and operation of ships for approximately 90% of the world's ocean-going tonnage. There are a number of P&I providers outside the International Group.

Although the effectiveness of IMO Conventions listed in Annex IV of the ELD and that are currently in force has been highlighted by many stakeholders, some⁴⁸⁷ consider that the inclusion of the 1976 LLMC as an exemption to the ELD (Article 4) is not appropriate, pointing out that it is unclear and does not offer strict liability or mandatory insurance (among other things)⁴⁸⁸, and hence it deserves scrutiny whether to keep it as an exception under Article 4(3). In particular, given that the HNS Convention is yet to enter into force, the LLMC places a limit on what ship owners will pay in case of damage in connection with the carriage of hazardous and noxious substances by sea. They would incur very limited liability which constitutes a risk both for compensation of the victims and remediation of the environment in case of environmental damage. As long as the HNS Convention is not in force, the system remains unduly protective of ship owners.⁴⁸⁷ However, the LLMC will provide higher limits once the increases to the limits of the 1996 Protocol enters into force in 2015, as an increase of about 51% was decided in April 2012 and the limit would thus be quite significant.⁴⁸⁹ In addition, the International Group of P&I Clubs stressed that limitation on civil liability is a trade-off: the ship owner has the right to limit his responsibility (as long as the limit is high enough), but is subject to strict liability. The LLMC thus provides for a limitation regime, which constitutes the basis for limitation in most States that are Contracting Parties to the Bunker Oil Convention.

Environmental damage

The definition of “damage” is similar in all IMO Conventions. The notion of damage in the HNS Convention is however broader than in the CLC/Fund Convention and the Bunker Oil Convention as it covers damage caused by fire and explosion, which is not the case under the other IMO liability conventions. The concept of damage in the HNS Convention covers also personal injury and death, whereas these types of damage would very rarely occur in cases covered by the CLC/Fund Convention and the Bunker Oil Convention.⁴⁹⁰ Nonetheless, the principles applied regarding environmental damage are the same as under the other IMO Conventions.⁴⁸⁷

Although all parties facing damage may file a claim under the IMO Conventions, the claimant must be able to prove his/her claim. Regarding environmental claims, one expert highlighted that the definition of “damage” as found in the Conventions was negotiated in 1984, before the notion of “environmental damage” appeared. It is therefore an old definition that would need to be modified to better encompass environmental damage.⁴⁹¹ However, past attempts to move in that direction have not met with success, although the IOPC Funds’ policy evolved through different steps throughout the years, with specific criteria adopted in 2003 (see below).⁴⁹²

➤ Preventive and remedial measures that may be compensated

The ELD covers preventive measures and remedial measures, which include primary, complementary and compensatory remediation. Contrary to the Directive, the IMO Conventions do

⁴⁸⁷ Interview with Expert in the framework of this study.

⁴⁸⁸ The LLMC is not a liability convention.

⁴⁸⁹ Interview with Stakeholder in the framework of this study.

⁴⁹⁰ Interview, in the framework of this study, with Måns Jacobsson, Former Director the IOPC Funds, expressing his personal view (and not that of the IOPC Funds).

⁴⁹¹ Interview with Edward Brans, attorney at law, in the framework of this study. See also Julien Hay, Betty Queffelec, Yann Rabuteau (2010). Indemnisation des dommages à l’environnement et régime international d’indemnisation des dommages dus à la pollution par les hydrocarbures: bilan et perspectives. Programme de recherche « Evaluation économique des dommages écologiques des marées noires », 2005-2008, Ministère de l’Ecologie et du Développement Durable. Convention CV05000033. UMR AMURE (Brest University) and Réseau Allegans.

⁴⁹² Interview with Edward Brans, attorney at law, in the framework of this study

not distinguish between various types of remedial measures,⁴⁹³ although it is possible to determine whether “preventive measures” and “reinstatement measures” encompass some or all of the above. Indeed, the terms preventive measures and remedial measures in the ELD correspond partly to the concepts of preventive measures and measures of reinstatement of the environment in the IMO Conventions.⁴⁹⁴ One important difference is that clean-up measures are considered preventive measures under the IMO Conventions, whereas they are remedial measures under the ELD.

The IOPC Funds agree to compensate “reasonable clean-up measures”, which are considered preventive measures, and other measures taken to prevent or minimise pollution damage, but also reasonable costs associated with the capture, cleaning and rehabilitation of wildlife.⁴⁹⁵ In addition, the IOPC Funds compensate for loss of profit from impairment of the environment and “reasonable reinstatement measures” (together referred to as “environmental damage” in the IOPC Funds’ Claims Manual)⁴⁹⁵ aimed at accelerating natural recovery of environmental damage. The Claims Manual provides, as one of the general criteria applying to all claims, that “a claimant is entitled to compensation only if he or she has suffered a quantifiable economic loss”.⁴⁹⁶ Hence, pure ecological damage is not admissible for compensation under the IMO Conventions but only the economic consequences of damage to the environment and reasonable costs of reinstatement of the environment. Contrary to what is the case under the ELD, no compensation can be awarded under the Conventions for damage of a non-economic nature.⁴⁹⁷

Because a shipping incident is unique due notably to the marine environment, the potential range of damage is so wide that the assessment of the damage is carried out on a case-by-case basis.⁴⁹⁸

The IMO Conventions provide compensation for “primary remediation”, although it is not always clear where clean-up operations stop⁴⁹⁹ and primary remediation begins. However, when its opportunity is decided, clean-up is done by using the best available techniques which minimise the environmental impacts and enhance natural recovery, the aim being to avoid causing further damage to the affected biota, and to accelerate the natural healing process. Consequently, it is commonly agreed that the clean-up is already a part of the restoration process.⁵⁰⁰ In addition, clean-up operations are considered emergency remedial measures (“mitigation measures”) under the Directive.⁵⁰¹ Hence, it may happen that part of the costs of primary remediation are

⁴⁹³ Interview with Michel Girin in the framework of this study.

⁴⁹⁴ Interview, in the framework of this study, with Måns Jacobsson, Former Director the IOPC Funds, expressing his personal view (and not that of the IOPC Funds).

⁴⁹⁵ IOPC Fund 1992, Claims Manual (October 2013 Edition). Available at http://www.iopcfunds.org/uploads/tx_iopcpublishations/Claims_Manual.pdf

⁴⁹⁶ IOPC Fund 1992, Claims Manual, p.15 (October 2013 Edition). Available at http://www.iopcfunds.org/uploads/tx_iopcpublishations/Claims_Manual.pdf

⁴⁹⁷ Interview, in the framework of this study, with Måns Jacobsson, Former Director the IOPC Funds, expressing his personal view (and not that of the IOPC Funds).

⁴⁹⁸ Interview with Stakeholders in the framework of this study.

⁴⁹⁹ Interview with Loïc Kerambrun, from Cedre, in the framework of this study: Clean-up operations really start when the oil reaches the shore (and requires e.g. pumping, etc.), i.e. when there are no more mobile pollutants. Before that, preventive measures will be carried out at sea.

⁵⁰⁰ Interview, in the framework of this study, with Julien Hay, Lecturer at University of Brest, in the framework of this study, Edward Brans, attorney at law, and Loïc Kerambrun, from Cedre.

⁵⁰¹ Interview with Edward Brans, attorney at law, in the framework of this study.

Clean-up operations correspond to the emergency remedial measures referred to in Article 6(1)(a) of the ELD. And primary remediation is defined under the ELD as ‘any remedial measure which returns the damaged natural resources and/or impaired services to, or towards, baseline condition’ (Annex II). This was emphasised in the Commission’s ELD Training material (2-day training handbook): “*Clean-up is part of primary remediation*”

compensated under clean-up operations because of this grey area between such operations and remediation.⁵⁰² However, it does not include complementary and compensatory remediation as the Funds refuse to compensate for interim losses (except if there is economic loss). One stakeholder views this as one of the main gaps of the IMO regime, as compensatory remediation should be possible if primary remediation is not, such as is the case under the Oil Pollution Act 1990 in the US. On exceptional occasions, the Funds agree to compensate for complementary remediation measures, provided there is a clear link between the measures and the damaged components of the environment.⁵⁰³ However, this addition is quite recent and has not yet been fully accepted or at least applied.⁵⁰⁴ The equivalent under the IMO Conventions of ELD “remedial measures” is therefore quite narrower, and hence does not receive much compensation.⁵⁰⁵

Following the *Sea Empress* oil spill off Milford Haven, Wales, in 1996, the need for studies to determine whether reinstatement measures are necessary became evident.⁵⁰⁶ The IOPC Funds therefore now agree also to compensate for the cost of post-spill studies “provided that they relate to damage which falls within the definition of pollution damage under the Conventions”.⁵⁰⁷ In the *Erika* case for instance, the 1992 IOPC Fund agreed to compensate local reinstatement plans (there was no general reinstatement plan), and although it agreed to provide compensation for economical (environmental) studies undertaken by the victims (local authorities, associations, etc.), it refused to compensate a more general study carried out by a university economist.⁵⁰⁴

➤ Reasonableness of the measures

As seen above, one important requirement for compensation under the IMO Conventions is that preventive measures and measures of reinstatement are “reasonable”.

The IOPC Funds have established criteria for what is to be considered “reasonable reinstatement measures”, which are found in the Claims Manual. These criteria were developed in the late 1990s by the 1992 Fund Working Group, following the *Erika* case, and are as follows:

- The measures should be likely to accelerate significantly the natural process of recovery;
- The measures should seek to prevent further damage as a result of the incident;
- The measures should, as far as possible, not result in the degradation of other habitats or in adverse consequences for other natural or economic resources;
- The measures should be technically feasible; and

which refers to actions designed to return damaged natural resources and/or services to baseline conditions”.
Available at http://ec.europa.eu/environment/legal/liability/eld_training.htm

⁵⁰² Interview with Julien Hay, Lecturer at University of Brest, in the framework of this study.

⁵⁰³ Interview with Edward Brans, attorney at law, in the framework of this study. The IOPC Funds’ Claims Manual (last updated October 2013) indicates: ‘Reinstatement measures taken at some distance from, but still within the general vicinity of, the damaged area may be acceptable, so long as it can be demonstrated that they would actually enhance the recovery of the damaged components of the environment. This link between the measures and the damaged components is essential for consistency with the definition of pollution damage in the 1992 Conventions.’

⁵⁰⁴ Interview with Michel Girin in the framework of this study.

⁵⁰⁵ Interview, in the framework of this study, with Julien Hay, Lecturer at University de Brest, and Damien Périssé, from CPRM.

⁵⁰⁶ Interview with Edward Brans, attorney at law, in the framework of this study.

⁵⁰⁷ IOPC Fund 1992, Claims Manual (October 2013 Edition). Available at http://www.iopcfunds.org/uploads/tx_iopcpublishations/Claims_Manual.pdf

- The costs of the measures should not be out of proportion to the extent and duration of the damage and the benefits likely to be achieved.⁵⁰⁸

Under the IMO Conventions, there is thus a reluctance to compensate remedial measures if it is not easily translated into economic terms.⁵⁰⁹ The governing bodies of the IOPC Funds have decided that the notion of “reasonableness” in the 1992 CLC and the 1992 Fund Convention means that the measures undertaken must be technically and objectively reasonable (but not “politically” reasonable).⁵¹⁰ In order to meet this technical and objective reasonableness, there must also be reasonable proportionality between the costs incurred and the benefits of the measures or the benefits that could reasonably have been expected at the time it was decided to take the measures.⁵¹⁰ A claimant must have suffered a quantifiable economic loss: the Funds refuse to pay compensation for claims for environmental damage based on “an abstract quantification calculated in accordance with theoretical models”,⁵⁰⁸ a stance adopted in 1980 through Resolution No. 3 on pollution damage,⁵¹¹ which implies that the only acceptable method for assessing pollution damage by the IOPC Fund is the economic model. As discussed in section 6.1.3.6, Resolution No. 3 was adopted following the *Antonio Gramsci* case (1979) when the local court applied a mathematical method known as *methodika*, which determined that a fixed amount of compensation should be paid for every cubic meter of seawater polluted.⁵¹² In this regard, one expert raised a very interesting issue in relation to the principle established under Resolution No. 3 of 1980 and still applied today, namely: since the adoption of Resolution No. 3, equivalency methods have much evolved and improved and are now much closer to an accurate ecological determination of environmental damage, so should and/or would Resolution No. 3 still be opposed to such current equivalency methods?⁵¹³

It is noteworthy that Annex II to the ELD also includes criteria to be taken into account when choosing remedial options (the Directive mentions “reasonable remedial options”), which notably includes: the cost of implementing the option, the likelihood of success of each option, and the extent to which each option will prevent future damage, and avoid collateral damage as a result of implementing the option. As emphasised in the ELD Training Material, although the ELD does not provide any limit to the potential cost of meeting the remediation requirements, it does, however, include a provision in Annex II which allows the competent authority to call a halt to remedial action before the baseline condition or equivalent is achieved, if the costs of further action would be disproportionate to the environmental benefits that would be obtained, provided that, at that stage, no significant risk remains of adverse effects on human health, water, or protected species and habitats (Annex II.(1.3.3)).⁵¹⁴

For all three IMO Conventions currently in force (CLC, 1992 Fund, and Bunker Oil Convention), the claims must be well-documented in order for compensation to be granted. The lack of well-

⁵⁰⁸ IOPC Fund 1992, Claims Manual (October 2013 Edition). Available at http://www.iopcfunds.org/uploads/tx_iopcpublishations/Claims_Manual.pdf

⁵⁰⁹ Interview with Expert in the framework of this study.

⁵¹⁰ Interview, in the framework of this study, with Måns Jacobsson, Former Director the IOPC Funds, expressing his personal view (and not that of the IOPC Funds).

⁵¹¹ Available at http://www.iopcfunds.org/uploads/tx_iopcpublishations/1980_ENGLISH_ANNUAL_REPORT.pdf

⁵¹² Case *Antonio Gramsci*, 1979 (cited in D. Ibrahim, *Recovering Damage to the Environment per se Following an Oil Spill: The Shadows and Lights of the Civil Liability and Fund Convention of 1992*, RECIEL vol. 14(1), p.66 (2005) (cited in Tarcísio Hardman Reis, *Compensation for Environmental Damages Under International Law: the Role of the International Judge* (Kluwer Law International, 2011, 215 pages)).

⁵¹³ Interview with Julien Hay, Lecturer at University de Brest, in the framework of this study.

⁵¹⁴ Commission’s ELD Training material. Available at http://ec.europa.eu/environment/legal/liability/eld_training.htm

documented claims regarding notably the cost of actual reinstatement measures thus entails that compensation may not be provided for such costs; such a situation has occurred on many occasions.⁵¹⁵ This consideration will likely also apply to the HNS Convention once it comes into force.

According to one expert,⁵¹⁶ one of the main challenges in relation to IMO Conventions is that, in order to be granted compensation by IOPC Funds, it is necessary to demonstrate that the measures are covered by the IOPC Funds' principles, i.e. to show there has already been a precedent. This may prove problematic and lead to a lesser degree of compensation for e.g. new techniques, etc.⁵¹⁶ In addition, the fact that the CLC/IOPC Funds regime covers only primary remediation and pays compensation for the costs of reinstatement measures only if there are "reasonable" (based on technical feasibility, etc.) entails that such reinstatement measures are very rarely compensated.⁵¹⁷ Most compensation goes to clean-up operations rather than reinstatement measures.⁵¹⁶

In 2004, the Working Group of the IOPC Funds carried out a review of the international compensation regime, with the support of the International Group of P&I Clubs, and published a study of the costs of oil spills from 1978 to 2002.⁵¹⁸ This study is currently being updated at the request of the European Commission, in the context of the report on the ELD it will have been submitted by the end of April 2014. Hence, it is not possible to provide clear indications as to these costs in this study.

Finally, the compensation scheme put in place does not always ensure that compensation is paid speedily to victims of the oil spill, in particular in case of large oil spills which come close to the limits of the Fund; there is usually a considerable delay between the claims of victims and the time at which they receive compensation,⁵¹⁹ i.e. a long time usually elapses between the actual spill and the moment when the IOPC Funds will agree to compensate (reasonable) reinstatement measures (e.g. the planting of plants, etc.).⁵¹⁶

Handling of compensation claims

If an incident falls only under the CLC, the shipowner's liability insurer (which normally is one of the P&I Clubs) will handle the case on its own. However, if a case falls under both the 1992 CLC and the 1992 Fund Convention, the P&I Club and the 1992 Fund will deal with the case together. The co-operation between the Fund and the Club is governed by a Memorandum of Understanding.⁵²⁰

⁵¹⁵ Interview with Edward Brans, attorney at law, in the framework of this study.

⁵¹⁶ Interview with Michel Girin in the framework of this study.

⁵¹⁷ Interview with Julien Hay, Lecturer at University de Brest, in the framework of this study; and Julien Hay, Betty Queffelec, Yann Rabuteau (2010), *supra*.

⁵¹⁸ IOPC Fund 1992, Third Intersessional Working Group. Review of the International Compensation Regime. Study of the costs of oil spills in relation to past, current and future limitation amounts of the 1992 Conventions. 92FUND/WGR.3/22 (14 May 2004).

⁵¹⁹ Interview with Expert in the framework of this study.

⁵²⁰ The Memorandum of Understanding is available at http://www.iopcfunds.org/fileadmin/IOPC_Upload/Downloads/English/MOU_with_IG_e.pdf

A Joint Claims Office is then set up in the State where the incident occurs, whose aim is to receive and handle claims, establish close links with claimants, and explain how claims form work, etc.⁵²¹

There is thus a close relationship between IOPC Funds and P&I Clubs,⁵²² who will, as soon as an incident occurs, send an expert to the site of the incident to monitor the spill response measures undertaken and provide advice in relation to clean-up and mitigation measures.⁵²¹ Very often the technical experts sent will be from the International Tanker Owners Pollution Federation (ITOPF).⁵²³ ITOPF is funded by the global shipping industry to promote effective spill responses; it is a group of scientists and engineers who provide technical advice notably on measures to clean-up and mitigate pollution damage. ITOPF experts' advice may be requested by the shipowner and his P&I Club and, in some cases by the IOPC Funds. ITOPF experts work under the various maritime Conventions listed in Annex IV to the ELD that are in force, but also in case of chemical spills when national law applies (as there is also mandatory insurance).⁵²¹

National entities of the State affected by the spill, such as the Cedre in France (although the Cedre may intervene in other countries if requested), work in close relationship with experts sent by the IOPC Funds (and the P&I Clubs). ITOPF experts are usually rapidly on site, to ensure contact with the authorities and explain how the Conventions works, what is the established process, etc. They have great experience and usually work closely with national experts.⁵²⁴ ITOPF experts' technical opinions are generally followed and considered adequate (and hence not questioned) by IOPC Funds.⁵²⁵ As previously mentioned, to be compensable under the Conventions, the response measures should be reasonable: costs should not be disproportionate compared to expected results and techniques should be adapted according to the likelihood of success. An expert from the Cedre interviewed in the framework of this study highlighted that, although reasonable measures are necessarily something to keep in mind, ITOPF experts do not seek systematically to implement "minimum" measures for the simple reason that it would cost less. They try to strike a balance between what is feasible in terms of response measures and what is acceptable in terms of costs, ecological impacts and economic benefits.⁵²⁴

Generally, when the expert sent by the IOPC Funds validates and gives its consent to the measures contemplated, it is very often a positive indication that compensation will be granted under the Conventions.⁵²⁴

As regards claims relating to reinstatement of the environment, it would facilitate the consideration by the 1992 Fund and the P&I Club of claims for the costs of measures of reinstatement if a plan for such measures is discussed with the Fund and the Club before the measures are taken. Studies are sometimes required to establish whether or not reinstatement measures are necessary and feasible (post-spill studies).⁵²⁶ The Fund's governing bodies have decided that the Fund may, subject to certain conditions, contribute to the costs of such studies. Also in the case of such studies it would facilitate the consideration by the Fund and the Club of compensation claims for the costs of such studies if the Fund and the Club are invited to take part in planning the study.⁵²⁶

⁵²¹ Interview with Stakeholder in the framework of this study.

⁵²² Interview with Michel Girin in the framework of this study.

⁵²³ Ship owners who receive insurance coverage from P&I Clubs automatically become members of the ITOPF.

⁵²⁴ Interview with Loïc Kerambrun, from Cedre, in the framework of this study.

⁵²⁵ Interview with Julien Hay, Lecturer at University de Brest, in the framework of this study.

⁵²⁶ Interview, in the framework of this study, with Måns Jacobsson, Former Director the IOPC Funds, expressing his personal view (and not that of the IOPC Funds).

Box 3: Practical experience in France⁵²⁷

In France, and in other countries where requested, the Cedre provides a technical response in case of a spill, taking into account the issue of reasonable measures (both costs, and ecological and economic benefits). The Cedre thus submits technical recommendations for clean-up operations, according to the type of pollutant, the usages, the ecological sensitivity and the season.

The over 30-year experience of the Cedre is beneficial, as it has good knowledge of the Conventions and the claims process and, when political pressure requires swift measures, the Cedre will work to ensure that the measures undertaken will be the most beneficial, efficient and hence that they may be compensated. Another advantage is that the Cedre follows all consequences of the spill.

The Cedre also carried out a research project (2005-2006) on environmental remediation following major spills, in particular in the context of the *Haven*, *Sea Empress*, *Erika* and *Prestige* spills: REMRED (*REMédiation environnementale après une pollution majeure: que peut-on considérer comme Raisonnable, Equitable et Durable?*)⁵²⁸

Following the *Erika* oil spill, a new system was established to ensure the reasonableness of costs; through public tenders, framework contracts are concluded (for various lots, based on the emergency measures that are usually required in case of a spill), according to which the “winner” will provide specific services in the first weeks following a spill, at the price agreed upon in the framework contract. Private companies have thus become an important actor in case of such incidents. Before this system was put in place, following a spill authorities would act through requisitions, but once the first emergency weeks had passed, prices would skyrocket as there would be no other alternative.

The most expensive measures are usually those rendered necessary immediately after the spill. They include e.g. sea interventions, waste management and treatment (which can last quite some time), that could require, for example, limitation of the quantity of clean sand removed, and this for ecological reasons (notably to avoid soil erosion, a change of habitat, etc.). Regarding species and habitats, natural recovery is usually favoured by ITOPF experts (which is also the case in the UA under the Oil Pollution Act), on the grounds that the marine environment is very resilient,⁵²⁹ under the ELD, natural recovery can be considered an example of primary remediation.⁵³⁰ Nonetheless, ITOPF experts highlighted that there is no prescriptive process in place to determine remedial measures, pointing out that technical advisers and experts are employed to determine the best approach, which may include natural recovery if e.g. it is less intrusive; natural recovery is, however, not the only considered approach.⁵³¹ As noted by an expert, ITOPF experts also sometimes agree to the use of new techniques, which are based on the circumstances, the

⁵²⁷ Interview with Loïc Kerambrun, from Cedre, in the framework of this study.

⁵²⁸ Information on REMRED is available on (in French) the Cedre web page : http://www.cedre.fr/pmb/opac_css/index.php?lvl=notice_display&id=2597 and <http://www1.liteau.net/index.php/projet/liteau-erika-2004/remred-la-remediation-environnementale-apres-une-pollution-majeure-que-peuton-considerer-comme-raisonnable-equitable-et-durable?symfony=d9b1fd12b9189bdc9b5ac4ae98e8f01a>

⁵²⁹ Julien Hay, Betty Queffelec, Yann Rabuteau (2010).

⁵³⁰ Commission’s ELD Training material: “Natural recovery can be considered an example of primary remediation. However, natural recovery does not typically mean that no measures are taken. It often includes other administrative measures, such as monitoring or limiting the use of the area in question”.

⁵³¹ Interview with Stakeholder in the framework of this study.

technical efficacy of the measures, the weather, etc.⁵³² What can or cannot be done also depends on the type of pollutants involved in the spill: in the case of the *Amoco Cadiz* (1978), the contaminant (light crude oil) was very toxic, whereas in the cases of the *Erika* and the *Prestige*, the oil (heavy fuel oil) was viscous and once removed did not have additional impacts on the environment.⁵³²

An additional point to highlight is that the damage caused by oil spills is generally short-lived, whereas damage caused by HNS incident may have a lasting impact.⁵³³

Involvement of national courts

The *Erika* case is a good example of the various ways in which national courts may be involved in the application of IMO Conventions (in that case the 1992 CLC and the 1992 Fund Convention). Although national courts are not bound by the compensation criteria established by the IOPC Funds, the 1992 Fund's governing body, composed of representatives of the States parties to the 1992 Fund Convention, has stated in a Resolution that it is crucial for the proper and equitable functioning of the regime established by the 1992 Conventions that these Conventions are applied uniformly in all States parties to the Convention. The Resolution also emphasises the importance of national courts in States parties giving due consideration to the decisions of the Funds on the interpretation and application of these Conventions.⁵³³ It is nevertheless noteworthy that, although in an instance which did not concern environmental damage, the Court of Appeal of Rennes ruled that the national courts were not bound by the compensation criteria established by the IOPC Funds, but were bound by the actual text of the Conventions.⁵³⁴ Hence, French courts could construe the Conventions in a less restrictive way than the 1992 IOPC Fund.⁵³⁵

In addition, the French courts in the *Erika* created the notion of "ecological damage" (*préjudice écologique*). Such damage may be incorporated in French domestic law in the near future. It was pointed out that compensation for pure ecological damage was in that case not awarded on the basis of the international Conventions but on the basis of French domestic law against parties which did not fall under the compensation regime created by the 1992 Conventions. It has been argued that, nevertheless, the judgment was unfortunate from the perspective of international uniformity, because the courts applied a concept as to the types of damage compensable in the case of tanker oil spills different from the international Conventions and that such an approach could in fact lead to the creation of a parallel system of compensation for such oil spills.⁵³⁶ It also created disquiet in the insurance sector.⁵³⁷

According to one expert,⁵³⁸ this may be viewed as a weakness of the IMO Conventions, namely that IOPC Funds do not have control over the interpretation of the scheme as a last resort, as victims may bring a claim before national courts; this may lead to very important differences on how

⁵³² Interview with Loïc Kerambrun, from Cedre, in the framework of this study.

⁵³³ Interview, in the framework of this study, with Måns Jacobsson, Former Director the IOPC Funds, expressing his personal view (and not that of the IOPC Funds).

⁵³⁴ See Julien Hay, Betty Queffelec, Yann Rabuteau (2010); and Court of Appeal of Rennes, 25 May 2004, No. 04/00528, available at <http://www.legifrance.gouv.fr/affichJuriJudi.do?oldAction=rechJuriJudi&idTexte=JURITEXT000006944801&fastReqId=1319680450&fastPos=1>

⁵³⁵ See notably Julien Hay, Betty Queffelec, Yann Rabuteau (2010).

⁵³⁶ Interview, in the framework of this study, with Måns Jacobsson, Former Director the IOPC Funds, expressing his personal view (and not that of the IOPC Funds).

⁵³⁷ Interview with Lloyd's in the framework of this study.

⁵³⁸ Interview with Expert in the framework of this study.

the Conventions are interpreted in different States. The Conference of Peripheral Maritime Regions (CPMR) reported that, at a meeting of the IOPC Funds of April 2013, “several States indicated that the Erika judgement could be treated as a precedent by the jurisdictions of States other than France, and that it therefore raised important questions with regard to the CLC/IOPC Funds system”, which entails a risk of loss of uniformity in the application of international rules.⁵³⁹ However, in the *Prestige* case, the Spanish courts did not follow the same reasoning as that adopted by the French courts in the *Erika* case: on 13 November 2013, the Criminal Court in La Coruña ruled that the accused were not criminally liable for damage to the environment,⁵⁴⁰ France and the Spanish public prosecutor appealed this decision before the Supreme Court.⁵⁴¹ As indicated above, there is a lack of a level playing field as there is no harmonised interpretation.⁵⁴² Thus, although the same Conventions were signed, national courts tend to compensate environmental damage in different ways: in the *Haven* oil spill (1991), Italian courts applied a percentage to clean-up operations, while French courts in the case of the *Erika* (1999) created the concept of ecological damage and applied a flat-rate evaluation method based on specific criteria for each of the different types of victim,⁵⁴³ and Spanish courts concluded there was a lack of environmental damage in the *Prestige* case (2002).⁵⁴⁴ In practice, the IOPC Funds may provide better compensation than that provided by national courts in some EU Member States (e.g., the UK and the Netherlands),⁵⁴² but less compensation than national courts under other jurisdictions (e.g., France).⁵⁴⁴ Only a small number of overall claims lead to court cases.⁵⁴⁵

However, according to one expert,⁵⁴⁶ there have been only a limited number of cases in which national courts have interpreted and applied the CLC and the Fund Convention in a manner which is at variance with the position taken by the IOPC Funds’ governing bodies, i.e. by the governments of the States parties. Some decisions by national courts have however given rise to concern, for instance as regards the admissibility of claims for environmental damage and the provisions which channel the liability to the registered owner of the ship. In some cases where the courts have agreed with the Funds as to the question of whether a claim is admissible for compensation, the reasons for the court’s ruling have sometimes differed from the reasons given by the Fund.⁵⁴⁶ Nonetheless, according to another expert, the *Erika* ruling showed that the IMO regime was not the exclusive framework applicable to compensation claims, and hence national courts could take into account damage that was not compensated under the CLC/IOPC Funds.⁵⁴⁷ In France, this led to initiatives such as the “Valdeco” research project (*Valorisation économique des dommages écologiques causés à l’environnement marin: application au cas des mers noires*, 2009-2012), whose purpose was to design practical guidelines for French local and national authorities toward a

⁵³⁹ CPMR (2013), Technical Paper from the CPMR General Secretariat, *Following the ‘Erika’ ruling by the French Court of Cassation, what steps should be taken at European and international level?*, available at http://www.cprm.org/pub/docs/402_tp_cpmr-erika.pdf

⁵⁴⁰ Audiencia Provincial, La Coruña, Judgment No. 00511/2013 of 13 November 2013, available at http://www.fsc.ccoo.es/comunes/recursos/99922/doc170043_Sentencia_de_la_Audiencia_Nacional_de_la_Coruna_sobre_el_Prestige.pdf

⁵⁴¹ ‘*La Fiscalía y Francia también recurren la sentencia del caso Prestige*’, Reuters España, 22 November 2013. Available at <http://es.reuters.com/article/topNews/idESMAE9AL02A20131122>

⁵⁴² Interview with Edward Brans, attorney at law, in the framework of this study.

⁵⁴³ CPMR (2013), Technical Paper from the CPMR General Secretariat, *Following the ‘Erika’ ruling by the French Court of Cassation, what steps should be taken at European and international level?*, Annex I, available at http://www.cprm.org/pub/docs/402_tp_cpmr-erika.pdf

⁵⁴⁴ Interview with Michel Girin in the framework of this study.

⁵⁴⁵ Julien Hay, Betty Queffelec, Yann Rabuteau (2010).

⁵⁴⁶ Interview, in the framework of this study, with Måns Jacobsson, Former Director the IOPC Funds, expressing his personal view (and not that of the IOPC Funds).

⁵⁴⁷ Interview with Julien Hay, Lecturer at University de Brest, in the framework of this study.

better compensation for environmental damage caused by oil spills. This project developed an operational method, although not perfect on ecological and economical grounds but sound on juridical grounds, for valuating environmental damage claims. Furthermore, it highlighted the need to converge these guidelines in the future toward the approach established under the ELD regarding the costs of primary and compensatory remediation notably; it also highlighted the difficulties in applying such an approach to oil spills (e.g. monitoring network, knowledge of the baseline, etc.) in France at the time of the project.⁵⁴⁷

An important additional aspect is that it is not possible to claim outside the IMO Conventions. This issue could have arisen in the *Erika* case, but there was actually no conflict because, as previously indicated, (i) the ship owner was not sued, and (ii) the French court considered that the faults that led to the spill were of such magnitude that the channelling of liability did not apply, and neither did the IMO Conventions; it thus applied national legislation.

The Conventions as exemptions to the ELD

As highlighted by most consulted stakeholders, the IMO Conventions have proved effective, albeit not perfect, as they have managed to strike a balance between different interests. The clear channelling of liability is one of the main advantages, as there is normally no uncertainty as to who the liable party is, which would not be the case if the ELD was to apply; another benefit is the compulsory insurance and swift compensation mechanisms.⁵⁴⁸ The IMO Conventions also have a much broader coverage than the ELD as they are not limited to environmental damage.^{Error! Bookmark not defined.}

However, although the Conventions work quite well, the environment is better protected under the ELD with regards to the broader scope of environmental remediation. One important consequence is that, given that many Natura 2000 sites are located on or close to the coast or in marine waters, should a major spill occur and impact such a site, the incident would (probably) not fall under the ELD but under one of the Conventions listed in Annex IV. Remediation would thus be less beneficial than if it had been carried out under the ELD.⁵⁴⁹

There is therefore currently perceived to be no conflict between the IMO Conventions and the ELD, due to the exclusion of incidents falling under the international Conventions from the scope of the Directive.^{Error! Bookmark not defined.} However, in light notably of the difference of treatment of environmental damage between the IMO Conventions and the ELD, one question that could arise is whether incidents falling under the IMO Conventions set out in Annex IV should continue to be exempt from the application of the ELD.

Although bringing oil pollution incidents and incidents involving hazardous and noxious substances under the ELD would open up the possibility for compensation for pure environmental damage, the majority of interviewed experts and stakeholders pointed out that applying the ELD to incidents covered by the IMO Conventions would entail an effective repudiation by the EU (all EU Member States being parties to the Conventions would have to denounce them) of the IMO approach, which could have serious negative consequences:⁵⁵⁰

- EU legislation would not be binding on non-EU countries, including those which are major Flag States. This would be a drawback as shipping is an international

⁵⁴⁸ Interview with Expert in the framework of this study.

⁵⁴⁹ Interview with Edward Brans, attorney at law, in the framework of this study.

⁵⁵⁰ Interview, in the framework of this study, with Edward Brans, attorney at law, Lloyd's, the European Commission's DG MOVE, and another Expert

business and risks that result from such business are better addressed through a world-wide system than it would be through a regional system such as the ELD⁵⁵¹:

- The international scope of the IMO regime is a positive aspect as it makes it easier to deal with claims arising from an oil spill or a spill of other hazardous substances having international aspects. These regimes are in particular beneficial to developing countries,⁵⁵² since they would assist such countries in obtaining funds to deal with such spills and to compensate victims who would often not have the protection of a social security network;⁵⁵³
 - Furthermore, many EU Member States' neighbouring countries would still be parties to the IMO Conventions (e.g. Maghreb States, Norway, Russia, Turkey): an incident that would affect both an EU Member State and a neighbouring country would hence be subject to different (and conflicting) regimes;
 - The issue would arise of how the EU regime would effectively apply if the ship involved in the incident did not fly the flag of one of the EU Member States, in addition to issues regarding the rules and processes of financial security;⁵⁵⁴ and
- It would risk unravelling the intricate network of Convention responsibilities and entitlements.⁵⁵⁵

Many thus consider that the ELD would not be the right instrument to address identified gaps in the regimes under the IMO Conventions (e.g. financial limits, no compensatory remediation, no compensation for pure ecological damage). During the 2013 2nd ELD Stakeholder Conference, it was recommended that the IMO regime be strengthened, through changes such as:

- Allocating additional funds to environmental clean-up;
- Ensuring funds are spent on environmental remediation;
- But limiting remediation to primary remediation (which is already the case).⁵⁵⁶

In addition, some stakeholders referred to the recent *Alfa I* case (Greece, 2012) to illustrate the effectiveness of the international compensation regime established under the 1992 Conventions. Indeed, an issue regarding the insurance coverage of the ship arose: the type of oil it carried (which falls under the CLC and 1992 Fund Convention) was not covered by the ship owner's insurance policy.⁵⁵⁷ Thus, the lack of proper insurance coverage will not leave victims without any

⁵⁵¹ Interview with Lloyd's and other Stakeholders in the framework of this study.

⁵⁵² Interview with Lloyd's in the framework of this study.

⁵⁵³ Interview, in the framework of this study, with Måns Jacobsson, Former Director the IOPC Funds, expressing his personal view (and not that of the IOPC Funds), and with other Experts.

⁵⁵⁴ Interview with Stakeholder in the framework of this study.

⁵⁵⁵ See notably Lloyd's' presentation during the 2nd ELD Stakeholder Conference, and Summary Report, June 2013. http://ec.europa.eu/environment/legal/liability/eld_conf_11_06_2013.htm

⁵⁵⁶ 2nd ELD Stakeholder Conference, Summary Report, June 2013. http://ec.europa.eu/environment/legal/liability/eld_conf_11_06_2013.htm

⁵⁵⁷ This study will not address the issue of who is potentially at fault in relation to the lack of proper insurance coverage, as it does not fall within the scope of the study and is an ongoing and debated issue.

means of obtaining compensation; the 1992 IOPC Fund has few defences and will in some cases have to compensate victims even if the owner may be exempted.⁵⁵⁸

DG MOVE also supports the existing exemptions insofar as the established international regime continues to provide an adequate and effective response to the claims of the victims of oil pollution. The data currently available (from the last ten years) suggests that the system is working and, coupled with the EU legislation on maritime safety that has been developed at the same time (the third maritime safety package was adopted in 2009), it has resulted in a radical decrease in the number of maritime accidents and their impact for victims of pollution in EU waters.⁵⁵⁹ According to DG MOVE, the report the IOPC Funds with the support of the International Group of P&I Clubs and ITOPIF will send to the Commission in early 2014 on environmental claims from recent oil pollution incidents will be helpful in clarifying the potential gaps between the IMO Conventions and the ELD with regards to environmental damage.⁵⁵⁹

Many stakeholders advocate that the way forward is through the IMO Conventions, not the ELD. Any necessary improvement in relation to environmental damage should thus be made through the IMO Conventions, although the ELD can provide ideas to Member States in the framework of the IMO. DG MOVE highlighted that it would be dangerous to deal with this issue through the ELD, as there is no equivalent on the European front to the system put in place through the IMO Conventions, and these require mandatory insurance. DG MOVE pointed out that the space where there was some opening for development through the IMO system is for the regime to cover interim losses and those that are not of an economic nature, i.e. environmental damage that is not quantifiable.⁵⁶⁰ According to an additional expert, it would be necessary to push the Funds to increase their efforts in terms of compensation for “remedial measures” and to look at what is being done in other countries (in particular the United States and Canada) in order to learn from them.⁵⁶¹ The need for improvement must be assessed against the issue of international acceptability, which is one of the main challenges and obstacles to the evolution of the system.⁵⁶² A French report⁵⁶³ identified possible evolution paths for the CLC/IOPC regime, one of which could be to evolve towards the US Natural Resource Damage Assessment (NRDA) process used under the Oil Pollution Act 1990, which has proved more efficient, from an environmental damage compensation perspective, than the international regime and from which the ELD is inspired. Obstacles would include reluctance of member countries to the IMO Conventions because of the technical approach of the NRDA, which requires the intervention of experts that not all countries have, which could lead to an equity problem at international level; in addition, there are lobbies striving to ensure that environmental damage is taken into account only in a limited way. Finally, an additional fear is that amending the Conventions to better take into account environmental damage would lead to some member countries wanting to amend and modify other parts of the Conventions, which would thus challenge the consensus that was reached when the Conventions were adopted.⁵⁶⁴ According to one stakeholder, the EU still has a role to play with the IOPC Funds to go towards NRDA (on which the ELD is based): the handling of environmental damage under CLC/IOPC Funds is not effective enough and the issue will necessarily be brought up again and will have to evolve.⁵⁶⁴

⁵⁵⁸ Interviews with Experts and Stakeholders in the framework of this study.

⁵⁵⁹ Interview with, and written feedback provided by, the European Commission’s DG MOVE in the framework of this study.

⁵⁶⁰ Interview with the European Commission’s DG MOVE in the framework of this study.

⁵⁶¹ Interview with Michel Girin in the framework of this study.

⁵⁶² Interview with Julien Hay, Lecturer at University de Brest, in the framework of this study.

⁵⁶³ Julien Hay, Betty Queffelec, Yann Rabuteau (2010), *supra*.

⁵⁶⁴ Interview with Julien Hay, Lecturer at University de Brest, in the framework of this study.

One expert considers that nothing would prevent the co-existence, within the EU, of two complementary systems: the IMO Conventions up to a certain point (e.g. for primary remediation, up to their financial ceiling, etc.), which could be complemented by a second system, financed not by taxpayers but by fines to persons causing pollution and/or potential polluters, which would cover those remedial measures not compensated under the IMO Conventions. Canada has adopted such a dual system, through the creation of a national fund for the compensation of environmental damage.⁵⁶⁵

Finally, some experts are of the opinion that IMO Conventions should not be kept as exemptions to the ELD, or at least should allow the coexistence of the two regimes for those incidents falling under the IMO Conventions. This is notably the case of the CPMR and Surfrider Foundation Europe, an environmental NGO “dedicated to defending, saving, improving and managing in a sustainable manner the ocean, coastline, waves and the people who enjoy them”. CPMR identified a set of options to ensure better compensation of ecological damage; although one option is the CLC/IOPC international framework evolves towards a broader interpretation of environmental damage, another proposed option is the setting up of European mechanisms in addition to the existing international framework, including:

- Broadening the scope of the ELD to cover damage to marine waters, by reference to damage caused to “European marine waters” within the meaning of the Marine Strategy Framework Directive (MSFD, 2008/56/EC).⁵⁶⁶ The ELD could then apply where the channelling of liability created under the IMO Conventions is set aside, particularly on the basis of an inexcusable fault; and
- Creating a specific European fund which could complement the IOPC Funds to compensate ecological damage, through e.g. renewed discussions on the setting up of the COPE fund (Compensation for Oil Pollution in European Waters fund), which had been proposed by the European Commission and later abandoned following the adoption of the IMO Convention on the Supplementary Fund in 2003.⁵⁶⁷

Surfrider shares the views of CPMR, which it reaffirmed in a White Paper on Maritime Safety that it published in December 2013.⁵⁶⁸ Surfrider is also of the opinion that the EU should demand the modification of the IOPC Claims Manual, in order that it explicitly includes the reparation of “ecological prejudice”; in this regard, the NGO believes that the IOPC Funds’ expertise should be separate from that of the ITOPE experts in their evaluation of the prejudice. In addition, it considers that the EU should adopt a recommendation urging Member States to ratify the Bunker Oil and HNS Conventions to include pollution caused by vessels other than oil tankers.

⁵⁶⁵ Interview with Michel Girin in the framework of this study.

⁵⁶⁶ See revision to the ELD by Offshore Safety Directive (2013/30/EU), art 38 (extending definition of “water damage” under ELD).

⁵⁶⁷ Interview with Damien Périssé, from CPRM, in the framework of this study; and CPRM (2013), Technical Paper from the CPMR General Secretariat, *Following the ‘Erika’ ruling by the French Court of Cassation, what steps should be taken at European and international level?*, Annex I. Available at http://www.cprm.org/pub/docs/402_tp_cprm-erika.pdf

According to Michel Girin, interviewed in the framework of this study, considering that the balanced reached within the IMO Conventions was not up to their requirements, the USA have chosen not to adhere to the conventions and to create a national fund, with its own rules. In the aftermath of the Erika, the idea of creating an European fund and Europe moving out of the international system was debated and finally rejected in favour of a non written principle that European public services would claim the reimbursement of their response costs only after all individuals and companies affected would have been paid. This created de facto, at taxpayer’s expense, a more favourable system for the European economic operators, than for those in the rest of the world.

⁵⁶⁸ Surfrider Foundation Europe, White Paper on Maritime Safety. Towards an Erika IV Package?, December 2013. Available at <http://en.calameo.com/read/00029102124a7d21ca330>

Regarding the Dangerous Goods Convention, it may never come into force given the low number of States that have signed or acceded to the Convention. This Convention provides for limitations of liability. However, one issue that arises is that local insurance markets do not have sufficient capacity to provide coverage at the levels that the Convention requires. Therefore, should the Dangerous Goods Convention ever come into force, there would be limited insurance coverage available.⁵⁶⁹

6.1.5.2 Review of environmental incidents under the IMO Conventions

According to information and trends identified by ITOPF regarding oil spills from tankers, combined carriers and barges, “the number of large spills (<700 tonnes) has decreased significantly during the last 43 years... The average number of major spills for the previous decade (2000-2009) is just over three, approximately one eighth of the average for years in the 1970s. Looking at this downward trend from another perspective, 55% of the large spills recorded occurred in the 1970s, and this percentage has decreased each decade to 7% in the 2000s”. There also has been a decline with medium sized spills (7-700 tonnes) as “the average number of spills in the 2000s was close to 15, whereas in the 1990s the average number of spills was almost double this number”. As to large spills, none “were recorded for 2012 but 7 medium spills were recorded. Despite being higher than those seen in 2010 and 2011, this figure is still far below the averages for previous decades”.⁵⁷⁰ 70% of spills are usually caused by non-tankers, and not all fall under the Bunker Oil Convention.⁵⁷¹

As stated in the previous section, not all incidents occurring at sea necessarily fall under the IMO Conventions. In addition to having to be in force in the country where the damage occurred, the incident must involve a “ship” as defined under the Conventions, as well as meet other preconditions to their application (such as the type of oil covered, etc.). Consequently, the incidents listed and reviewed below will focus only on (i) those incidents that fell under the scope of at least one of the Conventions listed in Annex IV to the ELD that are in force, and (ii) which caused environmental damage. Spills that resulted in damage which can be viewed as insignificant (e.g., less than one tonne of oil) are also not reviewed.

The table below lists incidents that occurred from 1 May 2007 until late 2013 and which fell under one of the Conventions listed in Annex IV to the ELD; that is, incidents that occurred in Member States where these Conventions are in force. A detailed analysis of each incident is provided in the following paragraphs.

If the ELD had applied to these incidents, the main differences with the regimes actually applied would have been in relation to complementary and compensatory remediation (interim losses), which are covered by the ELD but not by the international Conventions listed in its Annex IV. The elements of comparison being the same for all cases, the cases overviewed below focus on how they were handled in practice.

It is also important to note that the year 2014 started with a new incident: on 5 February the *Luno*, a 100-meter long Spanish cargo ship, hit a jetty and broke in two in Anglet, in the South-west of France, following a problem with the engines. The ship was carrying out a small amount of fuel; a maritime pollution alert was declared as the wreck leaked fuel oil. The 12 crew members had to be

⁵⁶⁹ Interview with Lloyd’s in the framework of this study.

⁵⁷⁰ See <http://www.itopf.co.uk/information-services/data-and-statistics/statistics/index.html>

⁵⁷¹ Interview with Stakeholder in the framework of this study.

evacuated by a military helicopter.⁵⁷² According to the French authorities, about 20 tonnes of fuel oil dispersed into the ocean, but the quantity and nature of the oil contained in the wreck are reportedly unlikely to cause a major oil spill. Investigations into the circumstances of the accident were launched on 6 February.⁵⁷³

⁵⁷² BBC News, Spanish cargo ship splits on French coast at Anglet (5 February 2014). Available at <http://www.bbc.co.uk/news/world-europe-26050037>. Surfer Today, Shipwreck threatens the surf break of Anglet (6 February 2014). Available at <http://www.surfertoday.com/surfing/9913-shipwreck-threatens-the-surf-breaks-of-anglet>

⁵⁷³ Le Monde, Début de l'enquête après le naufrage d'un cargo à Anglet (6 February 2014). Available at http://www.lemonde.fr/planete/article/2014/02/06/cargo-espagnol-echoue-a-anglet-le-navire-se-disloque_4361036_3244.html

Table 5: Summary table of incidents falling under the IMO Conventions listed in Annex IV to the ELD

Date	Incident	Description	Regime
5 March 2012	Alfa I spill	On 5 March 2012, the Alfa 1 sunk in Elefsis Bay near Piraeus (Greece). It spilt some of its 2,070 tonnes of cargo comprising 1,500 tonnes of heavy fuel oil (HFO), 300 tonnes of maritime gas oil (MGO), and 270 tonnes of gas oil.	CLC + 1992 Fund
16 December 2011	TK Bremen spill	On 16 December 2011, the TK Bremen was caught in the storm Joachim (50-60 knot winds and 5-7 m waves). The TK Bremen attempted to move to a more sheltered area, but was grounded 2km south of the mouth of Ria d'Etel (Morbihan, France). The ship leaked an estimated 150 tonnes intermediate fuel oil (IFO) 120 + 40 tonnes marine diesel oil (MDO).	BUNKER
16 March 2011	MS Oliva spill	On 16 March 2011, the MS Oliva ran aground on Nightingale Island, a British territory halfway between Argentina and South Africa, in the Southern Atlantic. Weather conditions caused the MS Oliva to break up on the morning of 18 March. The stern sank and bunker oil (1,400 tonnes HFO) was spilt.	BUNKER
17 February 2011	Godafoss spill	On 17 February 2011, the container ship Godafoss grounded near the Swedish border at the Mouth of Oslofjord in Norwegian waters. Of the 553 tonnes of IFO 380 on board, 112 tonnes were spilt, while 123 tonnes were pumped off. Containers carrying hazardous and noxious substances (HNS)/explosives were kept intact. This incident affected Norway's sole marine nature reserve, Ytre Hvaler National Park; an estimated 1000 elder ducks died due to the spill.	BUNKER
19 February 2010	Strauss spill	On 19 February 2010, the Italian tug Francia was towing the container ship CMA CGM Strauss, 1.5 nautical miles south of the port of Genoa-Voltri (Italy). The two ships collided piercing a hole in one of the Strauss' bunker tanks, releasing an estimated 180 tonnes HFO 500. The crew immediately transferred contents to other bunker tank and caused the vessel to list, limiting the leak. Italian and French authorities mobilised their resources for a quick clean-up, with the ORSEC maritime procedure and crisis management unit being deactivated by 5 March.	BUNKER

Date	Incident	Description	Regime
23 June 2009	Captain Nikolas spill	On 23 June 2009, an oil leakage occurred during loading of the CAPTAIN NIKOLAS, an asphalt tanker. The spilled oil spread over an area of 1,000 square metres. The vessel left Eleusis port for Ukraine.	BUNKER
10 October 2008	Fedra spill	On 10 October 2008, the bulk carrier Fedra was grounded at the entrance to Gibraltar port. The vessel broke in two pieces in Gibraltar waters, leaking 150 tonnes of oil. The rest of the vessel's fuel was removed from its tanks over the next few days following the incident.	CLC
15 January 2008	Ice Prince spill	On 15 January 2008, the bulk carrier Ice Prince suffered a total power failure in the English Channel and sunk the next day, half-way between Cherbourg (Normandy, France) and Portland (England) in British waters. The ship released 5258 tonnes of timber, which washed ashore in Sussex (England). Although some upwellings of oil were detected, most of the fuel remained intact in the wreck (423 tonnes HFO + 123 tonnes MDO) and was eventually pumped out. The crew of 20 was rescued.	BUNKER
12 August 2007	M/V New Flame spill	On 12 August 2007, the bulk carrier New Flame collided bow to bow with the double hulled Danish oil products tanker Torm Getrud 1.5 km off Europa Point (Gibraltar). Being in shallow waters, the vessel partially sunk with its bow resting at a depth of 30 m. 780 tonnes of bunker fuel oil (BFO) was recovered without any oil slick surfacing. The ship broke in two and the stern also sank in December, 94% of the cargo (scrap metal) and 68% of the fragments of the wreck were eventually recovered.	BUNKER
18 January 2007	MSC Napoli spill	On 18 January 2007, the MSC Napoli was in the English Channel, loaded with 2,318 containers (1,684T of 42,000T merchandise was classified as HNS) when she suffered a catastrophic hull failure. The engine was stopped in response to flooding of the machine room and a visible crack in the hull forced the crew to abandon ship. The ship was towed and beached at Lyme Bay. An estimated 302 tonnes of oil was lost as well as 117 containers of various goods.	(HNSC)/BUNKER

Alfa I spill

➤ Facts

On 5 March 2012, in Elefsis Bay near Piraeus, Greece, the bottom hull of the *Alfa I* was punctured over a length of approximately 30 m, when it hit the marked wreck of the vessel *City of Myconos*. The *Alfa I* sunk, coming to a rest in waters 18 to 20 m deep, leaving her bow visible above water.⁵⁷⁴

The ship was loaded with 2,070 tonnes of cargo including 1,500 tonnes of fuel oil No2, 300 tonnes of fuel oil No1 and 270 tonnes of gas oil. Consequently, the oil released from the ship covered 13 km of shoreline of Elefsis bay, contaminating local beaches in Loutopyrgos, Neraki, Nea Peramos, and Salamina Island.

➤ Proceedings and measures undertaken

Salvage activity was carried out at sea by a company engaged by the ship owner, which started by sealing off oil release points. 1,579 tonnes of HFO, 158 tonnes of MGO, and 94 tonnes of slops were recovered by means of hot tapping. Another company was contracted to limit the spread and recover released oil by means of oil recovery vessels, booms, and skimmers. An unknown amount of oil was recovered; 1,200 m of booms were deployed. A further 200-300 m of booms were deployed to protect a nearby marina and oyster farm. This same company undertook shoreline clean up, deploying 30-50 people to manually remove oil along with beach sediment for disposal. The two clean up contractors submitted a bill of EUR 13.3 M in August 2012, followed by an additional claim for EUR 1.05 M in December.

In addition, the Greek Harbour Master issued a fine of EUR 150,000 for pollution charges and an order of EUR 260,000 in clean-up costs incurred by the Greek State.

The case remains under debate due to legal issues over insurance coverage. Points of contention are the liability of the insurer in regard to amount of cargo loaded (2,000 tonnes) and a clause limiting warranty to non-persistent oils. Furthermore, the terms of insurance are in contradiction with the requirements for the certificate of registration issued by Greece as evidence of conformity to CLC and IOPC standards. None of the outstanding claims have been submitted to the IOPC Fund, having been directly addressed to the ship owner.⁵⁷⁵

TK Bremen spill

➤ Facts

On 15 December 2011, after unloading its cargo of 5,300 tonnes of sunflowers, the Maltese-registered cargo vessel *TK Bremen* left the port of Lorient to anchor in the sheltered waters of Groix Island, France.⁵⁷⁶ By evening on 16 December, the ship was in a strong storm, could not hold anchor and eventually attempted to move, being grounded in the process.⁵⁷⁷

⁵⁷⁴ International Oil Pollution Compensation Funds, *Alfa I*. Available at <http://www.iopcfunds.org/incidents/#2012-190-March>

⁵⁷⁵ International Oil Pollution Compensation Funds (2012), *Incidents involving the IOPC Funds*. Available at http://www.iopcfunds.org/uploads/tx_iopcpublishations/incidents2012_e.pdf

⁵⁷⁶ The Atlantic (2012, January 24) Salvaging the TK Bremen. Available at www.theatlantic.com/infocus/2012/01/salvaging-the-tk-bremen/100231/

⁵⁷⁷ Fortunes de mer (April 18, 2012) *TK Bremen: Le rapport du BEA MER exonère l'autorité portuaire mais pas le commandant*. Available at www.fortunes-de-mer.com/mer/fr/15-sinistres-majeurs/65-tk-bremen-bea-mer.html

During the next month, the remaining fuel was pumped out, the ship was torn apart, and then trucked away in pieces.

Consequently, approximately 100 square meters of beach were contaminated, while 30 tonnes of diesel were intentionally dumped into the ocean during the response as outlined in the Polmar plan. Birds covered in oil were observed.⁵⁷⁸

➤ **Proceedings and measures undertaken**

EUR 10M was paid by shipowner's insurance to dismantle the vessel and clean up the shores, completed March 2012. The cleaning measures included pumping remaining fuel out of the vessel (120 tonnes), shoreline clean-up, and booms set up at the mouth of the Ria d'Étel.

The *Préfecture* banned five farms in the region from selling oysters, and banned fishing, which affected some 40 fishermen. By 29 December 2012, oyster consumption was normalised. Professional fishing was resumed on 19 January 2013; recreational fishing was resumed on 9 March.

The President of the Region of Brittany, Jean-Yves Le Drian, filed a complaint against persons unknown on 19 December 2011 for ecological damage and prejudice to the image of Brittany, and to bring civil proceedings before the court of Brest.

Furthermore, a judicial enquiry into the oil spill has been opened by the High Court of Brest. The ship's captain was presented to the court of Brest on 20 December 2011 as an assisted witness. He was heard by the prosecutor and was released on 21 December. Following his hearing, he left for Malta, where he risks 5 years of prison and a EUR 7.5 million fine.

The report of the technical enquiry conducted by BEA mer was released on 17 April 2012.⁵⁷⁹ While noting the situation leading to the accident stemmed from a miscommunication of authorisation for the *TK Bremen* to stay in the port of Lorient, the direct cause of the grounding was pinned on the captain's decision to raise anchor instead of weathering the storm at Groix Island.

A nautical enquiry led by Maritime Affairs is still ongoing.⁵⁸⁰

MS Oliva spill

➤ **Facts**

On 16 March 2011, the Maltese-registered bulk carrier *Oliva* was travelling from Brazil to Singapore when it was grounded during a storm. The next day 22 crew members were safely evacuated. The ship broke in two the following day, dumping 65,000 tonnes of soybeans and bunker oil (est. 1,400 tonnes of IFO 320 and 70 tonnes of diesel),⁵⁸¹ on Nightingale Island, British territory halfway between Argentina and South Africa, in the Southern Atlantic.⁵⁸²

⁵⁷⁸ BEA Mer (2012), Rapport d'enquête technique, TK Bremen. Available at http://www.beamer-france.org/BanqueDocument/pdf_297.pdf

⁵⁷⁹ http://www.beamer-france.org/BanqueDocument/pdf_297.pdf

⁵⁸⁰ <http://www.cedre.fr/fr/accident/bremen/index.php>

⁵⁸¹ [www.nytimes.com/2011/03/23/science/earth/23spill.html?_r=0#h\[\]](http://www.nytimes.com/2011/03/23/science/earth/23spill.html?_r=0#h[])

⁵⁸² <http://www.cedre.fr/en/spill/oliva/oliva.php>

➤ **Proceedings and measures undertaken**

The insurer was proactive, calling upon ITOPF to assess and coordinate the spill response. The site's remote location combined with a lack of sufficient local capacity rendered an adequate response impossible. Strong support was mustered for shoreline clean up due to the presence of Northern Rockhopper Penguins,⁵⁸³ an endangered species that reproduces almost exclusively in Tristan da Cunha.⁵⁸⁴

In late April, some shores of Nightingale, Inaccessible and Middle Islands had still not been inspected or cleaned up. The inaccessibility of the archipelago's islands impeded the implementation of response actions. No survey of the wreck had been conducted and there was not confirmation of the state of the cargo.

Bird rescue operations were coordinated by the Southern African Foundation for the Conservation of Coastal Birds, contracted by the insurer, and supported by other NGOs. A rehabilitation centre was set up on site, washing and rehabilitating 3,718 penguins. Approximately 10% survived and were released back to the wild in June. This low survival rate can be explained by the fact that the birds were at the end of their moulting cycle when the spill occurred. They were therefore hungry, thirsty and at their weakest.

Under supervision of ITOPF, the two contractors Floch Depollution (FR) and Drizit (SA) carried out shoreline clean-up efforts. Due to the inaccessibility of the sites, efforts were focused on sheltered areas previously identified by photographs as moulting areas for penguins. Manual collection, low pressure rinsing, and pumping operations were completed followed by high pressure washing where appropriate.

Inaccessibility, limited capacity, sensitivity of the site to human presence, and the site's high self-cleaning potential (strong hydrodynamics) led the response to focus mainly on avoiding risks of contact for fauna as quickly as possible, while leaving most of the rest to nature.

A temporary fishing ban was put in place around Inaccessible Island and Nightingale Island, affecting lobster fishing in particular. Lobster fishing was reopened around Inaccessible Island, but with preventively low quotas for the 2011/2012 fishing season. The ban was maintained around Nightingale Island.

Over the year, inspection and monitoring activities were expanded. A high mortality rate of exposed penguins was observed (with an estimated 20,000 exposed), but a survey the next year suggested low impact on population (but not enough data on young penguins). Diminished marine life at sea bottom was observed due to low oxygen levels in connection with the decay of soybeans in autumn, but most soybean accumulation had disappeared by December, according to a report commissioned by the insurer.

Extensive studies were carried out over the course of the following year to monitor the impact on the environment. The outcome was better than initially hoped for, and agreement was reached between the ship owner/insurers and the Tristan government on 11 September 2012. The details have not been revealed, but have been communicated to the public as "a reasonable and fair deal for us to move forward with the management of the fishery and protection of the environment."

⁵⁸³ blogs.nature.com/news/2011/03/penguins_in_peril_after_south_1.html

⁵⁸⁴ www.tristandc.com/newsmsoliva2011-12Impact.php

Godafoss spill

➤ Facts

On 17 February 2011, the *Godafoss* was grounded on the Hvaler Islands in southeast Norway, just across from the Swedish border.⁵⁸⁵

Tanks were secured and refloated in March to sail to the Odense shipyard in Denmark to remove the remaining 318 tonnes of IFO 380 and to be repaired. However, oil from the *Godafoss* washed up on the west coast of Sweden. Danish authorities ordered the vessel to dock at port Grenå on Jylland to secure the tanks before continuing to the shipyard.

As outcome result, seabirds, in particular Eider ducks, were most affected by the oil spill. Over 500 birds were estimated to have been oiled. Most of the polluted sites were inspected and declared clean following the clean-up phase in spring 2011.

➤ Proceedings and measures undertaken

110 tonnes of spilled oil was collected (including 58 tonnes in open water recovery and 15 from shoreline operations), 123 tonnes were pumped off on site, and 318 tonnes pumped off after removal.⁵⁸⁶

Sea ice and temperatures around minus 20 degrees Celsius made the clean-up process difficult,⁵⁸⁷ despite the relatively small amount released. One of the more effective techniques developed was a combination of brush belt skimmers assisted by steam heating jets which enhanced the separation of oil from ice.

No legal proceedings have been reported.

Strauss spill

➤ Facts

On 19 February 2010, a fuel leak occurred in the port of Genoa Voltri, Italy, during a towing operation.⁵⁸⁸ The leak was controlled due to the crew's quick response of transferring the bunker oil and causing list. Italian authorities were rapidly alerted and began containment but some slicks escaped toward the French Côte d'Azur. Eventually the widely scattered pollution drifted away without posing a major coastline threat. A dispersal plan was considered but discarded after simulations.⁵⁸⁹

The *Strauss* was repaired in the port of Genoa.

⁵⁸⁵ <http://www.cedre.fr/fr/accident/godafoss/godafoss.php>

⁵⁸⁶ Vince Mitchell, St John's Newfoundland (28 May 2013), *Advances in Arctic Oil-Spill Mitigation, Response Measures and Clean-up Techniques*, LAMOR. Available at <http://neia.org/wp-content/uploads/2012/02/Lamor-Arctic-Presentation-St-Johns-May-2013-Draft-0.pdf>

⁵⁸⁷ On an off-topic note, Shell has been sharply criticised for the adequacy of its arctic oil spill response plan in light of the difficulties encountered during the cleanup of the Godafoss. Greenpeace had brought a case to US courts to overturn the US government's approval of their plans for Chukchi and Beaufort seas, but the court ruled in favour of Shell in August 2013.

⁵⁸⁸ <http://www.cedre.fr/fr/accident/strauss/strauss.php>

⁵⁸⁹ Cedre (2010) Bulletin d'information du Cedre, Dossier, Accidentologie et risqué chimique en mer, l'exposition de la plate-forme Deepwater Horizon, n°27 –Décembre 2010. Available at <http://www.cedre.fr/fr/publication/bulletin/bull27.pdf>

The pollution did not reach the coast. Most of the slick was recovered, while a small quantity escaped to international waters. Remediation and prevention measures were taken, notably mechanical mixing of slicks (or sheen).

➤ **Proceedings and measures undertaken**

The Italians and French proceeded to the direct recovery of accumulations of pollutant. In addition, 300 m of inflatable Aératur 210 boom was deployed, towed between the Ailette and the Laisse Dire III.

Manual recovery was carried out using scoop nets for a few clusters of floating tarballs located 15-20 nautical miles offshore.

Ice Prince spill

➤ **Facts**

On 15 January 2008, the *Ice Prince* sunk in the English Channel half way between Cherbourg (Normandy, France) and Portland (England) in British waters.⁵⁹⁰ The *Ice Prince* had issued a Mayday call at 19:00 on 13 January 2008. The ship had neither main engine nor auxiliary power and was rolling heavily. The crew was rescued just before midnight, after her cargo shifted and started listing 40° to port. A plan to tow the vessel was abandoned when weather conditions worsened and the Dutch salvage experts who had been flown in by helicopter the next day could not land.⁵⁹¹

The *Ice Prince* capsized and sank at 00:45 on 16 January, 26 miles SSE of Portland Bill. 2/5 of the cargo was on deck and immediately spread over a wide area in the central and western English Channel. The *Ice Prince* had experienced a similar shift of timber cargo before on 22 January 2004, resulting in a 30° list that was subsequently stabilised. Timber is regarded as a difficult deck cargo, as changes in bulk and volume occur when wet.

Consequently, timber littered the Sussex coast from Ferring to Hastings. Mariners, windsurfers, and canoeists were warned of safety hazards. No permanent or substantial damage was observed.⁵⁹²

➤ **Proceedings and measures undertaken**

Preventive and remedial measures were taken as fuel was pumped out. Salvage operation were conducted by contractors authorised by the Maritime and Coastguard Agency (MCA) to clean up timber washed ashore and to collect it for sale as paper or sawdust material. To prevent looting, the MCA warned that anyone who removed the cargo could be fined up to £2,500 under the Merchant Shipping Act 1995.⁵⁹³ No pollution occurred to the shoreline even though some oil upwellings were detected.

⁵⁹⁰ http://www.cedre.fr/fr/accident/ice_prince/ice_prince.php

⁵⁹¹ www.shipwrecks.uk.com/news.htm#iceprince

⁵⁹² news.bbc.co.uk/2/hi/uk_news/england/7199667.stm

⁵⁹³ www.dailymail.co.uk/news/article-509362/Hundreds-tons-timber-washed-Sussex-beach-cargo-ship-sinks.html#

M/V New Flame spill

➤ Facts

On 12 August 2007, the bulk carrier *New Flame* collided bow to bow with the double hulled Danish oil products tanker *Torm Getrud* 1.5 km off Europa Point (Gibraltar). Being in shallow waters, the vessel partially sunk with its bow resting at a depth of 30 m. As a first measure, the oil in the tanks was removed. While waiting for follow up for removal, the ship broke in two in December. In February 2008, the stern sank. In early August 2008, the ship's stern was removed, with the bow being removed on 3 October.⁵⁹⁴

Over a year later, on 3 December 2009, the wreck removal was completed. 94% of the cargo and 68% of the fragments of the wreck had been removed. The rest was left on the seabed, to prevent causing more harm while trying to remove them.

No oil slick was detected on the sea surface during oil recovery.

➤ Proceedings and measures undertaken

Preventive measures were taken as 780 tonnes of fuel were successfully removed from the vessel. A 210 m boom and oil-skimming equipment were placed around the stern of the vessel and the bunker barge during the process.

The wreck of the ship itself was removed as best as possible, leaving approximately 32% scattered on the sea floor.⁵⁹⁵

MSC Napoli spill

➤ Facts

On 18 January 2007, the *MSC Napoli* was on passage in the English Channel, loaded with 2,318 containers (1,684 tonnes out of 42,000 tonnes of merchandise was classified as HNS) when she suffered a hull failure. The engine was stopped in response to flooding of the machine room and a visible crack in the hull forced the crew to abandon ship. The ship was towed and beached at Lyme Bay. An estimated 302 tonnes of oil was lost as well as 117 containers of various goods. Due to weather conditions, the ship could not be taken to Brest. The least environmentally risky option was to tow the vessel to sheltered waters in the British rather than the French side of the English Channel. Weather conditions deteriorated, and the UK authorities made the difficult decision to grant refuge in Lyme Bay, a UNESCO World Heritage Site.⁵⁹⁶

During towing, 119 containers of various goods, 50 tonnes IFO 380, and 150 tonnes MDO were spilt. In addition, there was further loss of a combination of oil "residues", consisting of lubricating oil, MDO, gas oil, some IFO-380 and bilge oil, in varying quantities according to the types of operations. It is estimated that a total of 302 tonnes of oil was lost from the *MSC Napoli* in 2007.⁵⁹⁷

⁵⁹⁴ <http://www.cedre.fr/fr/accident/new-flame/new-flame.php>

⁵⁹⁵ [www.fortunes-de-mer.com/old/rubriques/liens et contacts/detailsactualites/New Flame 2007.htm](http://www.fortunes-de-mer.com/old/rubriques/liens_et_contacts/detailsactualites/New_Flame_2007.htm)

⁵⁹⁶ <http://www.cedre.fr/fr/accident/napoli/napoli.php>

⁵⁹⁷ <http://www.cedre.fr/fr/publication/bulletin/bull26.php>

➤ **Proceedings and measures undertaken**

Once beached, the tanker was hot-tapped to pump out remaining oil.

Several minor oil spills were dealt with promptly as they occurred while oil was being pumped out. The largest individual spill occurred on 23 January (estimated 9 tonnes). Approximately 1 tonne of dispersant was used. The oil washed up in small quantities, often combined with debris from the burst containers. DRS Demolition, the contractors appointed by the ship owner's insurers, recovered the oil and oily debris from the shore for disposal.

On the French side, in late January, ten days after the beaching of the *Napoli*, the pollution reached the north coast of Brittany. Patties, some with a diameter of up to a metre, and tar balls sporadically polluted certain beaches in the Finistère and Côtes-d'Armor areas over a period of ten days and along 100 km of coastline. The oil was mixed with small plastic packets of chocolate biscuits. The French Polmar land contingency plan was not activated. Clean-up operations were carried out by local personnel, mainly manually.

In the meantime, Smit International, which was in charge of recovering containers, used two barges equipped with cranes to remove 853 containers from the decks. Teams of divers connected submerged containers to the cranes. A total of 1,351 containers were retrieved from below the decks, for a total of 2,204 recovered. The recovered containers were unloaded at an unused football pitch at Portland port, where some were salvaged; damaged containers were broken up for disposal. Of the 117 containers that fell overboard, 80 eventually washed ashore as well.

DV Howells Ltd operated in a separate bounded area to deal with containers of HNS, during the container salvage process. All 159 containers classified as dangerous goods were recovered and treated.⁵⁹⁸

The wreck was then primed to be removed. All potentially polluting equipment was removed from the ship, and refloated. Inspection revealed the ship was likely not to survive a tow operation. Subsequently, the *MSC Napoli* was beached again at Branscombe Beach, where it was split apart with explosives. The bow was towed to Belfast and the stern was cut up on site. The remaining debris on the floor of Lyme Bay was finally removed, 924 days after the original accident.

A water, sediment and marine organism monitoring study was conducted, as well as a study of the observable effects on the local flora and fauna. The results of this monitoring, summarised in summer 2008 by the Cefas Burnham Laboratory, indicated that the contamination of the water column, fish and marine invertebrates was relatively low, localised and temporary.

Around 1,900 birds were recovered on shores from Dorset to Devon. The Cefas report announced 306 dead birds of which 88% were guillemots (*Uria aalge*) and razorbills (*Alca torda*). Meanwhile, oiled birds were washed up on the French coasts and the Sept-Iles bird reserve was affected: 250 birds, mainly guillemots, were collected at the Ile Grande rehabilitation centre.

The British authority's decision to provide refuge to a vessel at risk of splitting was judged to have helped contain the environmental impact from reaching catastrophic levels. The total response expense of £150 M was covered by the ship's insurer.

⁵⁹⁸ www.cedre.fr/en/spill/napoli/assistance-towing.php

6.1.6 Conclusions and recommendations

Opinion is polarised as to whether the ELD should be revised to remove the exclusion for the Annex IV Conventions or, if the exclusion applies only to the extent of liability and compensation covered by the Conventions, to clarify that this is the intent. The empirical review showed strong support for the continued exclusion of the Conventions. In particular, many experts and stakeholders related to the shipping sector are strongly in favour of the Conventions remaining as exemptions to the ELD, arguing that they have proven effective, and have a broader scope than the Directive both geographically and in terms of the types of damage they cover (not only environmental damage). However, other commentators consider that the ELD provides better protection and remediation of the environment. Some also suggest that the system established by the IMO Conventions could be complemented by additional mechanisms at EU level, such as an additional fund.

6.1.6.1 Retention of the exclusion?

The Commission itself acknowledged, in 2000, despite criticising the IMO Conventions, as discussed above, that they provide “important benefits, both in terms of uniformity and straightforwardness and in terms of sharing the costs for oil spills, wherever they occur, among oil receivers world-wide”. The Commission concluded “that introducing measures that would necessitate the denunciation of the international regime by the Member States would be counterproductive, [instead] considerable efforts need to be put in amending the conventions ... while addressing the insufficiency of the existing limits as an immediate priority at Community level”.⁵⁹⁹ As also discussed above, the Supplementary Fund Convention increased the limit of available funding.

During the 2nd ELD Stakeholder Conference in Brussels, on 11 June 2013, James Walmsley, Senior Manager at Lloyd’s of London, referred to the 130 Contracting States to the 1992 Civil Liability Convention and the 111 Contracting States to the 1992 Fund. He recognised that, whilst “financial loss sustained by third parties” is covered by the Conventions, “pure” environmental damage is not covered.

Mr Walmsley concluded as follows.

- The “IMO Conventions provide a fundamentally different approach from that of the [ELD].
- Determining which approach is ‘better’ is therefore difficult.
- Applying the ELD to incidents covered by IMO Conventions would entail an effective repudiation by the EU of the IMO approach ...
- ...would not be binding on non-EU countries, including those which are the locations of ship owners ...
- ... and risks an unraveling of the intricate network of Convention responsibilities and entitlements”.⁶⁰⁰

In a somewhat similar manner, Måns Jacobsson, former Director and Chief Executive Officer of the IOPC Funds, stated that “If the Commission’s review were to result in modification of the Directive [in respect of the exclusions for the Conventions and the right of an operator to limit liability pursuant to the LLMC], serious conflicts could arise between the amended Directive and these

⁵⁹⁹ COM(2000) 802 final, p. 59.

⁶⁰⁰ Remediation and prevention of environmental damage under IMO conventions. Available at http://ec.europa.eu/environment/legal/liability/eld_conf_11_06_2013.htm

Conventions”.⁶⁰¹ Mr Jacobsson cautioned that “when legislating in this field, the EU should always take account of the global character of international shipping, the benefits to victims of ship-source pollution of international compensation regimes and the importance, also for ships flying the flags of European Union Member States, of global and uniform international regimes on liability and compensation”.⁶⁰¹

Other arguments in favour of the limited liability system of the IMO Conventions include the potential for “a tide of speculative claims” if claims for compensatory damage are allowed,⁶⁰² and wide acknowledgement “by most contracting states [that the conjunction of strict liability and compulsory insurance in the oil pollution liability regime [has] proved effective in meeting quantifiable claims for environmental damage (and other) damage from oil spills”.⁶⁰³ An additional argument is the close working relationship between the P&I Clubs, which finance the vast majority of the world’s shipping and the 1992 Fund and the Supplementary Fund.⁶⁰⁴

Further, it is indisputable that the Conventions reflect a compromise between owners of tankers and owners of oil carried on the tankers and that any revision of the exclusion for the Conventions in the ELD would disrupt this compromise.

6.1.6.2 Revision of the exclusion?

A major issue with the exclusion of the IMO Conventions is that they are more limited – indeed, much more limited – than the ELD in that they do not fully cover pure environmental damage. As discussed above, the exclusion (whether actual or perceived) from the ELD for the Conventions means that shipowners are subject to liability for a much narrower scope of “environmental damage” than any other industrial / commercial sector. The reduced scope is particularly ironic due to a major reason for adoption of the ELD being oil spills such as the *Prestige*, the *Braer*, and the *Erika*. Whilst the IMO has revised the Conventions to broaden their scope and to raise their limits following criticism of them, the gap between the ELD and the Conventions in the duty to remediate ecological damage remains substantial.

Michael Faure and Hui Wang have stated that “One may indeed question why those who create and expose others to specific risks should be allowed to limit their liability and so should not bear the full costs of their activity. Let us hope that the European Commission continues its activity within the IMO which may eventually lead to a more fundamental revision of the limitation of liability of the tanker owner”.⁶⁰⁵

In a somewhat similar manner, Peter Weterstein stated that an EU regime could be considered “unless functional and acceptable compensation regimes can be achieved internationally”. He continued that “other countries could, at a pace that suits them and according to their own

⁶⁰¹ Måns Jacobsson, Perspective of the Global Compensation Regimes; The Relationship between EU Legislation and Maritime Liability Conventions, *European Journal of Commercial Contract Law*, vol. 4, p. 63, 70 (2012).

⁶⁰² Michael Mason, Civil liability for oil pollution damage: examining the evolving scope for environmental compensation in the international regime, *Marine Policy*, vol. 27, 1, 9 (2003).

⁶⁰³ Michael Mason, Civil liability for oil pollution damage: examining the evolving scope for environmental compensation in the international regime, *Marine Policy*, vol. 27, 1, 8 (2003).

⁶⁰⁴ See IPIECA & ITOPIF, *Oil Spill Compensation; A Guide to the International Conventions on Liability and Compensation for Oil Pollution Damage*, p. 9 (February 2007).

⁶⁰⁵ Michael Faure & Hui Wang, Liability for oil pollution – the EU approach, [2004] *Environmental Liability*, vol 12(2), p. 55, 66.

priorities, follow the EU solutions ... and in that way contribute to uniformisation. In time, this could affect the content of the international compensation regime”.⁶⁰⁶

Perhaps the major reason for revising the exclusion for the IMO Conventions is that they create a paradox in that a key reason for the adoption of the ELD was that:

“[f]ailure to [adopt the ELD] could result in ...greater loss of biodiversity in the future. Preventing and remedying, insofar as is possible, environmental damage contributes to implementing the objectives and principles of the Community's environment policy as set out in the Treaty”.

The exclusion, however, is diametrically opposed to this goal because it excludes liability for “pure” environmental damage, that is preventing and remedying damage to protected species and natural habitats in the marine and coastal environment. This situation exists despite:

- the EU's subsequent adoption of the Marine Strategy Framework Directive (MSFD, 2008/56/EC);
- the recent substantial extension of Natura 2000 areas in the marine environment;
- the Commission's recognition that “biodiversity loss [is] the most critical global environmental threat alongside climate change”;⁶⁰⁷ and
- the extension of the scope of water damage in the ELD through Directive 2013/30/EU on the safety of offshore oil and gas operations to include all marine waters in the jurisdiction of EU Member States (EU waters).

6.1.6.3 Recommendations

The many complex issues surrounding the relationship between the IMO Conventions and the ELD mean that any potential revisions to their exclusion from the ELD must be carefully considered and made if, and only if, the reasons for doing so override the reasons for retaining the exclusion.

Our legal and empirical analysis of the exclusion for the IMO Conventions has identified at least one overriding reason; the absence of liability for pure ecological damage is contrary to a fundamental principle of the ELD and prevents the effective (prevention and) remediation of protected species and natural habitats in the marine and coastal environments.

Professor Ong stated, in 2002, that the “main reason” for the absence of compensation for environmental damage in the Conventions appeared to be “the supposedly abstract or intangible nature of such ‘pure’ ecological damage that apparently cannot be held to correspond to a given monetary value”.⁶⁰⁸ He stated that:

“Since it is impossible to do more than estimate the market value of any marine environmental damage caused by oil pollution, the practice of the [1992 Fund] has been to disregard any claims made on this basis. This position can be criticized because it suggests that the reason why acceptance of environmental damage *per se* as a separate head of liability has been delayed is not because of

⁶⁰⁶ Peter Weterstein, Environmental impairment liability after the Erika and Prestige accidents. Scandinavia Law, p. 230, 255 (2010). Available at www.scandinavianlaw.se/pdf/46-12.pdf

⁶⁰⁷ Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions, Our life insurance, our natural capital: an EU biodiversity strategy to 2020, Target 1 at 1, s. 1. COM(2011) 244 final (3 May 2011).

⁶⁰⁸ David Ong, The Relationship between Environmental Damage and Pollution: Marine Oil Pollution Laws in Malaysia and Singapore, in Environmental Damage in International and Comparative Law; Problems of Definition and Valuation, p. 191, 200 (Oxford University Press, 2002, Michael Bowman & Alan Boyle, eds).

any deficiency in its conceptual underpinnings, but rather due to methodological difficulties in respect of its valuation".⁶⁰⁹

If, as Professor Ong stated, the main reason for the delay in increasing the scope of "pollution damage" under the Conventions is the lack of sophisticated methodologies to quantify environmental damage, there is no need for any further delay. As part of the introductory studies for the ELD, the Commission commissioned studies to assess and quantify environmental damage.⁶¹⁰ The methodologies are sufficiently sophisticated to include "pure" environmental damage as a separate head of liability under the Conventions in the knowledge that such damage is quantifiable.⁶¹¹

Adopting the separate head of environmental damage, through for instance a revision of the IOPC Fund's Claims Manual, would not only lessen the gap between the Conventions and the ELD, it would, as Professor Ong stated, eliminate another paradox that "while minor environmental damage that is fully reinstated can be compensated for, ... severe irreparable damage that proves impossible to restore will not be fully compensated".⁶¹²

A secondary reason for revising the exclusion to include the remediation of environmental damage in the marine environment would be to help resolve the conflict between application of the IMO Conventions and the ELD if a claim for environmental damage exceeds the limit of liability in the Convention. That is, it is not unforeseeable that a case may arise such as that which arose under the Waste Framework Directive following the oil spill from the *Erika*, in which the Court of Justice of the European Union concluded that a public authority was entitled to reimbursement for costs incurred in remediating oil pollution by the seller-charterer of the *Erika* when the authority's claim exceeded the limit of liability of the relevant Convention.⁶¹³ These conclusions were followed by the French *Cour de cassation*.⁶¹⁴

Finally, the legal and empirical review of the limitation of liability for the LLMC and the CLNI Conventions has showed that, due to their sole focus on claims for bodily injury, property damage and economic loss, there is no need for them to be mentioned in the ELD. We recommend, therefore, that Article 4(3) is deleted.

We further recommend that the exclusion for the Dangerous Goods Convention (ELD, Annex IV(e)) is deleted. The term "damage" in the Convention has a much narrower scope than the term

⁶⁰⁹ David Ong, *The Relationship between Environmental Damage and Pollution: Marine Oil Pollution Laws in Malaysia and Singapore*, in *Environmental Damage in International and Comparative Law; Problems of Definition and Valuation*, p. 191, 200 (Oxford University Press, 2002, Michael Bowman & Alan Boyle, eds).

⁶¹⁰ See, e.g., REMEDE Project, *Resource Equivalency Methods for Assessing Environmental Damage in the EU*. Available from <http://www.envliability.eu/pages/publications.htm>; MacAlister Elliott and Partners Ltd and Economics for the Environment Consultancy Ltd, *Study on the Valuation and Restoration of Damage to Natural Resources for the Purpose of Environmental Liability* (Study Contract B4-3040/2000/26578/MAR/B3, May 2001, prepared for the European Commission); T. Penn, *Summary of the Natural Resource Damage Regulations under the United States Oil Pollution Act* (April 2001); Janet Stone McGuigan, *The Potential Economic Impact of Environmental Liability: The American and European Contexts* (prepared for Economic Analysis Unit, Environment Directorate, December 2000); E. Brans & M. Uilhoorn, *Liability for Ecological Damage and Assessment of Ecological Damage* (September 1997).

⁶¹¹ See generally Valerie Fogleman, *The Threshold for Liability for Ecological Damage in the EU; Mixing Environmental and Conservation Law, in The Habitats Directive in its EU Environmental Law Context: European Nature's Best Hope?* (Routledge, forthcoming).

⁶¹² David Ong, *The Relationship between Environmental Damage and Pollution: Marine Oil Pollution Laws in Malaysia and Singapore*, in *Environmental Damage in International and Comparative Law; Problems of Definition and Valuation*, p. 191, 201 (Oxford University Press, 2002, Michael Bowman & Alan Boyle, eds).

⁶¹³ *Commune de Mesquer v Total France SA*, para. 89 (CJEU, Case No. C-188/07, 2008).

⁶¹⁴ Cass. Civ. 3, 17 December 2008, No. 04-12.315

“environmental damage” in the ELD; liability for “loss or damage caused by contamination to the environment” is limited to “reinstatement” (a term that does not include complementary or compensatory remediation); and the definition of “damage” includes liability only for “contamination” and not for other “environmental damage”.

A further reason for deleting the exclusion for the Dangerous Goods Convention is that it is probably a dead letter. Since its preparation in the late 1980s, only Germany and Morocco have signed it and only Liberia has deposited instruments of accession. Reasons why other States have not signed it include criticism of the principles, responsibilities of the economic actors, and legal compatibility. It thus appears highly unlikely that the Convention will ever be ratified by the five States required to bring it into force.

6.2 Analysis of international nuclear conventions (ELD, Annex V)

Pursuant to Article 4(4) of the ELD, the Directive does not apply “to such nuclear risks or environmental damage or imminent threat of such damage as may be caused by the activities covered by the Treaty establishing the European Atomic Energy Community or caused by an incident or activity in respect of which liability or compensation falls within the scope of any of the international instruments listed in Annex V, including any future amendments thereof.”

The international Conventions in Annex V are as follows:

- Paris Convention of 29 July 1960 on Third Party Liability in the Field of Nuclear Energy, as amended (Paris Convention) and the Brussels Supplementary Convention of 31 January 1963 (Brussels Supplementary Convention);
- Vienna Convention of 21 May 1963 on Civil Liability for Nuclear Damage, as amended (Vienna Convention);
- Convention of 12 September 1997 on Supplementary Compensation for Nuclear Damage (not yet in force) (Supplementary Convention – CSC);
- Joint Protocol of 21 September 1988 relating to the Application of the Vienna Convention and the Paris Convention (Joint Protocol); and
- Brussels Convention of 17 December 1971 relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material (Carriage of Nuclear Material Convention).

6.2.1 Annex V Conventions

The Paris and Vienna Conventions, as revised and supplemented, are the main nuclear Conventions. The Paris Convention was issued under the auspices of the Nuclear Energy Agency (NEA) of the Organisation for Economic Co-operation and Development (OECD); the Vienna Convention was issued under the auspices of the International Atomic Energy Agency (IAEA).

Until recently, both Conventions imposed liability only for “damage”, which is defined to include claims from third parties for bodily injury and property damage from a nuclear incident. There was, thus, no overlap with the ELD due to the ELD explicitly not applying “to cases of personal injury, to damage to private property or to any economic loss and does not affect any right regarding these types of damages” (ELD, recital 14).

Following the Chernobyl disaster of 1986, the Vienna Convention was revised by the Protocol of 12 September 1997 (1997 Protocol), and the Paris Convention was revised by the Protocol of 12

February 2004 (2004 Protocol).⁶¹⁵ The 1997 Protocol entered into force on 4 October 2003. The 2004 Protocol will enter into force when it has been ratified by two-thirds of the signatories to the Paris Convention.

One of the major changes to the Conventions as a result of the adoption of the 1997 Protocol and the 2004 Protocol is the new term “nuclear damage”, which replaces the former term “damage” in both Conventions. The term “nuclear damage” covers environmental damage and, thus, overlaps with the ELD.

The following section briefly describes the Vienna and Paris Conventions, as revised by the 1997 Protocol and the 2004 Protocol, respectively, even though the 2004 Protocol has not come into force, rather than the versions prior to the revisions. The description focusses on issues relevant to their comparison with the ELD; it does not attempt to describe the entire Conventions.

The description of the Paris and Vienna Conventions is followed by a brief overview of the remaining Annex V Conventions.

6.2.1.1 Paris Convention

The Paris Convention, as amended by the 2004 Protocol, provides that:

- the “operator”
 - defined as “the person designated or recognised by the competent public authority as the operator of that installation”
- of a “nuclear installation”
 - defined, in pertinent part, as “reactors other than those comprised in any means of transport; factories for the manufacture or processing of nuclear substances; factories for the separation of isotopes of nuclear fuel; factories for the reprocessing of irradiated nuclear fuel; facilities for the storage of nuclear substances other than storage incidental to the carriage of such substances; installations for the disposal of nuclear substances; any such reactor, factory, facility or installation that is in the course of being decommissioned; and such other installations in which there are nuclear fuel or radioactive products or waste as the Steering Committee for Nuclear Energy of the Organisation ... shall from time to time determine”;
- at the time of a “nuclear incident”
 - defined as “any occurrence or series of occurrences having the same origin which causes nuclear damage”
- is strictly liable for any “nuclear damage”⁶¹⁶

⁶¹⁵ 2004 Protocol to Amend the Paris Convention on Third Party Liability in the Field of Nuclear Energy of 29 July 1960, as amended, see Convention of 31 January 1963 Supplementary to the Paris Convention on Third Party Liability in the Field of Nuclear Energy (as Amended by the Additional Protocol of 28 January 1964 and by the Protocol of 16 November 1982, and by the Protocol of 12 February 2004), International Documents, p. 171; see also Council Decision of 8 March 2004 authorising the Member States which are Contracting Parties to the Paris Convention of 29 July 1960 on Third Party Liability in the Field of Nuclear Energy to ratify, in the interest of the European Community, the Protocol amending the Convention, or to accede to it (2004/294/EC). OJ L 95/53 (1 April 2004).

⁶¹⁶ The entire definition of “nuclear damage” is set out due to intertwined provisions; the relevant provisions for comparison with the ELD are sub-paragraphs 4 and 6.

□ defined as:

1. loss of life or personal injury;
2. loss of or damage to property;

and each of the following to the extent determined by the law of the competent court

3. economic loss arising from loss or damage referred to in sub-paragraph 1 or 2 above insofar as not included in those sub-paragraphs, if incurred by a person entitled to claim in respect of such loss or damage;
4. the costs of measures of reinstatement of impaired environment, unless such impairment is insignificant, if such measures are actually taken or to be taken, and insofar as not included in sub-paragraph 2 above;
5. loss of income deriving from a direct economic interest in any use or enjoyment of the environment, incurred as a result of a significant impairment of that environment, and insofar as not included in sub-paragraph 2 above;
6. the costs of preventive measures, and further loss or damage caused by such measures,

in the case of sub-paragraphs 1 to 5 above, to the extent that the loss or damage arises out of or results from ionising radiation emitted by any source of radiation inside a nuclear installation, or emitted from nuclear fuel or radioactive products or waste in, or of nuclear substances coming from, originating in, or sent to, a nuclear installation, whether so arising from the radioactive properties of such matter, or from a combination of radioactive properties”.

The term “measures of reinstatement” is defined as:

“any reasonable measures which have been approved by the competent authorities of the State where the measures were taken, and which aim to reinstate or restore damaged or destroyed components of the environment, or to introduce, where reasonable, the equivalent of these components into the environment...”.

The term “reasonable measures” is defined as:

“measures which are found under the law of the competent court to be appropriate and proportionate, having regard to all the circumstances, for example:

1. the nature and extent of the nuclear damage incurred or, in the case of preventive measures, the nature and extent of the risk of such damage;
2. the extent to which, at the time they are taken, such measures are likely to be effective; and
3. relevant scientific and technical expertise”.

The term “preventive measures” is defined as:

“any reasonable measures taken by any person after a nuclear incident or an event creating a grave and imminent threat of nuclear damage has occurred, to

prevent or minimise nuclear damage referred to in sub-paragraphs ... 1 to 5 [above], subject to any approval of the competent authorities required by the law of the State where the measures were taken”.

The “nuclear damage” must be suffered “in the territory of, or in any maritime zones established in accordance with international law of, or, except in the territory of a non-Contracting State [as described in the Paris Convention] on board a ship or aircraft ...”.

If nuclear damage is caused jointly by a nuclear incident and an incident that is not a nuclear incident and the part of the damage caused by the latter “is not reasonably separable from the nuclear damage caused by the nuclear incident”, such damage is considered to be nuclear damage caused by a nuclear incident. If nuclear damage is caused jointly by a nuclear incident and an emission of ionising radiation that is not covered by the Paris Convention, nothing in the Convention limits or affects the liability of any person in respect of the emission of ionising radiation.

The operator of a nuclear installation is also liable under the Convention for nuclear damage if it is proved that the nuclear damage was caused by a nuclear incident outside the installation that involves nuclear substances being transported from it.

The Paris Convention contains detailed provisions concerning the division of liability between persons who are liable during the transport of nuclear substances and in respect of nuclear fuel or radioactive products or waste involved in a nuclear incident that have been in more than one nuclear installation.

If more than one operator is liable for a nuclear incident, joint and several liability applies subject to a cap of the limit for which each operator is liable under the Convention.

Claims for compensation for nuclear damage caused by a nuclear incident may be brought against a liable operator only under the Convention. If national law permits, claims may be brought directly against the insurer or other provider of financial security.

No person other than an operator may be liable for nuclear damage caused by a nuclear incident, subject to any international agreement concerning transport (that is, the Carriage of Nuclear Material Convention).

An operator is not liable for “nuclear damage caused by a nuclear incident directly due to an act of armed conflict, hostilities, civil war, or insurrection”.

The Convention does not affect the liability of any individual for nuclear damage caused by a nuclear incident for which the operator is not liable under the Convention and which results from an act or omission of that individual.

There is a three-tier system of compensation.

- The operator of a nuclear installation is required to have “insurance or some other means” to cover its potential liability up to EUR 700 million;
- The government for the State in which the nuclear installation is located (that is, public funds) pays EUR 500 million (that is EUR 500 million excess EUR 700 million), up to EUR 1,200 million; and
- The Contracting Parties to the Brussels Supplementary Convention contribute the remaining EUR 300 million (that is, EUR 300 million excess EUR 1,200 million).

The total amount of compensation available under the Paris Convention is thus EUR 1,500 million.

There is no longer any requirement in the Paris Convention for a State to restrict the maximum liability of an operator.

Insurance for the operators of nuclear installations in States that are Contracting Parties to the Conventions is provided by insurance pools.

6.2.1.2 Vienna Convention

The Vienna Convention provides that the

- “operator”
 - defined as “operator in relation to a nuclear installation” as “the person designated or recognized by the Installation State as the operator of that installation”
- of a “nuclear installation”
 - defined in a somewhat similar manner to the Paris Convention as a nuclear reactor with certain exceptions
- at the time of a “nuclear incident”
 - defined as “any occurrence or series of occurrences having the same origin which causes nuclear damage or, but only with respect to preventive measures, creates a grave and imminent threat of causing such damage”
- is strictly liable for “nuclear damage”
 - defined identically to “nuclear damage” under the Paris Convention, as are the terms “measures of reinstatement”, and “reasonable measures”.

The term “preventive measures” is defined as “any reasonable measures taken by any person after a nuclear incident has occurred to prevent or minimise damage referred to in sub-paragraphs ... (i) to (v) or (vii), subject to any approval of the competent authorities required by the law of the State where the measures were taken”.

An operator is not liable “if he proves that the nuclear damage is directly due to an act of armed conflict, hostilities, civil war or insurrection”.

An operator also has a defence if it proves “that nuclear damage resulted wholly or partly either from the gross negligence of the person suffering the damage or from an act or omission of such person done with intent to cause harm”.

Joint and several liability applies.

As with the Paris Convention, if nuclear damage is caused jointly by a nuclear incident and an incident that is not a nuclear incident and the part of the damage caused by the latter “is not reasonably separable from the nuclear damage caused by the nuclear incident”, such damage is considered to be nuclear damage caused by a nuclear incident. If nuclear damage is caused jointly by a nuclear incident and an emission of ionising radiation that is not covered by the Vienna Convention, nothing in the Convention limits or affects the liability of any person in respect of the emission of ionising radiation.

There is a three-tier system of compensation.

- The operator is liable for the first tier of compensation with the State in which the nuclear installation is located being able to limit the operator's liability for any one incident to not less than 300 million SDRs (approximately EUR 357 million), or
- to not less than 150 million SDRs provided that public funds are made available to compensate nuclear damage in excess of that amount and up to at least 300 million SDRs, or
- to a maximum of 15 years from the date of entry into force of the 1997 Protocol, to a transitional amount of not less than 100 million SDRs in respect of a nuclear incident during that period, provided that public funds are made available to compensate nuclear damage between the lesser amount and 100 million SDRs.

The operator is required to have "insurance or other financial security" for its liability for nuclear damage in the amount, type, and subject to terms, as specified by the State in which the nuclear installation is located.

6.2.1.3 Similar features of, and differences between, the Paris and Vienna Conventions

The Paris and Vienna Conventions have the following key features and differences:

- Liability is channelled to the operator of a nuclear installation who is exclusively liable for nuclear damage from a nuclear incident;
- Strict liability applies;
- Liability is limited in time;
- Liability is limited by monetary amount;
- Financial security for an operator is mandatory;
- The term "nuclear damage", "measures of reinstatement" and "reasonable measures" have the same meaning in both Conventions;
- "Preventive measures" have substantially the same meaning in both Conventions; and
- There are minimum and maximum limits of liability for nuclear damage under the Paris Convention but only minimum limits under the Vienna Convention.

There are jurisdictional differences between the two Conventions. The courts of the State in which the nuclear incident occurred has jurisdiction over claims for compensation from the nuclear incident. If nuclear material is being transported, the court in the State in which the nuclear incident occurs has exclusive jurisdiction over claims from the nuclear incident.

6.2.1.4 Joint Protocol

The Joint Protocol links the Paris and the Vienna Conventions. It provides that a State that is a party to either the Paris or the Vienna Convention receives the benefits of both Conventions. Thus, victims of a nuclear accident to which the Paris Convention / Joint Protocol applies can claim compensation against the liable operator in substantially the same manner as victims of a nuclear accident to which the Vienna Convention / Joint Protocol applies, and vice versa.

The identity of the liable operator and the amount for which that operator is liable are determined by the Convention to which the State in which the nuclear accident takes place is a party. No State is a member of both Conventions.

If a nuclear incident involving the transport of nuclear material occurs, the applicable Convention is the Convention to which the State is a Contracting Party within the territory of which the nuclear installation is located.

6.2.1.5 Supplementary Convention (CSC)

The Supplementary Convention, when it enters into force, will increase the limits of the Paris and Vienna Conventions to 300 million SDR (approximately EUR 357 million).

A major aim of the Supplementary Convention is to establish a worldwide safety and liability regime in which all States may participate. In order to achieve this aim, it is not necessary for a State to be a Contracting Party to the Paris Convention or the Vienna Convention, or to have a nuclear installation in its territory to be a Contracting Party to the Supplementary Convention. For example, the USA has ratified the Supplementary Convention even though it is not a party to the Paris or the Vienna Conventions.⁶¹⁷

Definitions of key terms such as “nuclear incident”, “nuclear damage”, “measures of reinstatement”, “preventive measures” and “reasonable measures” in the Supplementary Convention follow those of the Paris and Vienna Conventions.

6.2.1.6 Carriage of Nuclear Material Convention

The Carriage of Nuclear Material Convention covers any person transporting nuclear material. If a State has ratified this Convention, an operator of a nuclear installation in that State is liable under the Paris or the Vienna Conventions instead of, say, a marine convention.

6.2.1.7 National law and Annex V Conventions

Implementation of the Paris and Vienna Conventions has resulted in a “real ‘patchwork’ of quite different liability limits”, combined in some cases with public funding. Their implementation has also resulted in “a similar ‘patchwork’ when analysing national rules regarding the extension or restriction of the geographical application of [the Conventions] and the extensions of [limitation] periods for claims”.⁶¹⁸

The differences in liability are made more complex due to Austria, Ireland, and Luxembourg not being a party to either Convention. National law in Austria favours applying principles of liability under that Member State’s tort law to nuclear damage.⁶¹⁸

There is also strong opposition to the nuclear Conventions by some Member States. As Jakub Handrlica stated, “some of the non-nuclear countries (Austria in particular) tend to evaluate the provisions of existing international nuclear liability treaties as having been essentially developed to nurture nascent nuclear industries and not accommodating the interest of victims”.⁶¹⁹

Similarly, Paolo Galizzi commented that:

⁶¹⁷ See Michael Faure & Tom Vanden Borre, *Compensating Nuclear Damage: A Comparative Economic Analysis of the U.S. and International Liability Schemes*, *William & Mary Environmental Law & Policy Review*, vol. 33, pp. 219, 221-22, 238 (2008).

⁶¹⁸ See Jakub Handrlica, *European Nuclear Liability Law: Reflecting the Most Recent Developments*, *Common Law Review*, vol. 12, p. 37, 38 (2012).

⁶¹⁹ Jakub Handrlica, *Channelling of Nuclear Third Party Liability Towards the Operator Jeopardised by the Brussels Regulation*, *Cijil*, vol. 2, p. 69, 74 (2011). Available at files.cijil.eu/200000044-7877f796cc/CSMP_2011_06_handrlica.pdf

“Generally speaking, ... the conclusion finally arrived at is that the rules on jurisdiction laid down in the Paris and Vienna Conventions are no longer appropriate to protect the potential victims of a nuclear accident. They still reflect a bias in favour of the development of the nuclear industry, development of which was the dominant concern of the governments involved at the time they were drafted. Views have now changed and the need to protect the persons damaged is regarded as at least as important as the need to develop this industry”.⁶²⁰

Annex D shows the wide variance in Member States that have signed, ratified, or acceded to the Annex V Conventions.

6.2.2 Extent to which the Annex V Conventions bar application of the ELD

As indicated above, Article 4(4) of the ELD provides that the ELD “shall not apply to such nuclear risks or environmental damage or imminent threat of such damage as may be caused by the activities covered by the Treaty establishing the European Atomic Energy Community or caused by an incident or activity in respect of which liability or compensation falls within the scope of any of the international instruments listed in Annex V, including any future amendments thereof”.

As with the exclusion for the marine Conventions, the meaning of the above clause is not entirely clear. That is, does it mean that application of the ELD is barred in a Member State that has ratified the Annex V Convention at issue? Or is the bar limited to the extent to which liability or compensation falls within the scope of the Annex V Convention at issue?

Again, as with the exclusion for the marine Conventions, the bar appears to apply only to the extent to which liability or compensation falls within the scope of the Annex V Convention at issue due to the following phrase in the exclusion: “nuclear risks or environmental damage or imminent threat of such damage as may be caused ... by an incident or activity in respect of which liability or compensation falls within the scope of any of the international instruments listed in Annex V”. If the bar applies regardless of whether liability for an imminent threat of, or actual, environmental damage under the ELD is covered by an Annex V Convention, there would be no need to include this phrase.

Regardless of the correct interpretation of the clause, it is perceived as excluding the ELD in Member States in which an Annex V Convention at issue is in force.

6.2.3 Comparison of the nuclear Conventions and the ELD

The legislative history of the ELD includes very little discussion of the nuclear Conventions. Instead, it appears to have been assumed, without analysis, that the ELD would not apply to an imminent threat of, or actual, environmental damage to which the Conventions applied.

A memo by the Commission setting out Questions and Answers on the ELD, when it was adopted, states that:

“Nuclear activities are covered by several international civil liability conventions. These conventions ... are based on strict liability. They mainly deal with traditional damage, but in addition allow governments to cover environmental damage, albeit in a less co-ordinated way. A protocol that aims to improve the regime of one important Convention (the Paris Convention) with respect to

⁶²⁰ Paolo Galizzi, Questions of Jurisdiction in the Event of a Nuclear Accident in a Member State of the European Union, *Journal of Environmental Law*, vol. 8(1), pp. 71, 96-97 (1996).

environmental damage has been negotiated under the auspices of the Nuclear Energy Agency of the OECD”.⁶²¹

There was strong opposition to application of the ELD to nuclear incidents. For example, British Nuclear Fuels plc commented on the Working Paper as follows:

“A regime for nuclear injury or damage already exists which provides for a strict and channeled liability in the relevant circumstances. It is understood that this regime is being reviewed and will be likely to address environmental damage specifically. Consequently, it is considered that the new directive should exclude application to liability for radioactive substances so as to ensure no confusion between the two regimes”.⁶²²

EURELECTRIC commented on the Working Paper that “[n]uclear liability is already covered by international conventions and national legislation and these arrangements should be kept separate from any proposals in respect of environmental liability”.⁶²³

FORATOM commented on the Working Paper that:

“The existing conventions in the field of nuclear liability provide for an internationally recognised regime of strict, exclusive and exhaustive liability, explicitly specifying that the nuclear operator shall incur no liability for damage caused by a nuclear incident, other than that required by this regime. This is a fundamental principle which has been the basis for the development of nuclear power for civil purposes. FORATOM consequently feels that any proposed directive on environmental liability should exclude damage from nuclear activities (at least to the extent that such damage is or shall be covered by the international conventions) in order to avoid serious conflicts of law and complex legal disputes arising from duplication and overlap of substantive provisions, jurisdictional conflict and creating the potential for double jeopardy”.⁶²⁴

In 2003, after the Commission had submitted the Proposed Directive that became the ELD, nuclear risk insurers of the Comité Européen des Assurances (now Insurance Europe) issued a Position Paper setting out the following reasons for excluding the ELD when a nuclear Convention applied to an imminent threat of, or actual, environmental damage.

- “1. In the field of liability for nuclear risks, there are several international agreements approved by governments, which precisely take into account the specific features of nuclear risks and are principally aimed at damage to persons. These agreements, the provisions of which are taken into account both in national legislation and in the corresponding offer of insurance cover, should not be brought into question since they amply solve the problem.
2. In this particular area, the main aim is to compensate bodily injury and its consequences for victims before dealing with compensation for biodiversity damage, especially since the number of victims of a nuclear incident may

⁶²¹ European Commission, Questions and Answers Environmental Liability Directive (Memo/04/78, 1 April 2004). Available at http://europa.eu/rapid/press-release_MEMO-04-78_en.htm

⁶²² Letter from P.R. Walker, For Company Secretary and Group Legal Directive, British Nuclear Fuels plc to Charles Pirotte, European Commission DG Environment (12 September 2001).

⁶²³ EURELECTRIC Comments on European Commission Working Paper on Prevention and Restoration of Significant Environmental Damage (12 September 2001).

⁶²⁴ FORATOM Position Paper on the DG Environment Working Paper on Prevention and Restoration of Significant Environmental Damage (Environmental Liability) (2.6130-01-00010, 12 September 2001).

potentially be very high. This is indeed the aim of the abovementioned international agreements.

Furthermore, nuclear insurers' capacity is not unlimited and it should be borne in mind that increasing the areas of compensation by incorporating biodiversity damage in particular could only be done to the detriment of victims and their families.

The capital amounts covered by insurers would not solely cover damage to persons but all damage.

In this area and perhaps even more here, there is the major problem of the impossibility of quantifying the risk.

3. If nuclear risks were incorporated in the new scheme, no cover would be available.

General insurers would refuse to become involved in guaranteeing an already difficult risk which would in addition include nuclear risks over which they have no control and for which they have no adequate capacity or reinsurance guarantees".⁶²⁵

In view of the above comments, it is not surprising that an amendment by the European Parliament to re-insert liability for nuclear risks in the Proposed Directive⁶²⁶ was strongly opposed.⁶²⁷

6.2.3.1 Compensation regime versus regime to remediate environmental damage

As with the marine Conventions, the nuclear Conventions are compensation regimes. They provide compensation for claims against the operator of a nuclear installation. Thus, a Contracting Party is not required to establish a regime to remediate nuclear damage caused by a nuclear incident. This is the view taken by the UK Department of Energy & Climate Change in considering the 2004 Protocol. The Department stated that "We do not consider that this new category of damage requires us to create a new free-standing regime for the reinstatement of the environment. This approach is in line with the purpose of the Convention which is concerned with the payment of compensation".⁶²⁸

The Conventions are, thus, not proactive like the ELD. They do not establish a regime that requires operators, and directs competent authorities to require operators, to prevent or remediate an imminent threat of, or actual, environmental damage, respectively.

The result of establishing a compensation, rather than a remediation, regime could lead to difficulties. For example, a claimant may encounter difficulties in meeting the burden of proving that measures carried out by it satisfy the meaning of "preventive measures", and that such measures are "reasonable", as decided by the competent court. Similarly, difficulties in proving that "nuclear

⁶²⁵ Position paper by nuclear risk insurers of the Comité Européen des Assurances on the draft directive relating to environmental liability for the prevention and restoration of environmental damage (January 2003). Available at www.insuranceeurope.eu/uploads/Modules/Publications/position164.pdf

⁶²⁶ Proposal for a Directive of the European Parliament and of the Council on Environmental Liability with regard to the Prevention and Restoration of Environmental Damage, OJ C151 E/132 (2002).

⁶²⁷ See Maria Kielmas, Nuclear industry reprieved over environmental liability, European Voice (15 January 2004). Available at <http://www.europeanvoice.com/article/imported/nuclear-industry-reprieved-over-environmental-liability/48983.aspx>

⁶²⁸ Department of Energy & Climate Change, Implementation of changes to the Paris and Brussels Conventions on nuclear third party liability; A Public Consultation, p. 24 (January 2011).

damage” occurred could act as a deterrent to carrying out expensive remedial measures due to the potential that their cost will not be reimbursed.

Further, a private person who claims compensation for preventive measures must have received approval by the competent authorities in the State in which they were carried out if the national law of that State requires such approval.⁶²⁹

In addition, the above requirements for pre- and post- approval could, at the very least, lead to delayed responses to a nuclear incident and, thus, the potential for greater damage than would otherwise have occurred. This is in sharp contrast to the ELD’s requirements to an operator to carry out preventive measures “without delay” and emergency remedial actions “immediately” (ELD, arts 5(1), 6(1)(a)).

6.2.3.2 Emphasis on human interests rather than on reducing the loss of biodiversity

The “[d]efinition of nuclear damage [in the Paris and Vienna Conventions before the 2004 Protocol and the 1997 Protocol, respectively] covers property, health and loss of life but does not make provision for environmental damage [or] preventive measures”. The World Nuclear Association considered that “[t]his greatly reduces the total number of possible claimants, but increases the level of compensation available to the remainder”.⁶³⁰

The 1997 Protocol to the Vienna Convention extended the definition of nuclear damage “to include the concept of environmental damage and preventive measures”.⁶³⁰ The 2004 Protocol to the Paris Convention extended the definition of nuclear damage in the same manner.

Despite the extension of liability, the emphasis in the Conventions is on the payment of compensation to persons harmed by a nuclear incident; it is not on preventing the loss of biodiversity or ensuring that environmental damage is remediated so that there is no net loss of biodiversity.

For example, if some costs have been compensated for property damage, compensation for measures of reinstatement is not payable to that extent. This provision is not required in the ELD because the ELD does not include claims for civil liability for property damage.

Further, the addition of compensation for measures to reinstate the impaired environment and preventive measures applies only “to the extent determined by the law of the competent court”. If the law of the State in which a nuclear installation is located does not permit it, such measures are not compensable. The result has been described as “largely an illusory advance”.⁶³¹

Still further, Article VIII(2) of the Vienna Convention specifically provides that if claims are “likely to exceed the maximum amount made available [under the Convention], priority in the distribution of the compensation shall be given to claims in respect of loss of life or personal injury”.

⁶²⁹ Sam Emmerechts, *Environmental Law and Nuclear Law: A Growing Symbiosis*, Nuclear Law Bulletin, vol. 2008, Issue 2, p. 91, 100.

⁶³⁰ World Nuclear Association, *Liability for Nuclear Damage* (updated 12 December 2013). Available at <http://www.world-nuclear.org/info/Safety-and-Security/Safety-of-Plants/Liability-for-Nuclear-Damage/>

⁶³¹ Duncan E.J. Currie, *The Problems and Gaps in the Nuclear Liability Conventions and an Analysis of How an Actual Claim Would be Brought under the Current Existing Treaty Regime in the Event of a Nuclear Incident*, Denver Journal of International Law & Policy, vol. 35, p. 85, 111 (2006).

Thus, in sharp contrast the ELD, the focus of the nuclear Conventions is on compensation for bodily injury, property damage and economic loss, none of which are covered by the ELD.

6.2.3.3 Nuclear damage

The term “nuclear damage” in the Paris and Vienna Conventions is strictly circumscribed.

First, impairment to the environment must be “significant”. Whilst environmental damage under the ELD must also be “significant”, the Conventions do not establish criteria to determine when impairment to the environment exceeds a “significance threshold”, as in the ELD. Instead, the decision on “significance” is taken by the competent court in the State in which a nuclear incident occurs. Until a claim for compensation is made, therefore, it is unclear whether the claim relates to significant impairment of the environment and is thus compensable.

Second, it is unclear whether the term “nuclear damage” includes “complementary remediation”, or even “primary remediation” and “preventive measures”, as defined by the ELD. One commentator concluded that compensation appears to be limited to actual reinstatement. That is, if reinstatement or remediation is not possible, no compensation is payable despite the loss of biodiversity caused by a nuclear incident, or the non-economic impact of the environment including the lost value to future generations.⁶³² In such a case, he concluded, the ELD is “clearly wider” than the Conventions in that it requires an operator to carry out primary remediation and preventive measures.⁶³³

Another commentator stated that “bringing the environment back to its condition prior to the nuclear accident is not an option since ‘the desire to restore the environment to its condition prior to the nuclear incident shall be subject to the rule of reason’”.⁶³⁴

In contrast, another commentator described the scope of the reinstatement of the impaired environment as “reinstating or restoring damaged or destroyed components of the environment or introducing, where reasonable, the equivalent of these components”. He stated that the Conventions do not explain the meaning of the terms “restoring components of the environment” or “introducing the equivalent of these components in the environment” but leave it to the competent court to decide. He referred to the ELD and the marine Conventions as potentially giving guidance to the issue. He also noted that there are different options to reinstate fauna, giving the example of birds in a nature reserve that were killed by a nuclear incident. The options are the replacement of all the birds by new birds of the same type, replacing only certain protected species of birds so as to enable their survival whilst not replacing other birds, and acquiring an alternative non-contaminated site at which there are the same types of birds as those that have been contaminated.⁶³⁵ As indicated above, however, the decision on compensation lies with the competent court.

⁶³² Duncan E.J. Currie, *The Problems and Gaps in the Nuclear Liability Conventions and an Analysis of How an Actual Claim Would be Brought under the Current Existing Treaty Regime in the Event of a Nuclear Incident*, *Denver Journal of International Law & Policy*, vol. 35, p. 85, 86 (2006).

⁶³³ See Duncan E.J. Currie, *The Problems and Gaps in the Nuclear Liability Conventions and an Analysis of How an Actual Claim Would be Brought under the Current Existing Treaty Regime in the Event of a Nuclear Incident*, *Denver Journal of International Law & Policy*, vol. 35, p. 85, 114 (2006).

⁶³⁴ Sam Emmerechts, *Environmental Law and Nuclear Law: A Growing Symbiosis*, *Nuclear Law Bulletin*, vol. 2008, Issue 2, p. 91, 102 (quoting V. Solijan, *The New Definition of Nuclear Damage in the 1997 Protocol to Amend the 1963 Vienna Convention on Civil Liability for Nuclear Damage*, in *Reform of Civil Nuclear Liability, Budapest Symposium* (1999)).

⁶³⁵ Sam Emmerechts, *Environmental Law and Nuclear Law: A Growing Symbiosis*, *Nuclear Law Bulletin*, vol. 2008, Issue 2, pp. 91, 100-101 (Mr Emmerechts is in the Legal Affairs Section of the OED Nuclear Energy

The different interpretations of the scope of “nuclear damage” are likely to lead to a substantial divergence between Member States in determining the scope of compensation for nuclear damage, with a high likelihood that the scope will be less than that of the ELD. For example, the UK Government has stated that it will “not expressly include compensatory remediation in the definition of measures of reinstatement for which claims may be made”.⁶³⁶

The term “preventive measures” in the Paris and Vienna Conventions, which is not defined, is also unclear. The definition is silent as to the person who decides whether a threat is grave and imminent. The law of the State in which preventive measures pose a grave and imminent threat could be the relevant law to determine the meaning of the term. However, the term “reasonable measures” is subject to the law of the court that has jurisdiction over a nuclear incident including any conflict of laws of that State, which could lead to a contrary result.⁶³⁷ Still further, the term “preventive measures” is defined in respect of reasonable measures that are carried out after a nuclear incident has occurred whereas the term “reasonable measures” is defined in respect of measures that the law of the competent court concludes are appropriate and proportionate, having regard to all the circumstances.

As stated by one commentator:

“the revised Convention is in the curious position where ‘nuclear incident’ is to include occurrences which create a threat of causing nuclear damage, with respect to preventive measures, but where preventive measures are defined in terms of measures taken ‘after a nuclear incident has occurred’. While a common-sense interpretation may be that a ‘nuclear incident’ includes a series of occurrences which create a grave and imminent threat which preventive measures are aimed at preventing, this seems to be a potential ‘catch-22’ where a State faced with a threat will have to decide to take measures without any certainty of compensation, in a case where the only nuclear damage is the damage that is threatened”.⁶³⁷

He further stated that:

“Likewise, whether a threat is ‘grave and imminent’ may give rise to dispute. Whether a drifting radioactive cloud drifts a particular direction or distance could give rise to such a dispute as to whether an incident is likely to give rise to radioactive release at all. Whether a radioactive transport which is encountering difficulties such as a collision, fire or terrorist attack constitutes a ‘grave and imminent threat’ is another area where conflicts may well arise. An operator may argue a threat was not imminent, or if it was, that it was not grave in the sense of threatening great harm”.⁶³⁷

Another commentator provided an example of preventive measures as “costs incurred by a government to remove nuclear substances from a ship that has sunk along its coastline, in order to

Agency; the views in his article “do not necessarily reflect the official position of the OECD Nuclear Energy Agency).

⁶³⁶ Department of Energy & Climate Change, Implementation of changes to the Paris and Brussels Conventions on nuclear third party liability; Summary of responses and Government response to consultation, p. 4 (March 2012)

⁶³⁷ See Duncan E.J. Currie, The Problems and Gaps in the Nuclear Liability Conventions and an Analysis of How an Actual Claim Would be Brought under the Current Existing Treaty Regime in the Event of a Nuclear Incident, *Denver Journal of International Law & Policy*, vol. 35, p. 85, 109 (2006).

prevent environmental damage, where the ship owner does not do so itself”.⁶³⁸ Again, however, the decision on compensable payment lies with the competent court.

Still further, the Conventions restrict “nuclear damage” to damages that may be claimed in the jurisdiction of the operator of the nuclear installation that caused nuclear damage with the exception of providing for the jurisdiction of coastal States for nuclear damage during transport in the exclusive economic zone or its equivalent provided that the State has notified the Depository of such an area before a nuclear incident occurs. Damage to the marine environment is, thus, limited.⁶³⁹

As another commentator summed up the revisions to the Vienna Convention:

“the costs of reinstatement and preventive measures are further confined and conditioned (approval of competent State authorities, reinstatement aim, non-defensive, reasonableness). ... the incorporated prioritisation clause for claims regarding personal injury, in case of excess of liability limit ... would further increase the potential number of inadequate or non-recoverable environmental claims”.⁶⁴⁰

6.2.3.4 Nuclear incident

The Paris Convention defines a “nuclear incident” as “any occurrence or series of occurrences having the same origin which causes nuclear damage”.

The Vienna Convention defines a “nuclear incident” as “any occurrence or series of occurrences having the same origin which causes nuclear damage or, but only with respect to preventive measures, creates a grave and imminent threat of causing such damage”.

The ELD does not define the word “incident” in the exclusion for the Annex V Conventions, although the word appears to refer to the term “nuclear incident” in the Paris and Vienna Conventions.

There is a mismatch, however, in that the trigger for the ELD is damage to land, waters or biodiversity that exceeds a specified “significance threshold” whereas the meaning of the word “significant” is not defined in the Conventions but is left to an interpretation to be provided by a competent court.

6.2.3.5 Exceptions and defences

An operator is not liable under the Paris Convention for “nuclear damage caused by a nuclear incident directly due to an act of armed conflict, hostilities, civil war, or insurrection”. Similarly, an operator is not liable under the Vienna Convention “if he proves that the nuclear damage is directly due to an act of armed conflict, hostilities, civil war or insurrection”. There is thus an exception for an “act of war” under the Paris Convention and a defence to an “act of war” under the Vienna Convention.

⁶³⁸ Sam Emmerechts, *Environmental Law and Nuclear Law: A Growing Symbiosis*, Nuclear Law Bulletin, vol. 2008, Issue 2, p. 91, 99.

⁶³⁹ See Duncan E.J. Currie, *The Problems and Gaps in the Nuclear Liability Conventions and an Analysis of How an Actual Claim Would be Brought under the Current Existing Treaty Regime in the Event of a Nuclear Incident*, Denver Journal of International Law & Policy, vol. 35, p. 85, 98 (2006).

⁶⁴⁰ Nathalie L.J.R. Horbach, *1997 Nuclear Liability Treaties: Conformities and Deficiencies in some EU Applicant States*, Journal of Energy & Natural Resources Law, vol. 18(4), p. 378, 382 (2000).

In a similar manner to the Vienna Convention, there is an exception in the ELD for “an act of armed conflict, hostilities, civil war or insurrection”.

Unlike the ELD, the Paris and Vienna Conventions do not contain an exception for “a natural phenomenon of exceptional, inevitable and irresistible character”. The Conventions are, thus, broader than the ELD in this respect.

6.2.3.6 Limits of liability

Both the Paris and the Vienna Conventions provide for a three-tier system of liability limits, with varying amounts in the Vienna Convention for parties to it (see Table 6 below). The amounts include claims for bodily injury and property damage, which are not covered by the ELD.

The Vienna Convention prioritises compensation for claims for loss of life or personal injury. Following a consultation on the changes to the Paris and Brussels Supplementary Conventions on nuclear third party liability, the UK Government decided not to prioritise claims but to consider and compensate them on a first come-first served basis.⁶⁴¹ There is, thus, the potential for varying systems of priority between Member States, with claims for environmental damage being secondary to claims for bodily injury and property damage in some Member States.

The ELD does not have any limits of liability.

The limits of liability in the nuclear Conventions have been described as inadequate as well as effectively being a subsidy for the nuclear industry.⁶⁴² One commentator referred to a Greenpeace study in 1994 that considered that the worst case costs of a nuclear incident could be \$6.8 trillion.⁶⁴²

The Fukushima nuclear disaster in 2011 indicated the high levels of the true cost of a nuclear incident. In November 2013, the amount borrowed by the Japanese Government to clean up contamination and to reimburse 50,000 evacuees as a result of the Fukushima disaster were increased from \$50 billion (5 billion Yen) to \$80 billion (8 trillion Yen). The owner of the nuclear installation, Tokyo Electric Power, is ultimately liable for reimbursing the Japanese Government. The \$80 billion does not include the cost of decommissioning the six nuclear reactors at the Fukushima nuclear installation.⁶⁴³

There are obvious detriments in the caps of liability in the Paris and Vienna Conventions. Michael Faure has commented that capping compensation at “levels lower than the actual costs of an average nuclear accident leads to problems of underdeterrence and may cause disruption of the financial system”.⁶⁴⁴ Further, as indicated above, if compensation for bodily injury and property damage is prioritised, inadequate funding may exist for remediating environmental damage.

⁶⁴¹ Department of Energy & Climate Change, Implementation of changes to the Paris and Brussels Conventions on nuclear third party liability; Summary of responses and Government response to consultation, p. 3 (March 2012).

⁶⁴² Duncan E.J. Currie, The Problems and Gaps in the Nuclear Liability Conventions and an Analysis of How an Actual Claim Would be Brought under the Current Existing Treaty Regime in the Event of a Nuclear Incident, *Denver Journal of International Law & Policy*, vol. 35, p. 85, 92 (2006).

⁶⁴³ See Yoshifumi Takemoto, Japan Readies Additional \$30 billion for Fukushima clean-up; sources, Reuters (12 November 2013). Available at <http://www.reuters.com/article/2013/11/12/us-japan-fukushima-borrowing-idUSBRE9AB0H520131112>

⁶⁴⁴ Michael Faure, Economic Models of Compensation for Damage Caused by Nuclear Accidents: Some Lessons for the Revision of the Paris and Vienna Conventions, *European Journal of Law & Economics*, vol. 2, p. 21, 22 (1995).

6.2.3.7 Mandatory financial security requirements

The Paris and Vienna Conventions provide for a three-tier system of compensation, with varying amounts in the Vienna Convention for parties to it (see Table 6 below). The operator of a nuclear installation is required to have evidence of financial security, subject to the State (public purse) having liability. The mandatory financial security includes liability for bodily injury and property damage, neither of which are covered by the ELD.

In contrast, the ELD does not impose mandatory financial security. Bulgaria, the Czech Republic, Greece, Hungary, Portugal, Romania, Slovakia, and Spain have included, or are in the process of including, mandatory financial security in varying amounts. They have not, however, extended those requirements to operators of nuclear installations.

A key reason for the absence of an extension of financial security, in particular insurance, to nuclear liability is that such liability is traditionally excluded in most liability insurance policies. National insurance pools provide cover for first party and third party nuclear damage, with each member of a pool contributing its pro rata share. Reinsurance of risks then takes place between different national pools.⁶⁴⁵

6.2.4 Other key differences between the nuclear Conventions and the ELD

Other key differences between the nuclear Conventions and the ELD are as follows:

- The Conventions do not include “compensatory remediation”, as defined by the ELD. This could be a significant difference because the Conventions do not include significance criteria; the issue of whether nuclear damage is significant is decided by a court;
- It is questionable whether compensation for “complementary remediation”, as defined by the ELD, is recoverable under the Conventions;
- The scope of compensation for “primary remediation” recoverable under the Conventions appears to be much narrower than that under the ELD;
- The scope of compensation for “preventive measures” under the Conventions also appears to be much narrower than under the ELD;
- The Conventions apply to many more States globally than the ELD;
- Whereas transposition of the ELD is mandatory in EU Member States, ratification or accession to the Conventions is voluntary;
- The Conventions do not require an operator to carry out measures to prevent or remediate nuclear damage; instead the operator is liable for the reasonable costs of nuclear damage that is prevented or remediated by other persons;
- The Conventions include a cap on liability whereas the ELD does not do so. In this respect, some Member States have not ratified all (or indeed, some Member States have not ratified any) of the Conventions, thus allowing for unlimited liability for nuclear damage in those Member States; and
- The Conventions include liability for claims for preventing and remediating damage to fauna and flora; liability under the ELD is limited to species and natural habitats

⁶⁴⁵ See generally Michael G. Faure & Tom Vanden Borre, *Compensating Nuclear Damage: A Comparative Economic Analysis of the U.S. and International Liability Schemes*, William & Mary Environmental Law & Policy Review, vol. 33, pp. 219, 240, 248-51 (2008).

protected under the Birds and Habitats Directives although, as noted above, liability for preventing and remediating environmental damage under the Conventions is narrower than such liability in the ELD.

6.2.5 Polluter pays principle / law and economics approach

The nuclear Conventions do not comply with the polluter pays principle in that the public is liable for a large percentage of the costs of remediating nuclear damage in the event of a nuclear incident. Neither do they accord with the law and economics approach.

The nuclear Conventions were introduced in the 1960s at the same time as the US compensation regime, the Price-Anderson Act. A 2008 study by Professor Michael Faure and Dr Tom Vanden Borre revealed that the Conventions have changed very little since that time. The authors note that the limit of compensation under the Paris Convention in 2008 was 300 million SDRs (approximately EUR 310.35 million (\$493.08 million)), with a total of EUR 1.5 billion (\$2.383 billion) for Contracting Parties to the Brussels Supplementary Convention as well as the Paris Convention. Of this amount, EUR 700 million is financed by the operator of the nuclear installation and EUR 800 million by public funds.

Professor Faure and Dr Vanden Borre further note that even if Contracting Parties to the Conventions charge more of the cost to operators of nuclear installations by imposing a liability limit of EUR 1.2 billion (\$1.907 billion), some of the nuclear damage would still be payable from public funds. Further, unless Contracting Parties decide to impose unlimited liability, the public is liable for nuclear damage that exceeds EUR 1.5 billion. They further comment that “the second layer of compensation in the international regime is entirely provided through public funds whereby no risk related financing takes place whatsoever”.

Strikingly, Professor Faure and Dr Vanden Borre note that the amount of compensation payable by the public has increased since the revisions to the Conventions after Chernobyl.⁶⁴⁶

They then compared the amount for which the public is liable under the Price-Anderson Act in the USA, in which the amount of funding payable by the public has been reduced. Under the US regime, operators of nuclear installations are liable for the first \$300 million (EUR 222 million). The second layer is \$10.461 billion (EUR 7.744 billion), compared to \$1.271 billion (EUR 800 million) in the Paris Convention and Brussels Supplementary Convention. However, they note that the second layer in the USA “is also financed through the collectivity of the nuclear operators and hence contributes to a cost internalization”.

The authors then comment that “[t]he situation is, moreover, only worse if one compares the Price-Anderson Act with the regime under the Vienna Convention where the amounts are even dramatically lower than in the [Paris Convention] regime”. (The minimum liability under the Vienna Convention is 300 million SDRs (approximately EUR 357 million); there is no maximum limit of liability.) That is:

“[a]n important feature of the U.S. regime is that, indeed, a system has been developed whereby the second layer of compensation does not merely consist of public funding, but is the collective responsibility of industry. The task of the government in this respect is limited to pre-financing the compensation to the victim and collecting the retrospective premiums from the operators”.

⁶⁴⁶ See Michael G. Faure and Tom Vanden Borre, *Compensating Nuclear Damage: A Comparative Economic Analysis of the U.S. and International Liability Schemes*, William & Mary Environmental Law & Policy Review, vol. 33, pp. 219, 240, 276-78 (2008).

Still further:

“the U.S. regime has no legal channeling of liability to operators. The U.S. implementation of the [1997 Protocol] furthers this trend by explicitly involving nuclear suppliers in the financing of nuclear risk as far as nuclear accidents outside the U.S. are concerned. The international regime, on the contrary, inefficiently excludes liability of all others than the licensee who could have contributed to the risk”.⁶⁴⁷

Professor Faure has further commented that “there should in any case be a substantial increase in the amount of liability of the nuclear power plant owner”,⁶⁴⁸ with any “government provided compensation” being in principle “risk-related such that a government fund is financed by risk-based premiums paid by operators”.⁶⁴⁹

A contrary argument has been made that the limitation of funding for compensation in the event of a nuclear incident “recognizes the benefits of nuclear power and the tacit acceptance of the risks a State takes by permitting power plant construction and operation”.⁶⁵⁰ As described above, however, this view has been criticised as being, in effect, a subsidy to the nuclear industry that does not adequately consider the interests of the public.

6.2.6 Euratom Treaty

The ELD also provides that it does “not apply to such nuclear risks or environmental damage or imminent threat of such damage as may be caused by the activities covered by the Treaty establishing the European Atomic Energy Community”. As discussed below, it is questionable whether this exclusion is needed.

The Euratom Treaty does not include any specific provisions establishing nuclear liability. During the 1960s, the European Commission issued two non-binding recommendations “with the aim to ‘so far as possible harmonise the legal framework for nuclear liability and financial security in the case of a nuclear incident’”.⁶⁵¹ The basis for the Commission’s aim was article 98 of the Euratom Treaty.

Article 98, which does not refer to nuclear liability, provides that:

“Member States shall take all measures necessary to facilitate the conclusion of insurance contracts covering nuclear risks. Within two years of the entry into force of this Treaty, the Council, acting by a qualified majority on a proposal from the Commission, which shall first request the opinion of the Economic and Social

⁶⁴⁷ Michael G. Faure and Tom Vanden Borre, *Compensating Nuclear Damage: A Comparative Economic Analysis of the U.S. and International Liability Schemes*, William & Mary Environmental Law & Policy Review, vol. 33, p. 219, 276-78 (2008).

⁶⁴⁸ Michael Faure, *Economic Models of Compensation for Damage Caused by Nuclear Accidents: Some Lessons for the Revision of the Paris and Vienna Conventions*, European Journal of Law & Economics, vol. 2, p. 21, 40 (1995).

⁶⁴⁹ Michael G. Faure and Tom Vanden Borre, *Compensating Nuclear Damage: A Comparative Economic Analysis of the U.S. and International Liability Schemes*, William & Mary Environmental Law & Policy Review, vol. 33, pp. 219, 240, 262 (2008).

⁶⁵⁰ World Nuclear Association, *Liability for Nuclear Damage* (updated 12 December 2013). Available at <http://www.world-nuclear.org/info/Safety-and-Security/Safety-of-Plants/Liability-for-Nuclear-Damage/>

⁶⁵¹ See Jakub Handrlica, *European Nuclear Liability Law: Reflecting the Most Recent Developments*, Common Law Review, vol. 12, 37, 40 (2012) (referring to recommendations issued in OJ 196, pp. 2995-2996 (18 November 1965); OJ 136, pp. 2553-2554 (25 July 1966)).

Committee, shall, after consulting the European Parliament, issue directives for the application of this Article”.

In the 1960s, Article 98 served as the legal basis for two Recommendations that the nuclear industry should be subject to harmonising rules concerning liability and financial security.⁶⁵²

In 1975, the Council, having regard to the Euratom Treaty, recommended the adoption of the polluter pays principle. The Recommendation noted, among other things, that “Each Member State should apply the ‘polluter pays’ principle to all forms of pollution within its own country and without making any distinction as to whether the pollution affects that country or another”.⁶⁵³

In December 1997, in a written answer to a question whether the Commission was considering a proposal for EU-wide civil liability legislation of operators of nuclear power stations, Mr Papoutsis gave the following answer on behalf of the Commission:

“In the early years of the nuclear power industry, it was already recognized that the possible magnitude of damage from a nuclear accident was such that insurance coverage of nuclear liability required international co-operation. This is not only illustrated by the two international regimes for nuclear third party liability, which were developed in the early sixties, but also by inclusion of Article 98 in the Euratom Treaty”.

Mr Papoutsis then referred to the Paris and Vienna Conventions, the Joint Protocol, and the Carriage of Nuclear Material Convention. He concluded that

“On 12 September 1997, a Protocol amending the Vienna Convention was adopted. On that occasion a new instrument, the Convention on supplementary funding, was also adopted. These instruments, which have not yet entered into force, incorporate the progressive legal, technical, as well as economic developments that have taken place since adoption of the Paris and Vienna Conventions and foresee considerable additional compensation. Given the comprehensive nature of this international regime, the Commission does not see the need to develop specific legislation for the Community. In this context, it is of course important to note that the Euratom Treaty, and in particular Article 98, does not impose any obligation to legislate in this field”.⁶⁵⁴

Thus, in 1997, the Commission concluded that EU legislation on nuclear liability was unnecessary due to the existence of the Conventions.

During Enlargement, the situation became more complicated. Whereas some existing Member States are parties to the Paris Convention, accession Member States that were parties to a nuclear

⁶⁵² See Tom Vanden Borre, DG ENER, Unit B 2, Institute for Energy and Environmental Law (IMER) – Leuven University (June 2010) (presentation at Workshop jointly organised by the Brussels Nuclear Law Association and DG Energy, hosted by the European Economic and Social Committee, Brussels, 17-18 June 2010) (referring to Recommendations 65/42/Euratom and 66/22/Euratom).

⁶⁵³ Council Recommendation of 3 March 1975 regarding cost allocation matters and action by public authorities on environmental matters, 75/436/Euratom. OJ L 194/1 (1975). The Recommendation also had regard to the Treaty establishing the European Coal and Steel Community; and the Treaty establishing the European Economic Community.

⁶⁵⁴ OJ C 158/191 (25 May 1998); see Jakub Handrlica, European Nuclear Liability Law: Reflecting the Most Recent Developments, *Common Law Review*, vol. 12, p. 37, 40 (2012).

Convention tended to be parties to the Vienna Convention. The EU did not make the imposition of liability for nuclear damage a condition for accession.⁶⁵⁵

On 3 October 2007, the Energy Commissioner, Andris Piebalgs, stated that:

“on Nuclear liability, ... a harmonised liability scheme, including a mechanism to ensure the availability of funds in the event of damage caused by a nuclear accident is essential to the long-term acceptability of nuclear power. Third party liability for nuclear damage does also fall within the scope of the Euratom Treaty.

In its early days, the Community chose to rely on the OECD's Paris Convention on nuclear liability as a common basis of an insurance and compensation regime in its Member States. Since the 2004 enlargement, many new Member States rely on the IAEA's Vienna Convention for their nuclear liability regimes.

The co-existence of two major third party nuclear liability regimes with several sub-regimes does not guarantee the same level of compensation for nuclear damage everywhere within the Community. Therefore, before the end of the year, the Commission will undertake an impact assessment to explore the range of possible solutions and prepare a proposal to the Council”.⁶⁵⁶

In 2012, following a legal study on the accession of Euratom to the Paris Convention,⁶⁵⁷ the European Commission DG Energy issued a consultation paper on harmonising nuclear liability rules.⁶⁵⁸ The Commission noted the widely varying limits of liability varying from EUR 5.4 million in Italy to unlimited liability in Member States that have not ratified either Convention. The Commission also noted the widely varying limits of financial security from no mandatory financial security in Member States that have not ratified either Convention to EUR 2.5 billion in Germany (see Table 6 setting out the differences below). The Commission commented that the amounts in some Member States are inadequate to cover the potential costs of a severe nuclear accident. The consultation focused on the above two issues; it did not focus on the provisions of each Convention establishing liability for nuclear damage.⁶⁵⁹

⁶⁵⁵ See Jakub Handrlica, European Nuclear Liability Law: Reflecting the Most Recent Developments, *Common Law Review*, vol. 12, p. 37, 40 (2012).

⁶⁵⁶ Andris Piebalgs, Energy Commissioner, The Euratom Treaty and development of the Nuclear Industry, Keynote speech at the "International Nuclear Law Association" Congress, Brussels, 3 October 2007, European Commission - SPEECH/07/599 08/10/2007. Available at http://europa.eu/rapid/press-release_SPEECH-07-599_en.htm

⁶⁵⁷ Gomez-Acebo & Pombo, Abogados SCP, Final Report, TREN/CC/01-2005, Legal Study for the Accession of Euratom to the Paris Convention on Third Party Liability in the Field of Nuclear Energy (prepared for DG Energy and Transport).

⁶⁵⁸ European Commission DG Energy, Insurance and Compensation of Damages caused by accidents of nuclear power plants (nuclear liability). Available from http://ec.europa.eu/energy/nuclear/consultations/20130718_powerplants_en.htm

⁶⁵⁹ This report does not discuss the scope of the EU's competence to rule on nuclear liability. See Norbert Pelzer, The 2007 EU-Initiative on Nuclear Liability – A Chance for Enhancing the Nuclear Liability Regime in Europe, Prospects of a Civil Nuclear Liability Regime in the Framework of the European Union, pp. 3-4 (Workshop jointly organised by the Brussels Nuclear Law Association and DG Energy, hosted by the European Economic and Social Committee, Brussels, 17-18 June 2010).

Table 6: Operators' liability according to national laws in EU Member States (in Euro)

(Source: DG Energy)⁶⁶⁰

	Convention to which MS is party	Operator's liability	Limit of the financial security
Austria	PC (not ratified)	Unlimited	446.6 million
Belgium	PC	1.2 billion	1.2 billion
Bulgaria	VC	49.1 million	49.1 million
Croatia	VC	43.9 million	43.9 million
Cyprus	-	Unlimited	-
Czech Republic	VC	232 million	232 million
Denmark	PC	Unlimited	700 million
Estonia	VC	Unlimited	-
Finland	PC	Unlimited	700 million
France	PC	91.5 million (700 million)	91.5 million (700 million)
Germany	PC	Unlimited	2.5 billion
Greece	PC	16.3 million	-
Hungary	VC	109 million	109 million
Ireland	-	Unlimited	-
Italy	PC	5.4 million	5.4 million
Latvia	VC	114.2 million	Shall be determined by the Government
Lithuania	VC	1963 USD 5 million (= € 154 million)	1963 USD 5 million (= € 154 million)
Luxemburg	PC (not ratified)	Unlimited	-
Malta	-	Unlimited	-
Netherlands	PC	1.2 billion	1.2 billion
Poland	VC	345 million	345 million
Portugal	PC	16.3 million	-
Romania	VC	345 million	345 million
Slovakia	VC	75 million	75 million

⁶⁶⁰ This table is compiled by the European Commission DG Energy in its webpage for the consultation on harmonisation. Available from http://ec.europa.eu/energy/nuclear/consultations/20130718_powerplants_en.htm

	Convention to which MS is party	Operator's liability	Limit of the financial security
Slovenia	PC	700 million	-
Spain	PC	1.2 billion	1.2 billion
Sweden	PC	Unlimited	1.2 billion
United Kingdom	PC	156.7 million	156.7 million

Due to the Euratom Treaty not having been applied to liability for nuclear damage, the ELD does not appear to bar coverage for activities to which Article 98 of the Treaty could apply unless such activities are covered by the Annex V Conventions and overlap with the ELD.

6.2.7 Experience gained in relation to the Euratom Treaty and nuclear Conventions and comparison with the ELD

This section aims to highlight feedback received from experts and stakeholders through consultation, as well as information gathered through desk-based research, on the experience gained in relation to the Euratom Treaty and legal instruments listed in Annex V to the ELD. In addition, this section includes a review of incidents falling under these instruments that occurred between 1 May 2007 and 30 April 2013 and analysis of how they would have been handled had they fallen within the scope of the ELD.

6.2.7.1 Practical experience in relation to the nuclear Conventions

This section focusses mainly on the Conventions listed in Annex V to the ELD that are in force, that is, all except the Supplementary Convention. The section also addresses the Protocols amending the Vienna and Paris Conventions, although, as indicated above, the 2004 Protocol to the Paris Convention has not yet entered into force. Distinction is made among the Conventions where relevant and necessary for a better understanding of the report.

Views and opinions expressed in relation to the above-mentioned legal instruments may be divided into the following categories:

- Clear channelling of liability;
- Environmental damage;
- Financial limitations on liability;
- Prevention of incidents;
- Absence of incidents falling under the Conventions; and
- The Conventions as exemptions to the ELD.

Clear channelling of liability

Nuclear conventions listed in Annex V to the ELD provide for total channelling of liability (100% channelling of liability). They exclude liability for contractual partners (e.g. a party providing a specific piece of equipment), due the fact that the Conventions were adopted in the early 1960s, in order to facilitate the operation of the nuclear industry in its infancy.⁶⁶¹

When the nuclear conventions were revised, the revision was inspired by the policy developed by IOPC Funds (e.g., regarding the definition of “damage” and “preventive measures”).⁶⁶¹

Similar to what is foreseen in the IMO Conventions, one of the advantages highlighted with regard to the Paris and Vienna Conventions is that there is a clear channelling of liability to the nuclear operator. However, not every EU Member State has signed or ratified the Conventions and, consequently, there may be different interpretations as to who the liable party is in Member States that have not implemented the Conventions.⁶⁶² The Paris and Vienna Conventions provide that nuclear liability under them may not be pursued on other grounds. The nuclear operator under the Conventions is therefore the only one that can be held liable. However, it may happen that alleged victims try to bring legal claims against other parties, but national courts are normally bound by the provisions of the Conventions. It would nonetheless be possible for a country to apply the Conventions, and also to set up an internal mechanism to cope with nuclear damage (e.g., through a specific fund).⁶⁶³ However, if there is e.g. a chemical spill within a nuclear installation, it is not considered “nuclear damage” and hence the Conventions will not apply, except if it is not “reasonably separable” from nuclear damage (see Article 3 of the Paris Convention).⁶⁶⁴

This clear channelling of liability thus provides a clear picture and understanding of who is liable, and hence makes it easier for insurers to provide appropriate cover.⁶⁶² In addition, the Brussels Supplementary Convention supplements the liability regime under the Paris Convention, as it sets up a fund to complement the compensation scheme under the Paris Convention.⁶⁶⁴ However, since this system has not been tested yet, it is difficult to say if it would work well, and liability limitations under the Conventions are at lower levels than the possible full cost of a nuclear accident (see below).

Environmental damage

There is an overlap between the Conventions and national legislation: the Conventions apply to cross-boundary damage, and national legislation is meant to be compatible with the general prescriptions within the Conventions themselves.⁶⁶⁴ The notion of “environmental damage” is not straightforward in the nuclear Conventions. Originally, the Vienna Convention contained a definition of “nuclear damage” and the Paris Convention did not. The consequences were the same: they imposed liability on the operators of nuclear installations for personal injury and property damage.⁶⁶⁵ Regarding this latter category, the Conventions leave it to national courts to decide how to interpret “property damage”: some may decide that it includes environmental damage.⁶⁶⁶

⁶⁶¹ Interview, in the framework of this study, with Måns Jacobsson, Former Director the IOPC Funds, expressing his personal view (and not that of the IOPC Funds).

⁶⁶² Interview with Lloyd’s in the framework of this study.

⁶⁶³ Interview with Expert in the framework of this study.

⁶⁶⁴ Interview with Stephen Burns, Head of Legal Affairs at OECD-NEA, in the framework of this study.

⁶⁶⁵ Interview, in the framework of this study, with Lloyd’s, the European Commission’s DG Energy, and another Expert.

⁶⁶⁶ Interview, in the framework of this study, with Lloyd’s and the European Commission’s DG Energy.

When the system was being revised, the question arose whether to expand the definition to include environmental damage. One of the considerations taken into account was that the lack of reference to environmental damage in the nuclear Conventions meant that compensation for environmental damage was determined at Contracting Party level, through national law, which led to significant variations from one country to the next. In Germany for instance, compensation of such damage is more restrictive than in other Member States.⁶⁶⁷ In addition, this interpretation by national courts does not include remediation of environmental damage. Amendments to the Vienna and Paris Conventions extend the liability of nuclear operators to include costs of measures to reinstate environmental damage, unless the environmental impairment is insignificant. However, only the 1997 Protocol to the Vienna Convention has entered into force. Further, it has been ratified only by a very limited number of EU Member States. When the 2004 Protocol to Amend the Paris Convention enters into force, it will provide for compensation of the costs of measures to reinstate a significantly impaired environment and the losses that result from such an impairment.⁶⁶⁸ The entry into force of the 2004 Protocol has been affected by Council Decision 2004/294/EC, which provides that EU Member States must ratify the Protocol simultaneously:⁶⁶⁹ the UK, Belgium and Italy have not yet completed their ratification procedure, but it is expected to be finalised by 2015.⁶⁷⁰

Under the 2004 Protocol to the Paris Convention, preventive measures are compensated. However, there is currently no particular guidance as to how to define what they encompass. Similarly, it is not entirely clear what “reinstating the environment” would mean in practice. The revised Conventions provide some limited guidance on the definition of this phrase, but for the most part this would be left to national courts to determine.⁶⁶⁷ These terms would be defined case-by-case by the competent court in accordance with national law.⁶⁷⁰ There are currently no works (*travaux*) of an official nature on how to interpret the definitions applicable to environmental damage and its remediation.⁶⁷¹ Although the updated Exposé des Motifs (Explanatory Memorandum), which is yet to be adopted, to the Paris Convention will address the issue of environmental damage, it will probably not go into much detail.⁶⁷⁰ In addition, the nuclear Conventions listed in Annex V do not distinguish between different types of remediation such as those under the ELD and do not refer to interim losses. However, the silence of the Conventions cannot be interpreted one way or the other. It would still be desirable to develop at international level guidelines on the implementation of the Conventions, such as initiatives undertaken by the European Commission.⁶⁷¹ It will probably require some type of quantification (in particular translation into economic terms). The same considerations apply in relation to the 1997 Protocol to the Vienna Convention.

One stakeholder pointed out that in case of a nuclear incident leading to environmental damage, waters rarely reach threatening radiation levels. Actually, sediments, i.e. soils, are usually the most impacted environmental media (this is notably the case in Fukushima). Additional risks of contamination relate to uranium mines and slag heaps: in such cases, contamination may migrate because of rainwater infiltration.⁶⁷²

⁶⁶⁷ Interview with Expert in the framework of this study.

⁶⁶⁸ Interview, in the framework of this study, with Lloyd’s and another Expert.

⁶⁶⁹ Article 2, Council Decision of 8 March 2004 authorising the Member States which are Contracting Parties to the Paris Convention of 29 July 1960 on Third Party Liability in the Field of Nuclear Energy to ratify, in the interest of the European Community, the Protocol amending that Convention, or to accede to it. OJ L 97, 1.4.2004, p.53

⁶⁷⁰ Interview with Stephen Burns, Head of Legal Affairs at OECD-NEA, in the framework of this study.

⁶⁷¹ Interview with Expert in the framework of this study.

⁶⁷² Interview with IRSN in the framework of this study.

From discussions between the Commission and insurers, it appears they fear they will have to cover environmental damage and consider that it would be difficult to estimate potential damage. This view may be considered surprising as the Conventions provide a cap on financial liability, and insurers will hence not have to compensate beyond this cap, notwithstanding the type of damage involved. In addition, compensation of environmental damage may also vary depending on whether there is a hierarchy established between the various types of damage that may result from a nuclear incident. Financial liability may be exhausted before it reaches compensation of environmental damage.⁶⁷³

Financial limitations on liability

The insurance market related to nuclear activities has developed as a result of mandatory insurance imposed in the nuclear Conventions. The (re)insurance market covering the nuclear sector is a small market as there are not large numbers of nuclear power plants worldwide; in some countries, it is the State that provides appropriate guarantees in case of a nuclear incident. Consequently the amount of premium produced is reasonably low.⁶⁷⁴

The main issue with the Vienna and Paris Conventions in relation to environmental damage appears to be the financial limitation on liability they create (financial caps).⁶⁷⁵ The Commission (DG ENER) is working with stakeholders, with a legislative purpose to try to improve the situation. Under the Conventions, the liable party is the operator: once the financial ceiling is exceeded (payable by insurance companies), then the State (hence public funds, hence citizens) take over as guarantor.⁶⁷⁶ This limitation is also the reason why it would be difficult for EU Member States to adopt a single convention, as the cap under the Vienna Convention, whose EU Member States are mostly Eastern European countries, is lower than that under the Paris Convention. In addition, the 2004 Protocol to the Paris Convention, once in force, will raise the financial cap in case of incidents.⁶⁷⁴

In any case, the current caps on liability are quite low when compared to the potential costs of nuclear accidents, the last infamous example being that of Fukushima. Both the Paris and Vienna Conventions impose mandatory insurance coverage; the financial caps may thus be viewed as a recognition that it is expensive for insurers to cover nuclear risks and, consequently, they can cover such risks only up to a certain level.⁶⁷⁴

Prevention of incidents

Many interviewed stakeholders highlighted that one of the main objectives of the Euratom Treaty and the nuclear Conventions listed in Annex V to the ELD is that of prevention of incidents, i.e. guaranteeing the safety of nuclear installations. Regarding the Paris Convention, one expert pointed out that a group of specialised experts has been established, whose objective is notably to exchange on and anticipate any future incidents and/or accidents.⁶⁷⁷

A good example of the time at which safety aspects are particularly important is when a reactor is stopped so as to remove spent fuel elements and replace them with new fuel elements. This is when interventions are possible on the reactor, if necessary. In France, the usual process is that the operator submits a “work programme” (*programme de travaux*). The French nuclear safety

⁶⁷³ Interview with the European Commission’s DG Energy in the framework of this study.

⁶⁷⁴ Interview with Lloyd’s in the framework of this study.

⁶⁷⁵ Interview, in the framework of this study, with Lloyd’s and the European Commission’s DG Energy.

⁶⁷⁶ Interview, in the framework of this study, with the European Commission’s DG Energy and another Expert.

⁶⁷⁷ Interview with Expert in the framework of this study.

authority (ASN – *Autorité de Sûreté Nucléaire*) then requests IRSN (*Institut de Radioprotection et de Sûreté Nucléaire*) to provide a technical opinion on the relevance of controls intended by the operator. In this regard, IRSN has an important role in that it can use its experience on other nuclear installations in France. Indeed, at IRSN, the *chargés de site* meet every week (which is made possible by the fact that IRSN's department for safety of installations comprises “only” 40 people); these meetings allow the sharing of experience and the analysis of incidents that have occurred on other sites, in order to impose additional controls or to identify what may not have been anticipated. In addition, when a reactor is stopped, unannounced inspections are carried out, involving ASN and IRSN.⁶⁷⁸ French stakeholders pointed out that safety obligations and constraints in France are fully integrated by operators of nuclear power plants.⁶⁷⁸

The French IRSN is in contact with counterparts in EU Member States where nuclear safety is an important issue, such as Germany, the UK and Finland. Experience and lessons learned are hence shared internationally.⁶⁷⁸ In addition, following Fukushima, the IAEA's Board of Governors adopted the IAEA Action Plan on Nuclear Safety⁶⁷⁹ in September 2011, which was subsequently unanimously endorsed by the IAEA General Conference. The ultimate goal of the Action Plan is to strengthen nuclear safety worldwide.⁶⁸⁰

Should a nuclear disaster occur, it would lead to a crisis. It was pointed out that in such a case any environmental liability legislation would be applied after that applying to other types of damage, and in particular personal injury and risks to human health. The level of compensation provided in the Conventions, even following its increase with regards to the Paris Convention, would still be greatly insufficient to cover damage resulting from such an accident. Whatever the size of the accident, its costs will always represent more than the amount that the operator can handle (e.g. in France, the costs would be higher than EDF's market capitalisation). Hence, once a catastrophic accident has occurred, the legislation that applies is not so relevant anymore as it is a matter of managing a crisis. The most important aspect of the nuclear Convention is the objective of preventing damage (which is also one of the main objectives of the ELD), and it is therefore essential that information on prevention be correctly disseminated among the population.⁶⁸¹

Absence of incidents falling under the Conventions

There have not been any nuclear incidents that have led to successful claims under the Paris or Vienna Conventions, because of the lack of transboundary damage. According to a legal expert, these Conventions thus have never been properly tested, and hence not implemented at a real scale.⁶⁸² However, it may also be argued that the underlying principles common to the Conventions have been tested in the Japanese experience after Fukushima.⁶⁸³

When there have been nuclear incidents in the EU, these did not constitute environmental catastrophes (i.e. were not significant “accidents”), but minor incidents (based on the INES – International Nuclear Events Scale),⁶⁸⁴ and were limited to the national territory of the Member

⁶⁷⁸ Interview with Julien Beaucourt, from IRSN, in the framework of this study.

⁶⁷⁹ See <http://www.iaea.org/newscenter/focus/actionplan/reports/actionplann130911.pdf>

⁶⁸⁰ See <http://www.iaea.org/newscenter/focus/actionplan/>

⁶⁸¹ Interview with IRSN in the framework of this study.

⁶⁸² Interview, in the framework of this study, with Stephen Burns, Head of Legal Affairs at OECD-NEA, Lloyd's, and another Expert. See also 2nd ELD Stakeholder Conference, Summary report, http://ec.europa.eu/environment/legal/liability/eld_conf_11_06_2013.htm

⁶⁸³ Interview with Stephen Burns, Head of Legal Affairs at OECD-NEA, in the framework of this study.

⁶⁸⁴ Interview with the European Commission's DG Energy in the framework of this study.

State where the incident occurred.⁶⁸⁵ These minor incidents are generally handled directly with insurers. There is therefore no case law (that is, no civil judgments, but there could have been administrative or criminal sanctions) and when there is, either it is old and hence not relevant, or it relates to alleged cases of personal injury as a result of exposure to radioactivity (e.g., burns, etc.), but not to environmental damage.⁶⁸⁶

There have been a handful of cases in the UK which had an impact on the environment. However, in the UK “property damage” is not necessarily viewed as including “environmental damage”. The most recent of these cases dates from 2004,⁶⁸⁷ where radioactive particles had contaminated a beach; the court found that “damage to property” was to be understood as purely physical damage. Although the case was ultimately settled out-of-court, the court considered that depositing radioactive particles on a beach was physical damage.⁶⁸⁸ In addition, there can be short-term incidents that exceed maximum limit values for a radionuclide discharged in water, but it may be diluted and thus it becomes impossible to identify specific impacts.⁶⁸⁵ Finally, if some nuclear damage requires soil excavation, this will be treated as low-level waste and sent and treated in installations that are considered to be nuclear installations under the Conventions, as well as national legislation.⁶⁸⁵

It is also interesting to note that not all countries are parties to the Conventions listed in Annex V to the ELD, at least none of those where major nuclear accidents have occurred; this is notably the case of Japan, the Fukushima accident not falling under any of these Conventions.⁶⁸⁹ Over half the world’s reactors are outside of the Paris and Vienna Conventions (notably those in the USA, Canada, Japan, South Korea and China). However, Japan’s Foreign Minister said in November 2013 that his government intends to introduce legislation to ratify the CSC.⁶⁹⁰ Also, as noted above, the USA has ratified the CSC.

In case of “insignificant” incidents, there is an alert system at Member State level, as well as a European mechanism that centralises some information. However, Member States must provide general data relating to any plan for the disposal of radioactive waste only if there would be a transboundary impact in case of radioactive contamination of the water, soil or airspace (Article 37 of the Euratom Treaty).⁶⁸⁹

In light of the absence of any incident falling under one of the nuclear Conventions listed in Annex V to the ELD, it is not possible to determine whether these Conventions, and environmental remediation under these, are effective, as thankfully there has not been any nuclear accidents significant enough for the Conventions to apply (e.g. if damage went beyond the limits of the nuclear installation, etc.). In any case, nuclear catastrophes will usually be handled and managed by the State (government level), such as was the case for Fukushima.⁶⁹¹

⁶⁸⁵ Interview with Stephen Burns, Head of Legal Affairs at OECD-NEA, in the framework of this study.

⁶⁸⁶ Interview, in the framework of this study, with IRSN and another Expert.

⁶⁸⁷ *Magnohard Ltd and others v UKAEA and another* [2004] Env LR 19.

⁶⁸⁸ Interview with Lloyd’s in the framework of this study.

⁶⁸⁹ Interview with the European Commission’s DG Energy in the framework of this study.

⁶⁹⁰ World Nuclear Association, *Weekly Digest*, 13 December 2013, available at <http://us1.campaign-archive2.com/?u=140c559a3b34d23ff7c6b48b9&id=409d3dbac0&e=1520471a60>

⁶⁹¹ Interview with Expert in the framework of this study.

The nuclear Conventions as exemptions to the ELD

As highlighted above, it is not possible to determine whether the nuclear Conventions are effective as they have never been tested.⁶⁹²

If the ELD is amended to cover nuclear incidents falling under the international instruments listed in Annex V (and currently exempted from the ELD), it would require amendments to national legislation. For the UK for instance, one commentator stated that this would probably mean that the country could not remain a party to the Paris Convention.⁶⁹³

Many stakeholders are in favour of maintaining the nuclear Conventions as exemptions to the ELD. Insurance Europe highlighted that in all those States that are parties to the nuclear Conventions, the insurance market has responded and developed cover to meet the requirements of the Conventions (there are various nuclear insurance pools existing throughout Europe). The insurance capacity provided by nuclear insurers exists on a global level. Hence, there is concern that applying a different regime of liability in the EU (if, for instance, nuclear incidents covered by international conventions were no longer exempted from application of the ELD) could impact the market capacity currently provided to cover nuclear damage by disincentivising investment from non-European markets. Insurance Europe therefore supports the development of environmental liability under the nuclear regime at international level, as it is an international problem and should consequently not be limited to the EU (with a specific regime).⁶⁹⁴

However, at least one Member State, Austria, considers it a gap in the ELD that nuclear incidents should not fall within its scope, emphasising that there is no reason why the nuclear sector of the energy industry should be excluded from liability under the ELD when other forms of energy production are included. Austria is thus opposed to the exclusion of nuclear risks from the scope of the ELD, a stance it reaffirmed through a protocol statement it issued at the meeting of the EU Council (Environment) on 13 June 2003.⁶⁹⁵

6.2.7.2 Review of environmental incidents under the nuclear Conventions

As discussed in the previous section, there have been no environmental incidents falling under any of the nuclear Conventions listed in Annex V to the ELD. However, this does not mean that there have not been any nuclear incidents, but that incidents were not significant enough to trigger application of the Conventions, especially as there was no transboundary effect.

Hence, there have been only minor incidents, based on INES. They were all treated under national law. INES is presented in the figure below.

⁶⁹² Interview with Expert in the framework of this study.

⁶⁹³ Interview with Lloyd's in the framework of this study.

⁶⁹⁴ Interview with Carmen Bell, from Insurance Europe, in the framework of this study.

⁶⁹⁵ See Report submitted by Austria under ELD Article 18(1).

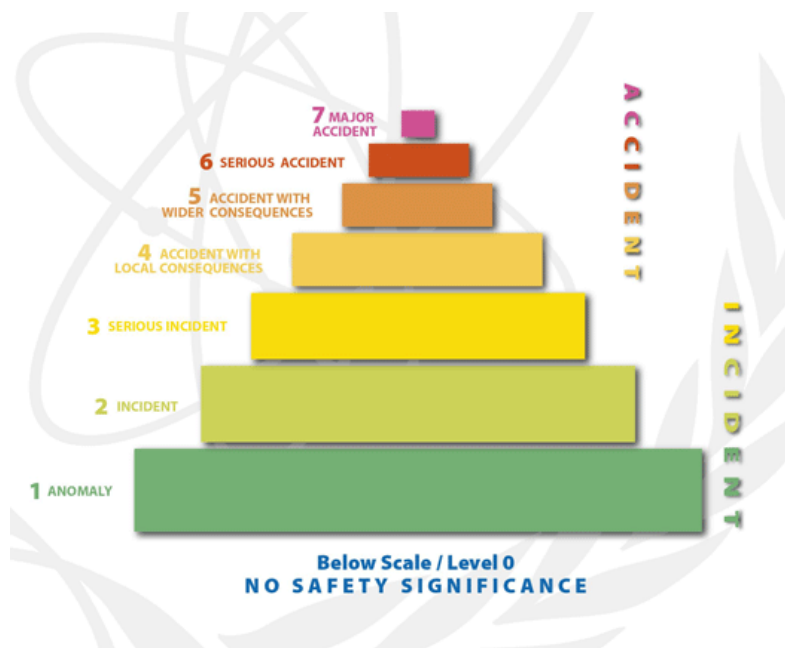


Figure 1: International Nuclear and Radiological Event Scale (source: IAEA)⁶⁹⁶

However, as indicated in section 6.2.6 above, due to the Euratom Treaty not having been applied to liability for nuclear damage, the ELD does not appear to bar coverage for activities to which Article 98 of the Treaty applies. Consequently, the case overviews provided in the sections below are meant only to illustrate how nuclear incidents have been handled since 1 May 2007.

⁶⁹⁶ See <http://www-ns.iaea.org/tech-areas/emergency/ines.asp>

Table 7: Examples of minor nuclear incidents in some Member States

Date	Incident	Description	environmental damage
13 November 2011	Pan-EU radiation leak	Iodine 131, Cesium 137. Suspicious sources: Maria medical reactor (PL), Rosatom medical reactor (RU), Krsko NPP (SI), also Pakistan	no substantial damage
12 April 2010	Sellafield radioactive bags case	Between 2008 and 2010, the plant sent bags of nuclear waste to a landfill site. This was supposedly caused by a new piece of monitoring equipment which had mistakenly passed the bags as general waste. Sellafield Ltd pleaded guilty to seven charges under environmental and nuclear regulation laws.	general
7 July 2008	Tricastin Nuclear leak	INES1. 30 tonnes of nuclear waste containing unenriched uranium leaked into 2 rivers.	river
November 2007	Ascó NPP leak	INES2. A leak occurred at Unit 1 reactor of the Ascó nuclear power plant in Catalonia (Spain) and was not detected until the next March.	general

Pan EU radiation leak

➤ Facts

On 13 November 2011, Iodine 131, Cesium 137, and other radioactive elements were detected at monitoring sites all around Europe.⁶⁹⁷

Several sources were suspected, including the Maria medical reactor (PL), Rosatom medical reactor (RU), Krsko NPP (SI), and even Pakistan. The levels did not indicate a substantial threat to the public.

➤ Proceedings and measures undertaken

No prevention or remediation measures have been reported and the source of radiation of this one-time event has still not been determined. No application of international instruments has been reported either.

➤ Potential outcome if the ELD had applied

Under the ELD, preventive and remedial measures would have been taken only if environmental damage had significant adverse effects. Without such a criterion, the ELD could not be applied. In this case, the levels did not indicate a substantial threat to the public. In addition, the source of radiation has not been determined; hence, the lack of an identified operator would also have been an obstacle to the application of the ELD regime.

Sellafield radioactive bags case

➤ Facts

On 12 April 2010, bags of nuclear waste were incorrectly dispatched to the Lillyhall landfill site in Workington, Cumbria (UK). This breached the conditions of Sellafield's environmental permit and the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations.⁶⁹⁸

Sellafield blamed the problem on an erroneous configuration of new monitoring equipment, but pleaded guilty to seven charges under environmental and nuclear regulation laws.

➤ Proceedings and measures undertaken

Extensive reassurance monitoring was carried out by organisations including the Environment Agency (EA), Waste Recycling Group — operators of the landfill at the time — and Sellafield, which confirmed there was no contamination left at the site or on the landfill equipment and no harm was caused to the environment or the public.

The bags were returned to Sellafield and the latter announced that "before waste operations were re-introduced on the site additional monitoring measures were put in place to prevent an incident of this type happening again."

The operator was found to be in breach of Regulations 12(1)(a), 38(1)(a), and 38(2) of the Environmental Permitting (England and Wales) Regulations, Section 32(1)(c) of the Radioactive Substances Act, and Regulation 5 of the Carriage of Dangerous Goods and Use of Transportable

⁶⁹⁷ Jardine N. Mysterious Radioactive Leak Discovered Across Europe, *Business Insider* (17 November 2011). Available at <http://www.businessinsider.com/europe-radiation-iodine-131-2011-11>

⁶⁹⁸ Sellafield fined £700,000 after incorrect disposal of radioactive waste, *Environment Agency* (14 June 2013). Available at <http://www.environment-agency.gov.uk/news/148282.aspx>

Pressure Equipment Regulations. They were fined £700,000 (EUR 845,050) and ordered to pay £72,635 (EUR 87,686) in damages to the UK Health and Safety Executive. The Court of Appeal upheld the fine in January 2004.⁶⁹⁹ In this case, the UK applied national law. Consequently, national law ratifying international law instruments was not used.

➤ **Potential outcome if the ELD had applied**

Under the ELD, preventive measures could have been applied. However, it was confirmed that there had been no contamination of the environment. The absence of actual (significant) environment damage indicates that no remedial measures would have been undertaken if the ELD had applied. Had the ELD been applied in relation to preventive measures, the outcome would likely have been similar to what it was.

Tricastin nuclear leak

➤ **Facts**

On 7 July 2008, waste containing unenriched uranium leaked into two rivers at the Tricastin nuclear power plant operated by Socatri (a subsidiary of Areva) at Bollène, Southern France, which has both nuclear reactors and a radioactive waste treatment plant. Approximately 30 m³ of liquid containing unenriched uranium spilled from an overflowing reservoir into the ground and into the Gaffière and Lauzon rivers.

➤ **Proceedings and measures undertaken**

Initially Socatri was acquitted of the charges of environmental damage and only charged a fine for not immediately reporting a nuclear risk.⁷⁰⁰ However, the decision was modified in the Court of Appeals and upheld in the Court of Cassation, recognizing the offence of water pollution.⁷⁰¹ Thus, Socatri was fined EUR 300,000 and ordered to pay a total of EUR 220,000 in damages to NGOs including Sortir du nucléaire, Greenpeace, Les Amis de la Terre, and France Nature Environnement. A number of individuals whose livelihoods were restrained were also awarded EUR 10,000 each in damages (non-pecuniary loss).⁷⁰²

Local authorities immediately banned using ground or river water for drinking or crop irrigation, as well as swimming or fishing in the waters.

Following the leak, the Institute for Radioprotection and Nuclear Safety (IRSN), responsible for safety inspections of French nuclear facilities, inspected the Tricastin plant (three days after the incident) and found that existing preventive measures were deficient and that its operators had been too slow to inform authorities about the leak. The inspectors found “irregularities” at the site’s operations at the time of the leak, and Socatri was ordered to implement “a reinforced surveillance plan, including analysis of the surrounding rivers and groundwater”. According to Socatri, the tests showed that local wells and the rivers had not been contaminated.

⁶⁹⁹ See *R v Sellafeld Ltd* [2014] EWCA Crim 49 (Court of Appeal) (England).

⁷⁰⁰ Tricastin: 40 000 euros d’amende pour le pollueur AREVA-SOCATRI – *Réseau Sortir du Nucléaire* (14 October 2010). Available at <http://groupes.sortirdunucleaire.org/Tricastin-40-000-euros-d-amende>

⁷⁰¹ Cass. Ch. Crim. 26 novembre 2013, Société Auxiliaire du Tricastin, n° Q 12-80.906 F-D.

⁷⁰² Fuite d’uranium du Tricastin: la Socatri définitivement condamnée. *Actu environnement* (27 November 2013). Available at www.actu-environnement.com/ae/news/rejet-pourvoi-cassation-socatri-areva-fuite-uranium-tricastin-20069.php4

IRSN announced however that it had discovered traces of uranium that pre-dated the leak. It indeed indicated that it had located four areas with abnormally high levels of uranium in the groundwater and that this could not have been caused by this leak alone.

The French Nuclear Safety Authority (ASN) therefore ordered the plant to close temporarily.

The then French Minister of Ecology also ordered tests on all nuclear power stations.

On 12 September 2013, the ASN prescribed to EDF-SA (also a nuclear operator on the site) to identify equipment that could be the cause of the Tricastin leak.⁷⁰³

A prosecution was brought against Socatri. On 16 October 2010, the Criminal Court of Carpentras found Socatri not guilty of the offence of water pollution, but fined it EUR 40,000 for failing immediately to declare the incident. However, on 30 September 2011, the Court of Appeals of Nîmes reversed the previous judgment and found Socatri guilty of having discharged toxic substances into groundwater that caused a modification of the water supply. Socatri was also fined EUR 300,000. This decision was upheld by the Court of Cassation on 26 November 2013.⁷⁰⁴

➤ **Potential outcome if the ELD had applied**

It is unlikely that the outcome would have been different had the ELD applied. The operator would also have been in breach of ELD provisions for failing to report immediately the nuclear risk. Preventive measures would also have been adequate. Furthermore, in the light of the measures ordered by the local authorities to address the risks to human health, the environmental damage could have been considered as significant, thus requiring that remedial measures to be taken. However, the abnormally high levels of uranium that were found in the groundwater apparently pre-dated the leak, and hence were potentially caused by an incident that occurred prior to the entry into force of the ELD. Furthermore, in that latter case EDF could be the identified operator (and not Socatri).

Ascó NPP leak

➤ **Facts**

In November 2007, a leak occurred at Unit 1 reactor of the Ascó nuclear power plant in Catalonia, Spain. The operator did not notify the Spanish Nuclear Safety Council (CSN) until 4 April 2008. CSN originally measured the leak at safe levels (235k Bq), but re-estimated a maximum leak of 84.95 million Bq of radioactivity into the environment.

The CSN said the staff of Anav (the nuclear operator, jointly owned by Endesa Generación and Iberdrola Generación) at Ascó had allowed a major breach of regulations when a radioactive emission occurred which had the potential to exceed the annual dose limit for a member of the public within the plant perimeter. One of the contributing factors was the failure of plant radiation monitoring, connected to the function of two monitors within the fuel building.

CSN was also concerned that Anav staff did not adequately control the contamination situation on site after discovering the emission and failed to record some pollution monitoring activities in free-access areas. Anav was also slow to notify the CSN of the incident: it found particles on 14 March

⁷⁰³ Décision n°2013-DC-0371 de l'Autorité de sûreté nucléaire du 12 septembre 2013 prescrivant à Electricité de France – Société Anonyme (EDF-SA) d'identifier les équipements à l'origine d'une présence anormale de tritium dans les eaux souterraines à l'intérieur de l'enceinte géotechnique de la centrale nucléaire du Tricastin.

⁷⁰⁴ Cass. Ch. Crim. 26 novembre 2013, Société Auxiliaire du Tricastin, n° Q 12-80.906 F-D.

2008, but did not notify the regulator until 4 April 2008. This, together with not providing adequate information quickly enough to resident inspectors from CSN, was a breach of regulations.

Lastly, Anav did not exercise sufficient control to prevent the removal of lightly contaminated scrap for recycling. Excess radioactivity was detected at the recycling site and any potential further emission was avoided.

➤ **Proceedings and measures undertaken**

As the leak continued for four months without detection and remained hidden for an additional month, adequate prevention measures had not been taken. In response to the incident, the CSN specified an action plan to improve operations at Ascó, which it will oversee. It involves design and operational changes in the fuel building ventilation system; monitoring process and management activities; analyses of operational experience, any precursors to the incident, and safety culture. CSN will also place a third resident safety inspector at the plant.

On 11 May 2009, Spain's Ministry of Industry, Tourism and Commerce issued an order imposing four fines for a combined total of EUR 15 million on ENDESA Generación, S.A. ("ENDESA Generación") as the operator of the Ascó I nuclear plant, in connection with a radioactive particle leak in December 2007. These infringements were considered serious violations of the Nuclear Energy Act 1964 (Ley 25/1964). An application for judicial review was filed with the National Court. In addition, the Director General of Energy Policy and Mines imposed two fines totalling EUR 90,000 for minor infringements relating to the same incident. These fines were contested. On 1 December 2009, granting a motion by ENDESA, the National Court stayed execution of the decision under challenge. ENDESA paid into court a bank guarantee covering the value of the fine, EUR 15. The principal issue under appeal is pending a decision. Since 14 September 2010, the court has been in the process of reaching conclusions and entering a judgment. On 6 April 2011, the National Court stayed the appeal proceedings.

➤ **Potential outcome if the ELD had applied**

Preventive measures under the ELD would have been adequate in this case, as there was a clear lack of prevention from a breach of regulation, no adequate control of the contamination situation, a slow notification of the incident and no sufficient control to prevent the removal of lightly contaminated scrap for recycling. However, this does not mean that applying the ELD regime would have resulted in a more efficient handling of the incident.

6.2.8 Conclusions and recommendations

As with the marine Conventions, opinions concerning the Conventions in Annex V tend to be polarised. Unlike the marine Conventions, however, the commercial concerns regarding the balance between the payment of claims by a ship owner and the funds established by payments from receivers of oil do not apply.

The legal and empirical reviews showed that the main reasons for the Commission to consider eliminating, or retaining, the exclusion for the Annex V Conventions are as follows.

6.2.8.1 Non-compliance with the polluter pays principle / law and economics approach

The Annex V Conventions are not in compliance with the polluter pays principle on which the ELD is based. Instead, the public is responsible for a substantial proportion of the costs of compensation in the event of a nuclear incident. As indicated above, revisions to the Conventions to include

liability and compensation for some environmental damage have also increased the percentage of such liability and compensation for which the public is responsible.

The exclusion of the Conventions from the ELD is, therefore, contrary to the fundamental purpose of the ELD itself.

Further, as described above, application of the law and economics approach to the exclusion for the Conventions indicates that they do not comply with basic principles of a liability regime.

6.2.8.2 Compensation for bodily injury and property damage not environmental damage

The focus of the Annex V Conventions is a compensation scheme for victims of nuclear incidents; their coverage of pure ecological damage / environmental damage is limited. Further, the Conventions do not establish a regime to prevent or remediate nuclear damage.

It is questionable, therefore, whether the Annex V Conventions further the purpose of the ELD. It is indisputable that the Conventions provide a much lower level of preventive or remedial measures than the ELD. In particular, they do not include complementary remediation or compensatory remediation.

In effect, therefore, the continued exclusion of the Annex V Conventions means that the nuclear industry is subject to less liability for “environmental damage” under the ELD than other industrial sectors, including other energy sectors.

6.2.8.3 Meaning of “nuclear damage” and “preventive measures”

The definition of “nuclear damage” under the Annex V Conventions is not straight-forward. Many facets of the definition are unclear including the extent of environmental damage (including, in particular, the extent of primary remediation), and the “significance” threshold, which is determined by competent courts. As indicated above, it is indisputable that the Conventions impose a lower level of liability for “environmental damage” under the ELD than the ELD itself.

6.2.8.4 Lack of a level playing field

Although the Paris Convention, as amended, and the Vienna Convention, as amended, have similar terms, they also have key differences. Further, not all Member States are parties to the Conventions, in particular, Austria, Ireland and Luxembourg.

In view of the lack of a level playing field created by the Conventions, the exclusion for liability and compensation under them from the ELD results in a patchwork of liability / compensation regimes for nuclear incidents across the EU.

6.2.8.5 Protection of biodiversity

The exclusion of liability and compensation under the Annex V Conventions from the ELD means that the prevention and remediation of damage to protected species and natural habitats from a nuclear incident is extremely limited, if it exists at all. The continued exclusion of the Conventions from the ELD is, thus, contrary to a key purpose of the ELD.

6.2.8.6 Financial security for nuclear incidents

Insurance for nuclear incidents is provided by nuclear insurance pools. Further, most general liability policies have exclusions for harm from any type of nuclear incident.

In view of the very large amounts that would be likely to be involved in a “nuclear incident” under the Annex V Conventions, any change to their exclusion from the ELD would need detailed negotiations with, and the agreement of, re/insurers.

6.2.8.7 Recommendations

We recommend that the Commission considers whether the exclusion from the ELD for liability and compensation covered by the Annex V Conventions should continue. This consideration should also take account of the other initiatives by the Commission concerning the limits of liability under the Conventions, as described above.

As highlighted in the empirical analysis (section 6.2.2), it is impossible to come to a conclusion regarding the effectiveness of the Conventions listed in Annex V to the ELD as no nuclear incidents have fallen under their scope. In addition, the 2004 Protocol to the Paris Convention has not yet entered into force and, consequently, the provisions broadening the definition of “nuclear damage” to include damage caused to the environment are not applicable. The issue of insurance must also be taken into account, as indicated in the previous section.

However, one issue to take into account is whether environmental nuclear liability should be regulated under TFEU or the Euratom Treaty, although, as indicated in section 6.2.6 above, the Euratom Treaty does not include any specific provisions establishing nuclear liability. The following illustrates this issue, in the words of the Rasa Ptasekaite from the Swedish Radiation Safety Authority:

“... it can be said that, due to the fact that:

1. nuclear liability, not environmental protection, is a dominant objective in the environmental nuclear liability,
2. applying the TFEU to the environmental nuclear liability creates controversial consequences to the whole field of nuclear liability,
3. the Euratom Treaty should be considered the *lex generalis* in relation with environmental nuclear liability,
4. and application of the Euratom [T]reaty [in] the field of environmental nuclear liability would not contravene with the general princip[les] of nuclear liability;

the Euratom Treaty should be chosen as a legal ground for regulation of compensation and remediation of damage to the environment in case of nuclear incident and the TFEU should not be applied here. That indicates the relation of the Euratom Treaty and the TFEU in the field of environmental nuclear liability on the European level.”⁷⁰⁵

⁷⁰⁵ Rasa Ptasekaite, Swedish Radiation Safety Authority, *The Euratom Treaty v. Treaties of the European Union: limits of competence and interaction*, Report No. 2011:32 ISSN: 2000-0456. Available at <http://www.stralsakerhetsmyndigheten.se/Global/Publikationer/Rapport/Avfall-transport-fysiskt-skydd/2011/SSM-Rapport-2011-32.pdf>

Chapter 7: Analysis of the possible incorporation of other international instruments into Annexes IV or V

Based on the literature review and empirical analysis carried out under the previous chapters, the project team discussed potential regimes to add to Annexes IV or V of the ELD, having regard to the effectiveness of the Directive. The team considered the following instruments:

- Offshore Protocol to the Barcelona Convention for the protection of the marine environment and coastal region of the Mediterranean (Offshore Protocol) (entered into force on 24 March 2011);⁷⁰⁶
- Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters, adopted in Kiev on 21 March 2003 (Kiev Protocol) (not yet in force); and
- Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety, adopted on 15 October 2010 (Nagoya-Kuala Lumpur Supplementary Protocol or Supplementary Protocol) (not yet in force).

7.1 Legal analysis

The legal analysis reviews the above three Protocols, focusing on the liability and compensation provisions and optional provisions in them, their status and, as appropriate, their relationship with the ELD.

7.1.1 Offshore Protocol

The following section discusses the Offshore Protocol, focusing on the liability and compensation provisions in the Protocol and the Barcelona Convention.

7.1.1.1 Barcelona Convention

The Offshore Protocol is one of seven Protocols to the Barcelona Convention for the protection of the marine environment and coastal region of the Mediterranean. The Convention, which entered into force on 12 February 1978, was subsequently revised, with the revised version entering into force on 9 July 2004. A key purpose of the Barcelona Convention is, as its name implies, protection

⁷⁰⁶ Protocol for the Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil, adopted 14 October 1994 in Madrid, Spain (Offshore Protocol).

of the marine and coastal environment of the Mediterranean and sustainable development in the Mediterranean region.

Article 7 of the Convention provides that “[t]he Contracting Parties shall take all appropriate measures to prevent, abate, combat and to the fullest possible extent eliminate pollution of the Mediterranean Sea Area resulting from exploration and exploitation of the continental shelf and the seabed and its subsoil”. Article 12 of the original Convention (Article 16 of the revised Convention) provides that “The Contracting Parties undertake to cooperate as soon as possible in the formulation and adoption of appropriate procedures for the determination of liability and compensation for damage resulting from the pollution of the marine environment deriving from violations of the provisions of this Convention and applicable Protocols”.

The EU is a party to the Barcelona Convention, as are Croatia, Cyprus, France, Greece, Italy, Malta, Slovenia, and Spain (that is, all Member States that border on the Mediterranean Sea), and 14 non-EU States that also border on the Mediterranean Sea.

7.1.1.2 Ratification of the Offshore Protocol

In September 1994, the Commission proposed to the Council that it sign the Offshore Protocol, which was then in preparation.⁷⁰⁷ On 14 October 1994, the parties to the Barcelona Convention adopted the Offshore Protocol. The Council did not, however, sign or ratify the Protocol because it was considered more appropriate to continue work on the ELD instead of anticipating environmental liability through an international agreement.⁷⁰⁸

The Offshore Protocol entered into force on 24 March 2011. Cyprus is the only Member State to have ratified the Protocol. Croatia, Greece, Italy, Malta, Slovenia, and Spain have signed the Protocol but have not ratified it although they have indicated their intention to do so.

On 25 October 2011, the European Commission proposed to the Council that it issue a Decision that the EU accede to the Offshore Protocol. On 17 December 2012, the Council issued the Decision and approved the EU’s accession to the Protocol.⁷⁰⁹

7.1.1.3 Liability and compensation provisions of the Offshore Protocol

The Offshore Protocol, as its name implies, contains provisions to protect the Mediterranean Sea against pollution from offshore oil and gas drilling. In addition, Article 27 of the Protocol requires parties “to cooperate in formulating and adopting appropriate rules and procedures for the determination of liability and compensation for damage resulting from the activities dealt with in this Protocol ...”.

⁷⁰⁷ European Commission, Proposal for a Council Decision concerning the signature of a Protocol for the protection of the Mediterranean Sea against pollution resulting from exploration and exploitation of the continental shelf and the seabed and its subsoil (Barcelona Convention), COM(94) 397 final, p. 3 (22 September 1994).

⁷⁰⁸ See European Commission, Proposal for a Council Decision on the accession of the European Union to the Protocol on the Protection of the Mediterranean Sea against pollution resulting from exploration and exploitation of the continental shelf and the seabed and its subsoil, Explanatory Memorandum, p. 2 (COM(2011) 690 final, 27 October 2011).

⁷⁰⁹ Council Decision of 17 December 2012 on the accession of the European Union to the Protocol for the Protection of the Mediterranean Sea against pollution resulting from exploration and exploitation of the continental shelf and the seabed and its subsoil. OJ L 4/13 (9 January 2013).

Article 27 further provides that pending such procedures, each party to the Protocol:

“(a) Shall take all measures necessary to ensure that liability for damage caused by activities is imposed on operators, and they shall be required to pay prompt and adequate compensation;

(b) Shall take all measures necessary to ensure that operators shall have and maintain insurance cover or other financial security of such type and under such terms as the Contracting Party shall specify in order to ensure compensation for damages caused by the activities covered by this Protocol”.

The Council’s Decision of 17 December 2012 notes the European Parliament’s resolution of 13 September 2011, which “stressed the importance of bringing fully into force the unratified Offshore Protocol, [and] targeting protection against pollution resulting from exploration and exploitation”.⁷¹⁰ The Decision recognised that the EU was then in the process of drafting the Offshore Safety Directive, and noted overlapping provisions between the proposed Directive and the Offshore Protocol. It further noted that the overlapping provisions include “elements such as the protection of the marine environment, environmental impact assessment and environmental liability”. The Decision stated that “Subject to the final decision of legislators on the [then] proposed Regulation, the Offshore Protocol is furthermore consistent with the objectives thereof, including those concerning authorisation, environmental impact assessment and technical and financial capacity of operators”.⁷¹¹ Recital 6 of the Decision stated that “[t]he Offshore Protocol covers a broad range of provisions which will need to be implemented by different levels of administration. While it is appropriate for the Union to act in support of safety of offshore exploration and exploitation activities, bearing in mind, *inter alia*, the high probability of cross-border effects of environmental problems related to such activities, the Member States and their relevant competent authorities should be responsible for certain detailed measures laid down in the Offshore Protocol”.

That is, the Council Decision noted that the (then proposed) Offshore Safety Directive and the Offshore Protocol had overlapping provisions concerning environmental liability. The Decision did not, however, refer to environmental liability as an objective to achieve by ratifying the Protocol. Further, the Decision noted that competent authorities in Member States that ratified the Offshore Protocol should be responsible “for certain detailed measures laid down in [it]”. The liability and compensation provisions in Article 27 are some of these measures. Article 27, like Article 16 of the Barcelona Convention, is drafted in broad terms; it does not directly require a party to the Convention or Protocol to enact legislation that is drafted pursuant to those Articles. As discussed below, guidelines – not binding legislation – have been drafted.

7.1.1.4 Guidelines under the Offshore Protocol

The Mediterranean Action Programme (MAP), which was established by the United Nations Environment Programme and which assists Mediterranean countries, among other things, in assessing and controlling marine pollution and formulating national environmental policies, has drafted guidelines on liability and compensation under Article 16 of the Barcelona Convention. Work on the guidelines began in 1978. The Contracting Parties to the Barcelona Convention

⁷¹⁰ Council Decision of 17 December 2012 on the accession of the European Union to the Protocol for the Protection of the Mediterranean Sea against pollution resulting from exploration and exploitation of the continental shelf and the seabed and its subsoil, recital 9. OJ L 4/13 (9 January 2013).

⁷¹¹ Council Decision of 17 December 2012 on the accession of the European Union to the Protocol for the Protection of the Mediterranean Sea against pollution resulting from exploration and exploitation of the continental shelf and the seabed and its subsoil, recital 12. OJ L 4/13 (9 January 2013).

adopted the guidelines, which are non-binding, at the 15th Ordinary Meeting on 18 January 2008.⁷¹² The guidelines “apply to the activities to which the Barcelona Convention or any of its Protocols applies” and are subject to “existing global and regional environmental liability and compensation regimes, including [the ELD] bearing in mind the need of ensuring their effective implementation in the Mediterranean Sea Area”.⁷¹³ That is, the guidelines apply to the Offshore Protocol as well as the Convention. They are also subject to the ELD.

In developing the guidelines, the MAP specifically discussed the ELD. The explanatory memorandum to the guidelines states, among other things, that:

“It is noteworthy that the Barcelona Convention Protocols set forth advanced regulatory regimes covering a wide spectrum of activities and substances. Without restricting the scope of application of the prospective rules and procedures to what is covered in these Protocols, there appears to be a need to at least tie them together. The starting point should be the scope of application of the Protocols, but the end-result could very well be wider ... and as close as possible to the regime set forth by the [ELD]”.⁷¹⁴

In accordance with the above statement, the MAP stated that:

“it is suggested that Contracting Parties deal with existing international and regional instruments relating to liability and compensation in the manner indicated ... [in the ELD] Given its exemplarity, non-EU Contracting Parties should consider adopting national legislation mirroring as far as possible the provisions of the [ELD], as further suggested in the Draft Guidelines”.⁷¹⁵

Thus, rather than establishing a regime that differs from the ELD, the MAP proposed to the parties to the Protocol (EU Member States and non-EU States) that they apply the guidelines in adopting national legislation that mirrors the ELD “as far as possible”. It is, thus, not appropriate to suggest exempting liability under the ELD if the Offshore Protocol applies because the MAP recommended to parties to the Offshore Protocol that they apply the guidelines to their national law to establish liability and compensation provisions that mirror the ELD. That is, the legislation to be adopted by the national law of the parties recognises the value of the ELD and seeks to mirror it.

Further, Article 7 of the Offshore Safety Directive provides that “Without prejudice to the existing scope of liability relating to the prevention and remediation of environmental damage pursuant to [the ELD], Member States shall ensure that the licensee is financially liable for the prevention and remediation of environmental damage as defined in [the ELD], caused by offshore oil and gas

⁷¹² Decision IG 17/4: Guidelines for the Determination of Liability and Compensation for Damage resulting from Pollution of the Marine Environment in the Mediterranean Sea Area, Annex, p. 133; see Tullio Scovazzi, *The Mediterranean Guidelines for the Determination of Environmental Liability and Compensation: The Negotiations for the Instrument and the Questions of Damage that Can Be Compensated*, Max Planck Yearbook of United Nations Law, vol. 13, pp. 183, 184 (2009).

⁷¹³ United Nations Environment Programme, *Mediterranean Action Plan, Draft Guidelines on liability and compensation for damage resulting from pollution of the marine environment in the Mediterranean Sea area*, pp. 3-4 (UNEP(DEPI)MED WG.319.3 (8 June 2007)).

⁷¹⁴ United Nations Environment Programme, *Mediterranean Action Plan, Explanatory text to Draft Guidelines on liability and compensation for damage resulting from pollution of the marine environment in the Mediterranean Sea area*, p. 17 (UNEP(DEPI)MED IG.17/Inf.11 (14 December 2007)).

⁷¹⁵ United Nations Environment Programme, *Mediterranean Action Plan, Explanatory text to Draft Guidelines on liability and compensation for damage resulting from pollution of the marine environment in the Mediterranean Sea area*, pp. 23, 28 (UNEP(DEPI)MED IG.17/Inf.11 (14 December 2007)).

operations carried out by, or on behalf of, the licensee or the operator”. Exempting liability under the ELD if the Offshore Protocol is in force in a Member State would, thus, raise an issue as to whether liability under the Offshore Safety Directive is exempted if the Offshore Directive is in force in a Member State.

The guidelines are more wide-ranging than the ELD in that they cover traditional damage as well as environmental damage. Further Guideline 28:

“opens up the possibility, once 5 years have elapsed since the date of the adoption of the Guidelines, of instituting a mandatory insurance policy, as well as Guideline 29, on the possibility of creating [and] establishing a Mediterranean Compensation Fund to ensure compensation in cases where the Operator cannot be identified, or when the state has not taken preventive measures in emergency situations and is not reimbursed for the cost of these measures”.⁷¹⁶

7.1.2 Kiev Protocol

The Kiev Protocol is based on the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention)⁷¹⁷ and the Convention on the Transboundary Effects of Industrial Accidents (TEIA Convention).⁷¹⁸ The Water Convention was signed on 17 March 1992 and entered into force in 1996; the TEIA Convention was signed on 17 March 1992 and entered into force in 2000.

Article 7 of the Water Convention provides that “[t]he Parties shall support appropriate international efforts to elaborate rules, criteria and procedures in the field of responsibility and liability”. Article 13 of the TEIA Convention provides that “[t]he Parties shall support appropriate international efforts to elaborate rules, criteria and procedures in the field of responsibility and liability”.

Negotiations for the Kiev Protocol began in July 2001 following the escape of 100,000 tons of wastewater contaminated with cyanide and other toxic substances on 30 January 2000 from a burst dam at the Aurul SA Baia Mare goldmine in Romania. The pollution spread to the Danube and other rivers in Romania, Hungary, and Yugoslavia and was one of the reasons for adoption of the ELD.

The reasons for the Kiev Protocol not having entered into force as yet include a lack of will from Member States to accede to, and/or, ratify it, for notably the following reasons:

- The Kiev Protocol contains provisions in respect of which the EU enjoys exclusive external competence, hence requiring joint coordinated action by the EU and the Member States; and
- The ELD covers already to a large extent the requirements under the Kiev Protocol (which entails that the Protocol would not have significant added value for the EU), but

⁷¹⁶ United National Environment Programme, Summary of the responses of the Contracting Parties to the Report Survey on the implementation of the MAP guidelines concerning liability and damage reparation, p. 5 (UNEP(DEPI)MED WG 364/3, 28 November 2011).

⁷¹⁷ Convention on the Protection and Use of Transboundary Watercourses and International Lakes, adopted on 17 March 1992, entered into force on 6 October 1996, 1936 UNTS 269; 31 ILM 1312 (1992).

⁷¹⁸ Convention on the Transboundary Effects of Industrial Accidents, adopted on 17 March 1992, entered into force on 19 April 2000.

would need to be amended to be fully in line with the Protocol (mainly with regards to mandatory financial security and civil liability).

On 21 May 2003, 22 parties to the Water and TEIA Conventions signed the Kiev Protocol, including 15 Member States (Belgium, Bulgaria, Cyprus, Denmark, Estonia, Finland, Greece, Hungary, Latvia, Lithuania, Luxembourg, Portugal, Romania, Sweden, and the UK). Hungary is the only Member State that has ratified the Protocol. The Protocol will enter into force when it has been ratified by 16 States.

The purpose of the Kiev Protocol is “to provide for a comprehensive regime for civil liability and for adequate and prompt compensation for damage caused by the transboundary effects of industrial accidents on transboundary waters” (Kiev Protocol, art 1). Compensation includes traditional as well as environmental damage (Kiev Protocol, art 2(2)).

The Protocol imposes strict and mitigated joint and several liability on the operator of a “hazardous activity” (Kiev Protocol, arts 4(1), (3)). A “hazardous activity” is defined as: “any activity in which one or more hazardous substances are present in quantities at or in excess of the threshold quantities listed in annex I and which is capable of causing transboundary effects on transboundary waters and their water uses in the event of an industrial accident” (Kiev Protocol, art 2(2)(d)).

An “industrial accident” is defined as:

“an event resulting from an uncontrolled development in the course of a hazardous activity either:

In an installation, including tailing dams, for example during manufacture, use, storage, handling or disposal;

During transportation on the site of a hazardous activity; or

During off-site transportation via pipelines” (Kiev Protocol, art 2(2)(c)).

The Kiev Protocol has similarities with, as well as differences from, the ELD. An operator’s liability is subject to four defences if the operator shows that appropriate safety measures were carried out. The defences are act of war, act of God, solely the result of compliance with a mandatory order by the government of the State in which the industrial accident occurred, and solely the wrongful intentional conduct of a third party including the person who suffered the damage (Kiev Protocol, art 4). The limitations period for claims for compensation is three years from the date on which the claimant “knew or ought reasonably to have known of the damage and of the person liable”, with a long stop of 15 years from the date of the industrial accident (Kiev Protocol, art 10(1), (2)).

The Protocol contains minimum and maximum limits for compensation by an operator. The limits are based on the degree of hazard posed by a hazardous activity (Kiev Protocol, art 9(1)). The degree of hazard is based on whether a substance used in a hazardous activity is very toxic, toxic or dangerous to the environment. The minimum limits range from 2.5 million to 10 million “units of account”, that is, Special Drawing Rights (Kiev Protocol, annex II(2)).⁷¹⁹ The maximum limits range from 10 million to 40 million units of account (Kiev Protocol, annex II(1)).

The Protocol contains requirements for financial security “such as insurance, bonds or other financial guarantees including financial mechanisms providing compensation in the event of

⁷¹⁹ A Special Drawing Right is based on a basket of international currencies that consist of the US dollar, the Japanese yen, the Euro and the pound sterling.

insolvency”, as well as stating that “Parties may fulfil their obligation ... with respect to State-owned operators by a declaration of self-insurance” (Kiev Protocol, art 11).

When the Kiev Protocol enters into force it will act as an international instrument that raises the standards and requirements of the neighbouring non-EU States to the level of the existing EU environmental *acquis* in this sector. This would occur, however, whether or not there is an exception to liability under the ELD if a Member State has ratified the Protocol.

Further, due to Hungary being the only Member State (or State) that has ratified the Kiev Protocol out of the 16 States needed to bring it into force, it seems premature to consider exempting the ELD if the Protocol is in force in a Member State.

7.1.3 Nagoya-Kuala Lumpur Supplementary Protocol

The Nagoya-Kuala Lumpur Supplementary Protocol supplements the Cartagena Protocol on Biosafety, which was adopted on 29 January 2000, and which entered into force on 11 September 2003. The Cartagena Protocol, which has been ratified by 165 States and the EU, is a Protocol to the Convention on Biological Diversity. The purpose of the Cartagena Protocol is “to contribute to the conservation and sustainable use of biological diversity, taking also into account risks to human health, by providing international rules and procedures in the field of liability and redress relating to living modified organisms” (LMOs) (Cartagena Protocol, art 1).

Article 27 of the Protocol provides that the Conference of the Parties:

“shall, at its first meeting, adopt a process with respect to the appropriate elaboration of international rules and procedures in the field of liability and redress for damage resulting from transboundary movements of living modified organisms, analysing and taking due account of the ongoing processes in international law on these matters, and shall endeavour to complete this process within four years”.

Pursuant to Article 27, an Ad Hoc Open-ended Working Group of Legal and Technical Experts on Liability and Redress was established to draft the Nagoya-Kuala Lumpur Supplementary Protocol. The Supplementary Protocol was finalised and adopted on 15 October 2010. It has been ratified, or acceded to, by the EU and 19 States including 11 Member States (Bulgaria, the Czech Republic, Germany, Hungary, Ireland, Latvia, Lithuania, Luxembourg, Romania, Spain, and Sweden). The Supplementary Protocol will enter into force on the 90th day after the 40th Party to the Cartagena Protocol ratifies, or accedes to, it.

The Supplementary Protocol (when it enters into force) will impose liability on:

- an “operator”, defined broadly as “any person in direct or indirect control of the living modified organism which could, as appropriate and as determined by domestic law, include, *inter alia*, the permit holder, person who placed the living modified organism on the market, developer, producer, notifier, exporter, importer, carrier or supplier” (Supplementary Protocol, art 2(c))
- who causes “damage”, defined as “an adverse effect on the conservation and sustainable use of biological diversity, taking also into account risks to human health, that:

(i) Is measurable or otherwise observable taking into account, wherever available, scientifically-established baselines recognized by a competent authority that takes into account any other human induced variation and natural variation; and

(ii) Is significant ...” (Supplementary Protocol, art 2(2)(b)).

A “significant adverse effect” is based on a determination of “factors, such as:

(a) The long-term or permanent change, to be understood as change that will not be redressed through natural recovery within a reasonable period of time;

(b) The extent of the qualitative or quantitative changes that adversely affect the components of biological diversity;

(c) The reduction of the ability of components of biological diversity to provide goods and services; [and]

(d) The extent of any adverse effects on human health in the context of the [Cartagena] Protocol” (Supplementary Protocol, art 2(3))

The damage must result from living modified organisms that originate in a transboundary movement; they include living modified organisms that are: “Intended for direct use as food or feed, or for processing; (b) Destined for contained use; [or] (c) Intended for intentional introduction into the environment” (Supplementary Protocol, art 3(1)).

Further, an operator is liable for damage from the “authorized use of the living modified organisms” if the transboundary movement is intentional as well as movements that are unintentional or unlawful (Supplementary Protocol, art 3(2)-(3)).

If damage occurs, the operator must, subject to any requirements of the competent authority:

- “Immediately inform the competent authority;
- Evaluate the damage; and
- Take appropriate response measures” (Supplementary Protocol, art 5(1)).

The term “response measures” is defined as “reasonable actions to:

(i) Prevent, minimize, contain, mitigate, or otherwise avoid damage, as appropriate;

(ii) Restore biological diversity through actions to be undertaken in the following order of preference:

a. Restoration of biological diversity to the condition that existed before the damage occurred, or its nearest equivalent; and where the competent authority determines this is not possible;

b. Restoration by, inter alia, replacing the loss of biological diversity with other components of biological diversity for the same, or for another type of use either at the same or, as appropriate, at an alternative location” (Supplementary Protocol, art 2(2)(d)).

The Supplementary Protocol leaves a substantial number of issues to be decided by parties to it. The issues include:

- The level of financial limits for the recovery of costs and expenses;
- The establishment (or not) of mandatory financial security;
- The length of limitation periods;
- The application (or not) of liability for preventive measures;
- The right (or not) of a competent authority to implement appropriate response measures
- Situations in which an operator is not required to bear costs and expenses;
- Inclusion of an optional exceptions for an act of God and an act of war or civil unrest;
- Other optional exceptions or mitigations;
- The application of, or development of new, civil liability rules in national law for traditional damage, including
 - damage,
 - standard of liability (strict or fault-based),
 - channelling of liability, and
 - the right to bring claims.

In view of the large number of optional provisions, it does not seem appropriate to exclude liability under the ELD if the Supplementary Protocol is in force in a Member State, particularly as it has not yet entered into force.

Further, the imposition of liability for damage from genetically modified organisms was one of the key driving forces behind the adoption of the ELD. It is thus inappropriate to exclude liability under the ELD if the Supplementary Protocol is in force in a Member State. Further, the Supplementary Protocol would apply only to transboundary damage from living modified organisms whereas the ELD does not include this limitation in scope.

7.2 Empirical analysis

This section aims to highlight feedback received from experts and stakeholders through consultation, as well as information gathered through desk-based research, on the analysis of the potential incorporation of other international instruments into Annex IV or V of the ELD. In the reports Member States submitted pursuant to Article 18(1) of the ELD, none provided views as to additional instruments which could be added to the list of exemptions to the ELD.

It is also important to bear in mind that two out of the three instruments that the team considered for potential incorporation (consulted experts and stakeholders did not suggest additional instruments), have not yet entered in to force (the Nagoya-Kuala Lumpur Supplementary Protocol

and the Kiev Protocol), which hence precludes any feedback on experience gained with the application of these legal instruments.

Feedback received from experts and stakeholders through consultation showed that none were really familiar with the Offshore Protocol and the Kiev Protocol. An expert nonetheless considers that the main difference of the abovementioned international instruments is that there is a financial cap (i.e. limitation of liability). In addition, biodiversity is not always covered. Should these Protocols be included in Annexes IV or V to the ELD, that is as exemptions to the ELD, it would be to the detriment of remediation of biodiversity damage.⁷²⁰

The Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety finalised the creation of a liability regime for the use of living modified organisms, which are seen as broadly equivalent to GMOs, although some consider that LMOs are a subset of GMOs, as GMOs may also include entities which are not capable of growing (i.e. dead), while LMOs refers to *living* organisms.⁷²¹

An expert highlighted that the definition of “biodiversity damage” under the Supplementary Protocol (signed by the EU) is not the same as that under the ELD.⁷²² In fact, the Supplementary Protocol seems to have a broader definition than the ELD as it targets biological diversity as a whole and does not limit damage to protected species and natural habitats. However, Article 3(6) of the Supplementary Protocol ensures that the ELD is in conformity. This clause indeed provides: “Parties may use criteria set out in their domestic law to address damage that occurs within the limits of their national jurisdiction”.

However, there have been reportedly no cases of damage caused by GMOs yet.⁷²³ Ireland, one of the few (if not the only) Member States that have provided information regarding the issue at hand, reported that there have been no cases of environmental damage or imminent threat of damage caused by GMOs in Ireland. Ireland has no recommendations regarding instruments that could or should be incorporated into Annexes IV or V.⁷²⁴

7.3 Conclusions and recommendations

The review of the Offshore Protocol, the Kiev Protocol and the Nagoya-Kuala Lumpur Supplementary Protocol did not result in strong opinions from stakeholders to exempt liability under the ELD if any of the Protocols is in force in a Member State.

For the reasons stated below, we do not recommend that the Commission considers as a priority option of excluding liability for any of the three instruments in a possible future revision of the ELD when a Member State has ratified any of them.

7.3.1 Offshore Protocol

The guidelines on liability and compensation for the Offshore Protocol were drafted so that they “mirror” the ELD as far as possible. It is thus not appropriate to exclude liability under the legislation

⁷²⁰ Interview with Expert in the framework of this study.

⁷²¹ See e.g. Bernhard A. Koch (2010), *Damage caused by Genetically Modified Organisms: Comparative Survey of Redress Options for Harm to Persons, Property or the Environment*, ed. Walter de Gruyter, p.762.

⁷²² See *supra* 798.

⁷²³ Interview with Hannes Descamps, researcher and lecturer at the Institute for environmental and energy law at Leuven University, in the framework of this study.

⁷²⁴ Report submitted by Ireland under ELD Article 18(1).

on which the Offshore Protocol was based if the mirroring legislation is applied. Among other things, there should be no need to dis-apply the ELD in lieu of mirroring provisions in an international agreement.

Further, the Offshore Protocol is regional; it does not apply to the entire EU. Excluding liability under the ELD if the Protocol applies would thus, create regional divisions concerning application of the ELD.

Still further, the Offshore Safety Directive imposes liability under the ELD on a licensee of offshore oil and gas operations. Exempting liability under the ELD if the Offshore Protocol applies would, thus, raise an issue as to whether liability under the Offshore Safety Directive was also exempted when the Offshore Protocol is in force in a Member State.

7.3.2 Kiev Protocol

Hungary is the only Member State (indeed, State) that has ratified the Kiev Protocol, although other Member States have indicated that they may ratify it. Exempting liability under the ELD if the Protocol applies would thus affect a limited number of Member States and create divisions in the effect of the ELD across the EU.

Further, the Kiev Protocol has not come into force. It thus seems premature to consider excluding liability under the ELD if the Kiev Protocol applies.

7.3.3 Nagoya-Kuala Lumpur Supplementary Protocol

The Supplementary Protocol has not entered into force. As with the Kiev Protocol, therefore, it seems premature to consider whether to exclude liability under the ELD if the Supplementary Protocol is in force in a Member State.

Further, a major purpose of the Supplementary Protocol is to prevent the loss of biodiversity, which is one of the key purposes of the adoption of the ELD. It would, thus, not further a key purpose of the ELD to exempt liability under the ELD if the Supplementary Protocol is in force in a Member State.

In addition, unlike the ELD, the Supplementary Protocol applies only to the transboundary movement of living modified organisms. The Supplementary Protocol is thus narrower in its scope than the ELD.

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Chapter 8: Summary of conclusions and recommendations

This chapter summarises the conclusions and recommendations. In doing so, it takes account of the conclusions and recommendations for each chapter of this study and their synergistic effect. It also takes account of the simplification, streamlining and harmonisation of the ELD with the Member State legislation that it supplements.

8.1 Scope of strict liability

The combination of a list of activities subject to strict liability together with the significance thresholds is too limiting for the ELD to be efficient or to achieve its goals in halting the loss of biodiversity and preventing environmental damage. The combination also results in a complex regime that is not harmonised with the environmental liability regimes of Member States that apply to damage to the environment to which the ELD does not apply, that is, damage that does not exceed the ELD thresholds. The major differences between this national legislation and the legislation transposing the ELD makes the legislation that transposed the ELD difficult to implement and enforce.

8.1.1 Simplification, streamlining and harmonisation

The imposition of fault-based liability for preventing and remediating environmental damage caused by non-Annex III activities in the ELD is unusual. Nearly all Member States – and non-EU States – impose strict liability in administrative / public environmental liability regimes. Fault-based liability tends to be restricted to tort-based liability for claims for bodily injury, property damage and economic loss. The application of fault-based liability in the ELD, therefore, is at variance with public liability regimes to prevent and remedy environmental damage in Member States. It is also extremely rare for a public liability regime for preventing and remedying environmental damage to apply only to specified activities. Such regimes tend to apply to all activities that cause environmental damage. Many do not differentiate between professional activities and non-professional activities; all activities that cause environmental damage tend to be subject to strict liability.

8.1.2 Effect of the ELD in assisting the halt to the loss of biodiversity in the EU

A key reason for the adoption of the ELD was to halt the loss of biodiversity in the EU. The transposition of the ELD into the national law of Member States has not resulted in effective national legislation to attain this aim due to the fault-based scope of liability for non-Annex III activities that damage protected species and natural habitats. In view of the goal to halt the loss of

biodiversity in the EU by 2020, the Commission may wish to consider as a priority in a possible future revision of the ELD, extending strict liability under the ELD to all biodiversity damage.

8.1.3 Effect on insurance premiums

In making the above recommendation, we suggest that the European Commission should take into account concerns expressed by some stakeholders regarding the additional financial burden an extension of the scope of strict liability would represent for operators, through, potentially, an increase in insurance premiums for those operators who have taken out environmental liability insurance. We note, however, that environmental insurance policies for ELD liabilities also provide cover for national environmental liability regimes, which are subject to strict, rather than fault-based, liability.

8.1.4 Extending strict liability to an increased list of Annex III activities

If strict liability is not applied to all activities, but the limited list of activities subject to Annex III legislation is maintained, the Commission may wish to consider as a priority in a possible future revision of the ELD, broadening the list to ensure a level playing for those activities that are already subject to strict liability in many Member States (e.g. pipeline transport of dangerous substances) and new activities that pose a risk to the environment.

In particular, extending strict liability to an increased list of Annex III activities would assist in halting the loss of biodiversity in the EU in respect of an extension for activities concerning invasive alien species, especially due to the Commission's Proposal for a Regulation on the prevention and management of the introduction and spread of invasive alien species. The extension of Annex III to include invasive alien species would not only assist in halting the loss of biodiversity; it would also assist in preventing harm to human health due to some invasive alien species being vectors of diseases or directly causing health problems such as asthma, dermatitis and allergies, as well as causing damage to property and harm to forestry and agriculture.

8.2 Scope of environmental damage

The scope of environmental damage under the ELD, namely its categorisation into land, water and biodiversity damage is in contrast to the environmental liability regimes of Member States and other EU environmental legislation, which are mainly based on harm to human health and the environment.

8.2.1 Simplification, streamlining and harmonisation

It would, thus, simplify, streamline and harmonise the ELD to change the scope of liability under it to harm to human health and the environment.

Further, revising the ELD to impose liability for preventing and remediating damage to human health and the environment would promote the polluter pays principle because it would extend liability to parts of the environment, such as land that is not subject to human presence and air that are not currently covered by the ELD. Such a revision would also harmonise and streamline the ELD with other EU legislation, particularly the legislation listed in Annex III, which is mostly based on protecting human health and the environment. Further, such a revision would harmonise and streamline the ELD with Member State legislation and would enable the ELD better to add value to that legislation.

8.2.2 Implications for insurance and other financial security instruments

Any extension of environmental liability, and any revisions to the ELD, would need to consider the implications on insurance and other financial security instruments. An extension of the ELD to cover environmental liability for remediating damage to human health and the environment should not, however, detrimentally affect the provision of insurance or other financial security instruments because Member State legislation and Annex III legislation such as the Industrial Emissions Directive, to which the instruments already apply, includes such damage.

8.2.3 Extension of the scope of the ELD to cultural buildings, ancient monuments, landscapes and seascapes

Few, if any, Member States have extended the ELD to cultural buildings and ancient monuments, or landscape or seascapes. Due to broad differences between these and environmental damage under the ELD – and harm to human health and the environment – we do not suggest increasing the scope of the ELD to include them. We consider that doing so would not result in simplification, streamlining or harmonisation.

8.3 Scope of the significance thresholds for land and water damage

The significance thresholds for land and water damage in the ELD are neither easy to identify nor quick to assess. Even more crucially, application of the significance thresholds for land, water, and biodiversity damage in the ELD assumes that an operator knows the status of the condition of the land, water and biodiversity; knowledge that the vast majority of operators do not possess. Most – perhaps virtually all – operators cannot, therefore, determine whether their activities have caused an imminent threat of, or actual, environmental damage at the time the ELD directs them to carry out preventive or emergency remedial actions “without delay”, or “immediately”, respectively. The Commission may, therefore, wish to consider as a priority in a possible future revision of the ELD, revising the significance threshold for all three categories of environmental damage, as described below.

8.3.1 Potential revision of the duty to carry out preventive and emergency remedial actions

The difficulties involved in carrying out preventive and emergency remediation actions and in notifying a competent authority of an imminent threat of, or actual, environmental damage could be resolved by revising the ELD to lower the “trigger” for an operator to carry out such measures. One option the Commission may wish to consider as a priority in a possible future revision of the ELD could be to revise the trigger from an “imminent threat” or assumption of actual knowledge of environmental damage to a requirement to carry out preventive measures, emergency remedial actions and notification of an imminent threat of, or actual, environmental damage to a competent authority if the operator’s activities “may” objectively cause environmental damage, or a similar term. Lowering the trigger would promote the polluter pays principle and, particularly, the preventive and precautionary principles because it would make it more likely that the imminent threat of, or actual, environmental damage would be prevented or abated.

Revising the ELD to lower the above trigger would not lower the threshold for an operator to carry out long-term “remedial measures” because an operator is not required to carry these out until the competent authority has made a determination of the remedial measures that the operator should carry out (ELD, art 7(2)). There is, thus, sufficient time for the competent authority and the operator

to carry out the detailed analysis required to determine whether the significance threshold has been exceeded. The revision would not, therefore, affect primary, complementary or compensatory remediation – or lower the trigger to carry out such measures – because they apply only to the long-term remediation of water and biodiversity damage.

8.3.2 Establishing limit values for land damage

We do not recommend that the European Commission considers as a priority option in a future possible revision of the ELD establishing EU-wide limit values for land damage. Establishing such limit values for land / soil damage would be problematic due to several Member States having already established differing limit values. An issue that would be certain to arise would be whether any EU-wide limit values should be based on the most protective levels adopted by a Member State when other Member States have adopted lower levels. Other issues would involve the number and types of substances for which levels should be established (although we do not consider that this factor should be particularly problematic) and whether the levels are legally-binding or guidelines.

8.3.3 Removing the differentiation between land damage and water damage

The Commission may wish to consider as a priority in a possible future revision of the ELD, removing the differentiation between land and water damage in the ELD. The Commission may also wish to consider revising the ELD to ensure that it is clear that the ELD covers the prevention or remediation of an imminent threat of, or actual damage, to wetlands and sediment; the position is not currently clear.

Arguments against the inclusion of a description / definition of “land” include the effect on streamlining. The national law of Member States does not tend to differentiate between liability for remediating land and water damage. Including a definition such as that in the proposed soil Framework Directive would, therefore, lead to differences between the ELD and national law. Further, a “bright line” delineation between land damage and water damage tends to be impractical in a liability system for the remediation of contaminated land as well as being difficult to implement and enforce.

8.3.4 Setting criteria or limit values for water

Revising the ELD to include criteria for the significance threshold of water similar to the criteria in Annex I of the ELD for the significance threshold for biodiversity damage would be unlikely to reduce the problems caused by the current threshold for water damage. Establishing such criteria could, however, help the implementation and enforcement of the ELD if the threshold is revised.

The current definition of water damage bases liability for its prevention and remediation under the ELD on concepts in the management plan for water resources in the EU as set out in the WFD.

Even assuming that the link by the ELD to water bodies under the WFD is feasible, the following assessments must be made:

- Determination of the baseline condition of the damaged water body;
- Determination of the state of the water body during and after damage by an activity carried out by an Annex III operator; and

- Evaluation of the difference between the status of the water body after the damage has occurred and the baseline condition.

The assessment is necessarily difficult to make because “[a]lmost all types of environmental damage are limited in time and space. It is necessary to carry out the measurements during the incident to delimit the damage in both time and space and to determine the severity or magnitude of the damage”.⁷²⁵

The Commission may, thus, wish to consider as a priority in a possible future revision of the ELD, an alternative significance threshold for water that is easy to understand and quick to determine. The disadvantages of a lengthy assessment include a potentially lengthy delay in carrying out long-term remedial measures until the assessment has been finalised. In the meantime, pollutants continue to migrate and affect other waters and, in the case of surface water bodies, the aquatic environment dependent on the waters.

8.3.5 Clarifying whether water damage applies to “waters” or “water bodies”

The definition of “water damage” in the ELD is unclear as to whether it refers to “waters” or “water bodies”. If, as some Member States have concluded, the water body approach is the correct approach, the ELD does not apply to large areas of the EU and, thus, cannot achieve its basic aim “that an operator whose activity has caused the environmental damage or the imminent threat of such damage is to be held financially liable, in order to induce operators to adopt measures and develop practices to minimise the risks of environmental damage so that their exposure to financial liabilities is reduced” (ELD, recital 2). This is due to the large size of some water bodies, the existence of unclassified waters, and Member States that have adopted the water body approach not applying it to the deterioration of water bodies that are classified in the worst status class.

An alternative that the Commission may wish to consider as a priority in a possible future revision of the ELD would be to assess the threshold for water damage against areas identified by Member States in their further characterisation of groundwater bodies under the WFD. Some Member States, such as Ireland, are characterising water bodies into small aerial size units such as two square kilometres. These smaller units could be used to determine whether the significance threshold has been exceeded instead of basing an assessment on the entire water body. The use of such smaller thresholds would, however, also need study as to how to communicate its extent to operators so they are aware of it. It would not be a total solution.

8.3.6 Broadening the scope of land damage to include human health and the environment

The scope of land damage under the ELD is limited to contamination. The scope could be broadened by including other types of environmental damage, and/or by removing the qualification that human health must be affected in order for damage to land / soil to be “land damage” under the ELD. Such an extension would include, among other things, wetlands that do not tend to have a human presence but which are vital to support biodiversity.

⁷²⁵ Peter De Smedt, Tom Malfait, Robin Slabbinck, Hugo Desmet and Arne Verliefde, Legal advice concerning the Environmental Damage Decree and cases of damage in surface water (commissioned by the Flemish Environment Agency Department Water Monitoring (ARW/RC/HM/IT/dh/09/211, 21 June 2010).

8.3.7 Revising the remediation standard for land damage

Revising the remediation standard for land damage to a comparable level with water and biodiversity damage would necessitate including the restoration of soil, not merely its remediation. This is not, however, impossible; techniques have been, and continue to be, developed to restore contaminated soil.⁷²⁶

There is also a broad consensus across the EU that soil should be protected. In an internet consultation in 2005, 91 per cent of EU citizens who participated indicated that preventing or mitigating soil degradation in the EU was important or very important to them.⁷²⁷ Consensus was unanimous that soil should have the same level of protection as air and water due to the critical nature of its functions for human and ecosystem survival.⁷²⁸

The Commission has also identified soil as a crucial environmental medium that should be protected.⁷²⁹ Further, a key aim of the ELD is to halt the further contamination of land (ELD, recital 1). Experience gained in the application of the ELD indicates that the current definition of land damage in the ELD does not achieve this aim.

8.4 Application of the permit defence and state-of-the-art defence

Our review found that opinions are mixed on the deletion from the ELD of the permit and state-of-the-art defences. The reasons for their deletion, however, far exceed any reasons for their retention. The Commission may, therefore, wish to consider as a priority in a possible future revision of the ELD deleting the option for Member States to adopt the permit defence and the state-of-the-art defence.

8.4.1 Harmonisation of the defences

The permit and state-of-the-art defences could be harmonised in the following ways:

- To make the defences mandatory;
- To delete the defences from the ELD;
- To include the defences as mitigating factors;
- To include the defences as exemptions;
- To add additional criteria such as a requirement for an operator to show it did everything possible to avoid environmental damage; and

⁷²⁶ See CORDIS News, Restoring contaminated soils. Available at http://cordis.europa.eu/news/rcn/35497_en.html

⁷²⁷ See Commission Staff Working Document, Document accompanying the Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions, Thematic Strategy for Soil Protection, Impact Assessment of the Thematic Strategy on Soil Protection, p. 7 (SEC(2006) 620, 22 September 2006).

⁷²⁸ See Proposal for a Directive of the European Parliament and of the Council establishing a framework for the protection of soil and amending Directive 2004/35/EC, Explanatory Memorandum, pp. 3-4 (COM(2006) 232 final, 22 September 2006).

⁷²⁹ Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions, Towards a Thematic Strategy for Soil Protection (COM(2002) 179 final, 16 April 2002); Decision No. 1386/2013/EU on a General Union Action Programme to 2020 'Living well, within the limits of our planet', Annex para 23, OJ L 354/171, L 354/180 (28 December 2013).

- To narrow the defences to exclude, for example, administrative, legal costs and other costs from the scope of the defence.

Mandatory defences

A revision of the ELD to make the defences mandatory would help create a level playing field across the EU. It would, however, lower the high level of protection of the environment in Member States that have not adopted the defences or that have adopted variants of them on the basis of reasonableness.⁷³⁰ There is, thus, a strong argument against such a revision because it would be contrary to Article 191(2) of the TFEU.

Deleting the defences

Deleting the defences from the ELD would also help create a level playing field and would simplify, streamline and harmonise the ELD. Further, it would promote the polluter pays principle and be effective from the law and economics approach. It would, however, almost certainly result in strong opposition from industry despite the seemingly illusory nature of the defences.

Mitigating factors

Including the defences as mitigating factors was rejected during the legislative history of the ELD. Whilst some Member States have transposed the ELD to include mitigating factors, revising the ELD to include the defences as mitigating factors would further differentiate the ELD from existing national legislation in Member States that do not have such factors in their national legislation. It could thus lead to less application of the ELD than at present as well as be against simplification, streamlining and harmonisation.

Exemptions

Including the defences as exemptions would lower the high level of protection of the environment in Member States that have not adopted the defences or that have adopted variants of them on the basis of reasonableness. It would also shift the burden of proving that an operator was not liable from the operator to the competent authority. As with making the defences mandatory, there is a strong argument against such a revision because it would be contrary to Article 191(2) of the TFEU, as stated above.

Including additional criteria

Adding additional criteria such as a requirement for an operator to show it did everything possible to avoid environmental damage would result in the defences becoming complex and could increase the likelihood of litigation as well as decreased application of the ELD.

Narrowing the defences

Narrowing the defences to exclude, for example, administrative, legal, and other costs from the scope of the defence, is another option for the Commission to consider if it concludes that the definition should be retained.

8.4.2 Reasons for revising the ELD to delete the defences

Our review found, however, that the permit and state-of-the-art defences:

⁷³⁰ See Michael Faure and Kristel De Smedt, *Should Europe Harmonise Environmental Liability Legislation?*, [2001] 5 *Environmental Liability*, pp. 217, 227.

- Are contrary to the polluter pays principle, on which the ELD is based;
- Do not further the preventive principle;
- Are contrary to the law and economics approach;
- Increase the complexity of the ELD and deter its application because most administrative / public liability regimes in Member States do not include such defences; and
- May, in many cases, be illusory.

The legal analysis review showed that the permit defence:

- Subjects SMEs to a much stricter liability regime than large companies because large companies are more likely to be subject to the Industrial Emissions Directive due to the thresholds for its application;
- Wrongly assumes that permit requirements are optimal limits when they are not;
- Changes the strict liability system to a fault-based system that is weaker than a tort-based negligence system;
- Removes the beneficial effects of a liability rule including the incentive to take precautions that exceed permit limits; and
- Is out of step with the economic theory on tort law and the normal practice within the Member States and may even undermine the ability of the ELD to ensure the prevention and restoration of environmental damage.

8.4.3 Reasons for retaining the defences

The empirical analysis reiterated some of the above points and also indicated that:

- The defences ensure a certain degree of legal certainty (as would their deletion);
- Would help achieve a level playing field if they were consistent throughout the EU (as would their deletion); and
- Their use is particularly important for SMEs (which opinion would seem to be contrary to the findings of the legal analysis).

8.5 Application of the Conventions and instruments listed in Annexes IV and V of the ELD

Opinions were polarised on whether to continue the exclusion in the ELD for its application in respect of Member States that have implemented the marine and nuclear Conventions.

8.5.1 Marine Conventions

It is unclear from the ELD whether the exclusion for the application of liability under the ELD for the Annex IV Conventions applies only to the extent of liability and compensation covered by the Conventions, or whether the exclusion means that the ELD does not apply if a Member State has ratified the Convention at issue. We recommend that the Commission clarify this provision. We consider that its reasonable interpretation is that a Convention is excluded to the extent of the scope of liability and compensation covered by it. Not only does the language of the exclusion reinforce this meaning of the exclusion, but exclusion of liability under the ELD when a Convention

does not include liability for remediating pure environmental damage breaches the polluter pays principle and means that the public must bear the cost or the loss of natural resources.

The empirical review showed strong support for the continued exclusion of the ELD when liability under the Conventions applies. In particular, many experts and stakeholders related to the shipping sector are strongly in favour of the Conventions remaining as exemptions to the ELD, arguing that their exclusion has proven effective, and has a broader scope than the ELD both geographically and in terms of the types of damage covered by the Conventions (that is, traditional damage as well as environmental damage). Other commentators, however, consider that the ELD provides better protection and remediation of the environment and should thus apply to all environmental damage in EU marine waters; some also suggest that the system established by the IMO Conventions could be complemented by additional mechanisms at EU level, such as an additional fund.

Retention of the exclusion

The Commission itself acknowledged, in 2000, despite criticising the IMO Conventions, that they provide “important benefits, both in terms of uniformity and straightforwardness and in terms of sharing the costs for oil spills, wherever they occur, among oil receivers world-wide”. The Commission concluded “that introducing measures that would necessitate the denunciation of the international regime by the Member States would be counterproductive, [instead] considerable efforts need to be put in amending the conventions ... while addressing the insufficiency of the existing limits as an immediate priority at Community level”.⁷³¹

The following are reasons by experts and stakeholders in the shipping and shipping insurance sector to retain the exclusion for the IMO Conventions:

- The Conventions “provide a fundamentally different approach from that of the [ELD].
- Determining which approach is ‘better’ is therefore difficult.
- Applying the ELD to incidents covered by IMO Conventions would entail an effective repudiation by the EU of the IMO approach ...
- ... would not be binding on non-EU countries, including those which are the locations of ship owners ...
- ... and risks an unraveling of the intricate network of Convention responsibilities and entitlements”.⁷³²

In a somewhat similar manner, another commentator stated that “If the Commission’s review were to result in modification of the [ELD] [in respect of the exclusions for the Conventions and the right of an operator to limit liability pursuant to the LLMC], serious conflicts could arise between the amended Directive and these Conventions”.⁷³³ The commentator cautioned that “when legislating in this field, the EU should always take account of the global character of international shipping, the benefits to victims of ship-source pollution of international compensation regimes and the

⁷³¹ COM(2000) 802 final, p. 59.

⁷³² Remediation and prevention of environmental damage under IMO conventions. Available at http://ec.europa.eu/environment/legal/liability/eld_conf_11_06_2013.htm

⁷³³ Måns Jacobsson, Perspective of the Global Compensation Regimes; The Relationship between EU Legislation and Maritime Liability Conventions, *European Journal of Commercial Contract Law*, vol. 4, p. 63, 70 (2012).

importance, also for ships flying the flags of European Union Member States, of global and uniform international regimes on liability and compensation".⁷³⁴

Other arguments in favour of the limited liability system of the IMO Conventions include the potential for "a tide of speculative claims" if claims for compensatory damage are allowed,⁷³⁵ and wide acknowledgement "by most contracting states [that the conjunction of strict liability and compulsory insurance in the oil pollution liability regime [has] proved effective in meeting quantifiable claims for environmental damage (and other) damage from oil spills".⁷³⁶ An additional argument is the close working relationship between the P&I Clubs, which finance the vast majority of the world's shipping and the 1992 Fund and the Supplementary Fund.⁷³⁷

Further, it is indisputable that the Conventions reflect a compromise between owners of tankers and owners of oil carried on the tankers and that any revision of the exclusion for the Conventions in the ELD would disrupt this compromise.

Revision of the exclusion

A major issue with the exclusion of the IMO Conventions from the ELD is that they are more limited – indeed, much more limited – than the ELD in that they do not cover pure environmental damage. As noted by a commentator in the shipping insurance industry, whilst "financial loss sustained by third parties" is covered by the Conventions, "[p]ure" environmental damage is not covered.⁷³⁸ That is, the Conventions do not appear to cover environmental liability under the ELD.

The Annex IV Conventions establish a compensation scheme for persons damaged by marine pollution; they do not provide compensation for pure ecological / environmental damage. Further, the Conventions do not establish a regime to prevent or remediate damage from spills of oil or hazardous substances from vessels.

It is questionable, therefore, whether the Annex IV Conventions further the purpose of the ELD or, indeed, whether liability under them overlaps with liability under the ELD. In effect, it could be argued that the continued exclusion of the Annex IV Conventions from the ELD means that the shipping industry is subject to no – or, at most, very limited – liability for "environmental damage" under the ELD than other industrial sectors. The reduced scope is particularly ironic due to a major reason for adoption of the ELD being oil spills such as the *Prestige*, the *Braer*, and the *Erika*. Whilst the IMO has revised the Conventions to broaden their scope and to raise their limits following criticism of them, the gap between the ELD and the Conventions in the duty to remediate ecological damage is, at the very least, substantial.

⁷³⁴ Måns Jacobsson, Perspective of the Global Compensation Regimes; The Relationship between EU Legislation and Maritime Liability Conventions, *European Journal of Commercial Contract Law*, vol. 4, p. 63, 76 (2012).

⁷³⁵ Michael Mason, Civil liability for oil pollution damage: examining the evolving scope for environmental compensation in the international regime, *Marine Policy* vol. 27, p. 1, 9 (2003).

⁷³⁶ Michael Mason, Civil liability for oil pollution damage: examining the evolving scope for environmental compensation in the international regime, *Marine Policy* vol. 27, p. 1, 8 (2003).

⁷³⁷ See IPIECA & ITOPIF, *Oil Spill Compensation; A Guide to the International Conventions on Liability and Compensation for Oil Pollution Damage*, p. 9 (February 2007).

⁷³⁸ Remediation and prevention of environmental damage under IMO conventions. Available at http://ec.europa.eu/environment/legal/liability/eld_conf_11_06_2013.htm

Commentators have stated that “One may indeed question why those who create and expose others to specific risks should be allowed to limit their liability and so should not bear the full costs of their activity. Let us hope that the European Commission continues its activity within the IMO which may eventually lead to a more fundamental revision of the limitation of liability of the tanker owner”.⁷³⁹

In a somewhat similar manner, another commentator stated that an EU regime could be considered “unless functional and acceptable compensation regimes can be achieved internationally”. He continued that “other countries could, at a pace that suits them and according to their own priorities, follow the EU solutions ... and in that way contribute to uniformisation. In time, this could affect the content of the international compensation regime”.⁷⁴⁰

Perhaps the major reason for revising the exclusion for the IMO Conventions is that they create a paradox in that a key reason for the adoption of the ELD was that:

“[f]ailure to [adopt the ELD] could result in ...greater loss of biodiversity in the future. Preventing and remedying, insofar as is possible, environmental damage contributes to implementing the objectives and principles of the Community's environment policy as set out in the Treaty”.

The exclusion, however, is diametrically opposed to this goal because it excludes liability for “pure” environmental damage, that is, preventing and remedying damage to protected species and natural habitats in the marine and coastal environment. Another commentator stated, in 2002, that the “main reason” for the absence of compensation for environmental damage in the Conventions appeared to be “the supposedly abstract or intangible nature of such ‘pure’ ecological damage that apparently cannot be held to correspond to a given monetary value”.⁷⁴¹ However, as part of the introductory studies for the ELD, the Commission commissioned studies to assess and quantify environmental damage.⁷⁴² The methodologies are sufficiently sophisticated to include “pure” environmental damage as a separate head of liability under the Conventions in the knowledge that such damage is quantifiable.⁷⁴³

Adopting the separate head of environmental damage, through for instance a revision of the IOPC Fund's Claims Manual, would not only lessen the gap between the Conventions and the ELD, it

⁷³⁹ Michael Faure & Hui Wang, Liability for oil pollution – the EU approach, [2004] Environmental Liability, vol. 12(2), p. 55, 66.

⁷⁴⁰ Peter Weterstein, Environmental impairment liability after the Erika and Prestige accidents. Scandinavia Law. p. 230, 255 (2010). Available at www.scandinavianlaw.se/pdf/46-12.pdf

⁷⁴¹ David Ong, The Relationship between Environmental Damage and Pollution: Marine Oil Pollution Laws in Malaysia and Singapore, in Environmental Damage in International and Comparative Law; Problems of Definition and Valuation, p. 191, 200 (Oxford University Press, 2002, Michael Bowman & Alan Boyle, eds).

⁷⁴² See, e.g., REMEDE Project, Resource Equivalency Methods for Assessing Environmental Damage in the EU. Available from <http://www.envliability.eu/pages/publications.htm>; MacAlister Elliott and Partners Ltd and Economics for the Environment Consultancy Ltd, Study on the Valuation and Restoration of Damage to Natural Resources for the Purpose of Environmental Liability (Study Contract B4-3040/2000/26578/MAR/B3, May 2001, prepared for the European Commission); T. Penn, Summary of the Natural Resource Damage Regulations under the United States Oil Pollution Act (April 2001); Janet Stone McGuigan, The Potential Economic Impact of Environmental Liability: The American and European Contexts (prepared for Economic Analysis Unit, Environment Directorate, December 2000); E. Brans & M. Uilhoorn, Liability for Ecological Damage and Assessment of Ecological Damage (September 1997).

⁷⁴³ See generally Valerie Fogleman, The Threshold for Liability for Ecological Damage in the EU; Mixing Environmental and Conservation Law, in The Habitats Directive in its EU Environmental Law Context: European Nature's Best Hope? (Routledge, forthcoming).

would eliminate another paradox that “while minor environmental damage that is fully reinstated can be compensated for ... severe irreparable damage that proves impossible to restore will not be fully compensated”.⁷⁴⁴

Another reason for considering whether to delete the exclusion for the IMO Conventions would be to help resolve the conflict between application of these Conventions and the ELD if a claim for environmental damage exceeds the limit of liability in the Conventions. That is, it is not unforeseeable that a case may arise such as that which arose under the Waste Framework Directive following the oil spill from the *Erika*, in which the Court of Justice of the European Union concluded that a public authority was entitled to reimbursement for costs incurred in remediating oil pollution by the seller-charterer of the *Erika* when the authority’s claim exceeded the limit of liability of the relevant Convention.⁷⁴⁵

Finally, the legal and empirical review of the limitation of liability for the LLMC and the CLNI Conventions (Article 4(3) of the ELD) has showed that, due to their sole focus on claims for bodily injury, property damage and economic loss, there is no need for them to be mentioned in the ELD. We therefore recommend as a priority in a future possible revision of the ELD that the Commission considers deleting Article 4(3).

We recommend, however, that due to the many complex issues surrounding the exclusion from the ELD for the IMO Conventions, any potential revisions to their exclusion must be carefully considered and made only if the reasons for doing so override the reasons for retaining the exclusion. One way to close at least part of the gap between the Conventions and the ELD in respect of environmental damage would be for the IMO to extend the scope of the Conventions to cover pure ecological damage.

8.5.2 Nuclear Conventions

As with the marine Conventions, opinions concerning the nuclear Conventions in Annex V tend to be polarised. Unlike the marine Conventions, however, the commercial concerns regarding the balance between the payment of claims by a ship owner and the funds established by payments from receivers of oil do not arise.

The legal and empirical reviews showed that the main reasons for the Commission to consider eliminating, or retaining, the exclusion for the Annex V Conventions are as follows.

Non-compliance with the polluter pays principle / law and economics approach

The Annex V Conventions are not in compliance with the polluter pays principle on which the ELD is based. Instead, the public is responsible for a substantial proportion of the costs of compensation in the event of a nuclear incident. The revisions to the Conventions to include liability and compensation for some environmental damage increased the percentage of such liability and compensation for which the public is responsible. The exclusion of the Conventions from the ELD is, therefore, contrary to the fundamental purpose of the ELD itself.

⁷⁴⁴ David Ong, *The Relationship between Environmental Damage and Pollution: Marine Oil Pollution Laws in Malaysia and Singapore*, in *Environmental Damage in International and Comparative Law; Problems of Definition and Valuation*, p. 191, 201 (Oxford University Press, 2002, Michael Bowman & Alan Boyle, eds).

⁷⁴⁵ *Commune de Mesquer v Total France SA*, para. 89 (CJEU, Case No. C-188/07, 2008).

Further, application of the law and economics approach to the exclusion for the Conventions indicates that they do not comply with basic principles of a liability regime.

Compensation is mainly for bodily injury and property damage not environmental damage under the ELD

The focus of the Annex V Conventions is a compensation scheme for victims of nuclear incidents; their coverage of pure ecological damage / environmental damage is limited. Further, the Conventions do not establish a regime to prevent or remediate nuclear damage; they are compensation schemes.

It is questionable, therefore, whether the Annex V Conventions further the purpose of the ELD. It is indisputable that the Conventions provide a much lower level of preventive or remedial measures than the ELD. In particular, they do not include complementary remediation or compensatory remediation.

In effect, therefore, the continued exclusion of the Annex V Conventions means that the nuclear industry is subject to less liability for “environmental damage” under the ELD than other industrial sectors, including other energy sectors.

Meaning of “nuclear damage” and “preventive measures”

The definition of “nuclear damage” under the Annex V Conventions is not straight-forward. Many facets of the definition are unclear including the extent of environmental damage (including, in particular, the extent of primary remediation), and the “significance” threshold, which is determined by competent courts. It is also indisputable that the Conventions impose a lower level of liability for “environmental damage” than the ELD itself.

Lack of a level playing field

Although the Paris Convention, as amended, and the Vienna Convention, as amended, have similar terms, they also have key differences. Further, not all Member States are parties to the Conventions, in particular, Austria, Ireland and Luxembourg.

In view of the lack of a level playing field created by the Conventions, the exclusion for liability and compensation under them from the ELD results in a patchwork of liability / compensation regimes for nuclear incidents across the EU.

Protection of biodiversity

The exclusion of liability and compensation under the Annex V Conventions from the ELD means that the prevention and remediation of damage to protected species and natural habitats from a nuclear incident is extremely limited, if it exists at all. The continued exclusion of the Conventions from the ELD is, thus, contrary to a key purpose of the ELD.

8.5.3 Effectiveness

It is impossible to come to a conclusion regarding the effectiveness of the Conventions listed in Annex V to the ELD as no nuclear incidents have fallen under their scope. In addition, the 2004 Protocol to the Paris Convention has not yet entered into force and, consequently, the provisions

broadening the definition of “nuclear damage” to take into account damage caused to the environment are not applicable.

8.5.4 Re/insurance

The issue of re/insurance must also be taken into account. Insurance for nuclear incidents is provided by nuclear insurance pools. Further, most general liability policies have exclusions for loss or harm from any type of nuclear incident.

In view of the very large amounts that would be likely to be involved in a “nuclear incident” under the Annex V Conventions, any change to their exclusion from the ELD would need detailed negotiations with re/insurers.

8.5.5 Euratom Treaty

Another issue to take into account is whether environmental nuclear liability should be regulated under TFEU or the Euratom Treaty, although the Euratom Treaty does not include any specific provisions establishing nuclear liability. The following illustrates this issue:

“... it can be said that, due to the fact that:

1. nuclear liability, not environmental protection, is a dominant objective in the environmental nuclear liability,
2. applying the TFEU to the environmental nuclear liability creates controversial consequences to the whole field of nuclear liability,
3. the Euratom Treaty should be considered the *lex generalis* in relation with environmental nuclear liability,
4. and application of the Euratom [T]reaty [in] the field of environmental nuclear liability would not contravene with the general princip[les] of nuclear liability;

The Euratom Treaty should be chosen as a legal ground for regulation of compensation and remediation of damage to the environment in case of nuclear incident and the TFEU should not be applied here. That indicates the relation of the Euratom Treaty and the TFEU in the field of environmental nuclear liability on the European level.”⁷⁴⁶

8.6 Possible eligibility and/or need to incorporate other international instruments into Annexes IV and V of the ELD

The review of the Offshore Protocol, the Kiev Protocol and the Nagoya-Kuala Lumpur Supplementary Protocol did not result in strong opinions from stakeholders to exempt liability under the ELD if any of the Protocols is in force in a Member State.

For the reasons stated below, we do not recommend that the Commission considers as a priority in a possible future revision of the ELD, excluding liability under the ELD when a Member State has ratified any of the three Protocols.

⁷⁴⁶ Rasa Ptasekaite, Swedish Radiation Safety Authority, *The Euratom Treaty v. Treaties of the European Union: limits of competence and interaction*, Report No. 2011:32 ISSN: 2000-0456, available at <http://www.stralsakerhetsmyndigheten.se/Global/Publikationer/Rapport/Avfall-transport-fysiskt-skydd/2011/SSM-Rapport-2011-32.pdf>

8.5.6 Offshore Protocol

The guidelines on liability and compensation for the Offshore Protocol were drafted so that they “mirror” the ELD as far as possible. It is thus not appropriate to exclude liability under the legislation on which the Offshore Protocol was based if the mirroring legislation is applied. Among other things, there should be no need to dis-apply the ELD in lieu of mirroring provisions in an international agreement.

Further, the Offshore Protocol is regional; it does not apply to the entire EU. Excluding liability under the ELD if the Protocol applies would thus, create regional divisions concerning application of the ELD.

Still further, the Offshore Safety Directive imposes liability under the ELD on a licensee of offshore oil and gas operations. Exempting liability under the ELD if the Offshore Protocol applies would, thus, raise an issue as to whether liability under the Offshore Safety Directive was also exempted when the Offshore Protocol is in force in a Member State.

8.5.7 Kiev Protocol

Hungary is the only Member State that has ratified the Kiev Protocol, although other Member States have indicated that they may ratify it. Exempting liability under the ELD if the Protocol applies would thus affect a limited number of Member States and create divisions in the effect of the ELD across the EU. In addition, the Kiev Protocol contains provisions in respect of which the EU enjoys exclusive external competence, hence requiring joint coordinated action by the EU and the Member States.

Further, the Kiev Protocol has not come into force. It thus seems premature to consider excluding liability under the ELD if the Kiev Protocol applies.

8.5.8 Nagoya-Kuala Lumpur Supplementary Protocol

The Supplementary Protocol has not entered into force. As with the Kiev Protocol, therefore, it seems premature to consider whether to exclude liability under the ELD if the Supplementary Protocol is in force in a Member State.

Further, a major purpose of the Supplementary Protocol is to prevent the loss of biodiversity, which is one of the key purposes of the adoption of the ELD. It would, thus, not further a key purpose of the ELD to exempt liability under the ELD if the Supplementary Protocol is in force in a Member State.

In addition, unlike the ELD, the Supplementary Protocol applies only to the transboundary movement of living modified organisms. The Supplementary Protocol is thus narrower in its scope than the ELD.

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Annex A: References to human health and the environment in ELD Annex III legislation

Annex III legislation	Reference to “human health and the environment” of a similar term ⁷⁴⁷
Industrial Emissions Directive (2010/75/EU)	<p>“This Directive lays down rules on integrated prevention and control of pollution arising from industrial activities” (article 1)</p> <p>The term “pollution” is defined as “the direct or indirect introduction, as a result of human activity, of substances, vibrations, heat or noise into air, water or land <i>which may be harmful to human health or the quality of the environment</i>, result in damage to material property, or impair or interfere with amenities and other legitimate uses of the environment”⁷⁴⁸</p>
Directive (2008/98/EC) on waste	<p>“[The Directive] also establishes major principles such as an obligation to handle waste in a way <i>that does not have a negative impact on the environment or human health</i>” (recital 1)</p>
Landfill Directive (1999/31/EC)	<p>“to provide for measures, procedures and guidance <i>to prevent or reduce as far as possible negative effects on the environment</i>, in particular the pollution of surface water, groundwater, soil and air, and on the global environment, including the greenhouse effect, <i>as well as any resulting risk to human health</i>, from landfilling of waste, during the whole life-cycle of the</p>

⁷⁴⁷ The Table is illustrative only; it does not include all provisions in the Annex III legislation that refer to human health and the environment. The terms “human health and the environment” or similar terms are italicised in the table for emphasis.

⁷⁴⁸ Although the IPPC Directive was less precise, it also refers to the “environment”. See IPPC Directive, art 14(b) (directing Member States to “take the necessary measures to ensure that ... the operator regularly informs the competent authority of the results of the monitoring of releases and without delay of any incident or accident significantly affecting the environment”); see also Annex IV (referring to “the need to prevent accidents and to minimise the consequences for the environment”).

Annex III legislation	Reference to “human health and the environment” of a similar term ⁷⁴⁷
	landfill” (article 1(1))
Dangerous Substances Directive (2006/11/EC)	The term “pollution” is defined as “the discharge by man, directly or indirectly, of substances or energy into the aquatic environment, the results of which are such as to cause hazards to human health, harm to living resources and to aquatic ecosystems, damage to amenities or interference with other legitimate uses of water” (article 2(e))
Directive (2006/118/EC) on the protection of groundwater against pollution and deterioration	“In order to protect the environment as a whole, and human health in particular, detrimental concentrations of harmful pollutants in groundwater must be avoided, prevented or reduced” (recital 5)
Water Framework Directive (2000/60/EC)	Whilst the obvious focus of the WFD is on waters, the term “environmental quality standard” is defined to mean “the concentration of a particular pollutant or group of pollutants in water, sediment or biota which should not be exceeded in order to protect human health and the environment” (article 2(35))
CLP Regulation (EC) No. 1272/2008	“The purpose of this Regulation is to ensure a high level of protection of human health and the environment as well as the free movement of substances, mixtures and articles” (article 1)
Dangerous Preparations Directive (1999/45/EC)	“this Directive must ... ensure protection for the general public, and, in particular, persons who come into contact with dangerous preparations in the course of their work or in the pursuit of a hobby, protection for consumers and for the environment” (recital 3)
Plant Protection Products Directive (91/414/EEC)	“provisions governing authorization must ensure a high standard of protection, which, in particular, must prevent the authorization of plant protection products whose risks to health, groundwater and the environment and human and animal health should take priority over the objective of improving plant production” (recitals)
Biocides Regulation (EU) No. 528/2012	“The purpose of this Regulation is to improve the functioning of the internal market through the harmonisation of the rules on the making available on the market and the use of biocidal products, whilst ensuring a high level of protection of both human and animal health and the environment” (article 1)
Air Framework Directive (2008/50/EC)	“This Directive lays down measures aimed at the following: 1. defining and establishing objectives for ambient air quality designed to avoid, prevent or reduce harmful effects on human health and the environment as a whole” (article 1(1))

Annex III legislation	Reference to “human health and the environment” of a similar term ⁷⁴⁷
Directive (90/219/EEC) on the contained use of genetically modified micro-organisms	“This Directive lays down common measures for the contained use of genetically modified micro-organisms <i>with a view to protecting human health and the environment</i> ” (article 1)
Directive (2001/18/EC) on the deliberate release into the environment of genetically modified organisms	“In accordance with the precautionary principle, the objective of this Directive is to approximate the laws, regulations and administrative provisions of the Member States and <i>to protect human health and the environment</i> when: carrying out the deliberate release into the environment of genetically modified organisms for any other purposes than placing on the market within the Community, placing on the market genetically modified organisms as or in products within the Community” (article 1)
Regulation (EC) No. 1013/2006 on shipments of waste	“It is important to organise and regulate the supervision and control of shipments of waste in a way which takes account of <i>the need to preserve, protect and improve the quality of the environment and human health</i> and which promotes a more uniform application of the Regulation throughout the Community” (recital 7)
Directive (2006/21/EC) on the management of waste from extractive industries	<p>“This Directive provides for measures, procedures and guidance <i>to prevent or reduce as far as possible any adverse effects on the environment, in particular water, air, soil, fauna and flora and landscape, and any resultant risks to human health</i>, brought about as a result of the management of waste from the extractive industries” (article 1)</p> <p>“Member States shall take the necessary measures to ensure that extractive waste is managed <i>without endangering human health and without using processes or methods which could harm the environment</i>, and in particular without risk to water, air, soil and fauna and flora, without causing a nuisance through noise or odours and without adversely affecting the landscape or places of special interest” (article 4(1))</p>
Directive (2009/31/EC) on the geological storage of carbon dioxide	<p>“The purpose of environmentally safe geological storage of CO₂ is permanent containment of CO₂ in such a way as <i>to prevent and, where this is not possible, eliminate as far as possible negative effects and any risk to the environment and human health</i>” (article 2)</p> <p>The Directive specifically applies the ELD to “Liability for environmental damage (damage to protected species and natural habitats, water and land)” for the operation of storage sites (recital 30)</p>

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Annex B: Main national legislation for remediating water pollution and land contamination

Member State	National legislation to remediate water pollution	National legislation to remediate contaminated land
Austria	<p>The Water Act imposes liability for remediating water pollution; groundwater must be maintained at drinking water standards so that it can be used as drinking water.</p> <p>The Water Management Act provides that any deterioration of water quality and any reduction of the self-purifying capacity of water is an adverse effect on water quality regardless of whether the adverse effect is significant.</p>	<p>The Waste Management Act 2002 imposes liability for preventing and remediating contamination caused by waste. It applies to the remediation of contaminated land and related groundwater.</p> <p>Other legislation applies to the remediation of historic contamination.</p>
Belgium	<p>The federal Act on the protection of the marine environment imposes liability, among other things, for preventing and remediating damage and restoring environmental disruption. The term “damage” is defined as “any damage, loss or prejudice suffered by an identifiable natural or legal person as a result of degradation of the marine environment, whatever its cause”. The term “environmental degradation” is defined as “the</p>	<p>The Flemish Soil Clean-up Statute differentiates between “new contamination”, which occurred on or after, and “historic contamination”, which occurred before, 29 October 1995. New contamination must be cleaned up if applicable contaminant threshold levels are exceeded; historic contamination must be cleaned up only if it poses a potential risk to human health or the environment. The contaminant threshold levels for soil and groundwater are established by the Vlarebo Decree, the current version of</p>

Member State	National legislation to remediate water pollution	National legislation to remediate contaminated land
	<p>negative impact on the marine environment, insofar as it does not amount to damage”.</p> <p>The Law of 26 March 1971 on the protection of surface waters, together with implementing Decrees governs surface water pollution in the Flemish Region.</p> <p>The Water Code, which is set out in Book II of the Environmental Code, and the Decree of 11 March 1999 relating to environmental permits and its implementing Decrees govern surface water pollution in the Walloon Region.</p> <p>The law of 26 March 1971 on the protection of surface waters and its implementing Decrees, and the Ordinance of 30 July 1992 relating to environmental permits and its implementing Decrees govern surface water pollution in the Brussels-Capital Region.</p>	<p>which is the Order of 14 December 2007.</p> <p>The Walloon Soil Management Decree of 5 December 2008 imposes liability, among other things, for the remediation of soil contamination.</p> <p>The Ordinance on the management of contaminated land for the Brussels-Capital Region established five categories of contaminated land. Category 0 is potentially contaminated land, categorised as such due to potentially polluting activities having been carried out on it. Category 1 is land that is not contaminated. Category 2 is land that is contaminated but at which the intervention thresholds are not exceeded. Category 3 is land that exceeds the intervention threshold levels but risks from the contamination have been mitigated to an acceptable level. Category 4 is land that exceeds the intervention threshold levels and for which risk management or remedial measures are ongoing or required. The standard for remediation is the removal of all contamination if the liable person is the person who caused it. A lower standard of remediation to an acceptable level applies if another person is liable.</p>
Bulgaria	<p>The Water Act (SG No. 67/1999), as amended, authorises the Minister for the Environment and Water to issue an order for coercive administrative measures if there is, among other things: “an immediate danger of environmental pollution, damage or loss, personal injury or loss of human life, or of pollution, damage or loss of property owned by the State, municipalities,</p>	<p>The Soils Act, as amended, imposes liability for remediating contaminated land.</p>

Member State	National legislation to remediate water pollution	National legislation to remediate contaminated land
	<p>natural or legal persons as a result of acts of omissions of water users”; or “emergency and disaster situations caused by acts or omissions of water users in the course of water abstraction and/or water site use and operation of water development systems and facilities”.</p>	
Croatia	<p>The Law on Environmental Protection imposes liability on a person who causes “environmental pollution” to restore the damaged environment. “Environmental pollution” is defined as “a change in the environmental status as a result of non-permitted emissions and/or other harmful actions or the failure to act, or the effect of a project which may change the environmental quality”.</p>	See water pollution
Cyprus	<p>The Water and Soil Pollution Law, No. 106(I)/2002, as amended, imposes liability, among other things, for the restoration of environmental damage including soil and water pollution.</p>	See water pollution.
Czech Republic	<p>Act No. 254/2001 Coll. on Water, as amended, imposes liability for remediating water pollution on a person who caused the pollution by an “accident”. An “accident” is defined as “an exceptional serious deterioration or exceptional serious threat to the quality of surface water or groundwater”. The threat of, or actual, deterioration “by oil or oil-derived substances, especially dangerous substances or radiation emitting substances and radioactive waste or deterioration or threat to the</p>	Act No. 334/1992 Coll. on the Protection of Agricultural Land imposes liability, among other things, for the remediation of soil contamination.

Member State	National legislation to remediate water pollution	National legislation to remediate contaminated land
	<p>quality of surface water or groundwater in protected areas of natural water accumulation or in a protected zone of water resources are always considered to be accidents”.</p>	
Denmark	<p>The Contaminated Soil Act, No. 370 of 2 June 1999, as amended, imposes liability on a person who causes damage to “soil which due to human impact may harm groundwater, human health or the general environment”.</p>	<p>See water pollution</p>
Estonia	<p>The Water Act requires a person who negligently damages a surface water body or a body of groundwater to remediate the contamination and pay compensation.</p>	<p>The Waste Act requires a person who unlawfully disposes of waste to remediate the contamination and pay compensation.</p> <p>The Earth’s Crust Act requires a person who negligently damages soil, mineral reserves and resources, and forests by activities associated with the extraction of minerals, to pay compensation.</p>
Finland	<p>The Environmental Protection Act (86/2000), as amended, imposes strict liability for the investigation and remediation of contaminated soil and groundwater.</p>	<p>See water pollution</p>
France	<p>Part V of the Environmental Code (Classified Installations Law) includes requirements to remediate land contaminated by industrial activities. The Ministry for Ecology, Energy, Sustainable Development and Sea has published guidelines and circulars to identify and manage contaminated sites, as well as guideline values for determining when land needs to be remediated. The remediation of groundwater pollution related to</p>	<p>Order No. 2010-1579 of 17 December 2010 imposes liability for remediating contaminated sites and soil.</p> <p>Regulation of the Ministry of Environment No. 13/1994 Coll. sets out substances considered to be contaminants and the concentration level at which soil that is contaminated by them must be remediated.</p> <p>Also see water pollution</p>

Member State	National legislation to remediate water pollution	National legislation to remediate contaminated land
	<p>contaminated land is included.</p> <p>Articles L210-1 and R.214-1 et seq. of the Environmental Code impose liability for remediating water pollution.</p>	
Germany	<p>The Länder have enacted Water Acts and Ordinances that authorise competent authorities to require water, including groundwater, pollution to be remediated.</p>	<p>The Federal Soil Protection and Contaminated Sites Ordinance requires current or future contamination to be remediated to remove the contamination or harmful changes to the soil. The standard for remediating historic contamination is subject to a reasonableness test.</p> <p>The Soil Protection and Contaminated Land Ordinance of 13 July 1999, as amended, establishes, among other things, trigger, action and precautionary values for remediation and standards for remediation. The threshold levels vary depending on the use of the land as residential, industrial, etc.</p>
Greece	<p>There is no specific legislation requiring the remediation of water pollution.</p>	<p>There is no specific legislation requiring the remediation of land contamination.</p>
Hungary	<p>Act LIII of 1995 on the General Rules of Environmental Protection, as amended, imposes liability for remediating damage to the environment including land contamination, water pollution and damage to fauna and flora.</p> <p>Government Decree 219/2004 (VII.21) on the protection of groundwater sets out special rules concerning soil and groundwater contamination.</p> <p>KvVM-EüM-FVM Decree 6/2009 (IV.14.) on the pollution limit values and measures for the protection of groundwater and</p>	<p>See water pollution</p>

Member State	National legislation to remediate water pollution	National legislation to remediate contaminated land
	<p>geological substances sets out values which, if exceeded, may be considered, based on a risk assessment, to result in harm to human health or the environment. The pollution limit values relate to groundwater and to the soil and subsoil.</p>	
Ireland	<p>The Local Government Water Pollution Act 1977-1990 (WPA) and regulations issued under it apply to the entry of “polluting matter” into natural and artificial inland surface waters, coastal waters and groundwater. The threshold for pollution is included in the term “polluting matter”, which is defined to include “any poisonous or noxious matter, and any substance (including any explosive, liquid or gas) the entry or discharge of which into any waters is liable to render those or any other waters poisonous or injurious to fish, spawning grounds or the food of any fish, or to injure fish in their value as human food, or to impair the usefulness of the bed and soil of any waters as spawning grounds or their capacity to produce the food of fish or to render such waters harmful or detrimental to public health or to domestic, commercial, industrial, agricultural or recreational uses”.</p>	<p>Ireland does not have a dedicated regime for the remediation of land contamination. Instead, various Acts apply including the Waste Management Act 1996-2010, the Water Pollution Act and the integrated pollution prevention and control regime.</p>
Italy	<p>Law No. 979/1982 Of 31 December 1982 on the protection of the sea imposes liability for preventing or remedying damage to the marine environment.</p> <p>The legislation that transposed the ELD repealed prior legislation</p>	<p>See water pollution</p>

Member State	National legislation to remediate water pollution	National legislation to remediate contaminated land
	<p>concentrating the prevention and remediation of inland water pollution.</p> <p>Part IV of the Environment Code imposes liability on a person who caused damage to soil, surface water or groundwater that exceeds specified limits for contaminants, or results in a significant risk to human health.</p> <p>Ministerial Decree 471/1999 sets out the applicable thresholds for concentrations of contaminants as well as procedures to remediate it. The concentration levels are applied by a risk-based approach.</p>	
Latvia	<p>The Water Management Law provides, among other things, that a person who uses water resources has a duty “to pay damages which have been caused to the environment or aquatic biological resources as a result of using water resources if the liability of the user of water resources for such damages has been established in compliance with the [specified] regulatory enactments”.</p>	<p>The Law on Pollution imposes liability, among other things, for the remediation of contaminated land. The Law includes placing sites on a register and investigating them to determine whether pollutants at them exceed specified limit values or may harm human health and the environment. If the limit values are exceeded or there is harm or a threat of harm to human health and the environment, a site must be remediated.</p> <p>Cabinet Regulation No. 804, Regulation on soil and subsoil quality (25.10.2005), as amended, establishes the relevant limit values and assessment procedures.</p>
Lithuania	<p>The Law on Environmental Protection imposes liability on a person who causes environmental damage (including water pollution and land contamination) for the reinstatement of the environmental condition to its state prior to the damage if it is possible to do so. If it is not possible fully to reinstate the</p>	See water pollution

Member State	National legislation to remediate water pollution	National legislation to remediate contaminated land
	<p>environment to its condition before the damage, the person who caused the damage must pay compensation for the damage that cannot be repaired. The amount of compensation is calculated by measuring the environmental damage according to specified methodologies.</p>	
Luxembourg	<p>If a prosecution is brought under the Law of 19 January 2004 concerning the protection of nature and natural resources, as amended, which imposes criminal penalties for harming natural resources including surface water, the court that hears the prosecution may order the water to be restored to its original state before the damage.</p>	<p>If a prosecution is brought under the Law of 21 March 2012 on waste management, which imposes criminal penalties for the disposal of waste in breach of the Law, the court that hears the prosecution may order the person who disposed of the waste to remove it and remediate contamination caused by it.</p>
Malta	<p>There are no dedicated liability systems to remediate water pollution.</p>	<p>There are no dedicated liability systems to remediate contaminated land.</p>
Netherlands	<p>The 2009 Water Act imposes liability for remediating water pollution or, in certain instances paying compensation, to a public authority if it carried out the required remediation measures.</p> <p>The Soil Protection Act, as amended, imposes liability for remediating soil and groundwater contamination.</p>	<p>See water pollution</p>
Poland	<p>Article 362 of the Environmental Protection Law Act of 27 April 2001 imposes liability on a “user of the environment” for the remediation of environmental damage (including soil and subsoil contamination, water pollution, and damage to fauna</p>	<p>Articles 102-108 of the Environmental Protection Law Act of 27 April 2001 impose liability for remediating contamination caused prior to 30 April 2007, to soil and subsoil. The Articles were dis-applied to contamination after 30 April 2007 to which the legislation that transposed the ELD applies.</p>

Member State	National legislation to remediate water pollution	National legislation to remediate contaminated land
	<p>and flora) when more specific legislation does not apply. Article 362 does not specify a threshold for a “negative impact” on the environment. The remediation requirement includes, in respect of water pollution, removing pollution from water and restoring any flora and fauna that depend on the aquatic environment to their condition prior to the pollution, including restocking fish.</p>	<p>The Ordinance on soil quality standards, which established the standards for determining whether soil and subsoil are contaminated, apply to Articles 102-108. The standards differ according to whether land is in protected areas, industrial areas (including roads, etc.) and other areas.</p> <p>See also water pollution</p>
Portugal	<p>Portugal does not have specific legislation that imposes liability for remediating water pollution.</p>	<p>Portugal does not have specific legislation that imposes liability for remediating contaminated land.</p> <p>Decree-Law No. 178/2006 of 5 September 2006, as amended, on waste management may be applied to soil contamination although its scope is limited because unexcavated contaminated soil is not defined as waste.</p>
Romania	<p>Law No. 107/1996 of 25 September 1996 imposes liability for remediating water pollution and sets out rules on evaluating it.</p>	<p>Government Emergency Ordinance 195/2005, as amended, on environmental protection includes some general aspects regarding the restoration of flora and fauna as well as focusing on land contamination.</p> <p>Government Decision No. 1408/2007 sets out rules on evaluating soil contamination.</p> <p>Government Decision No. 1403/2007 sets out rules on remediating contaminated soil.</p>
Slovakia	<p>Act No. 364/2004 Coll. on water, as amended, imposes liability for remediating water pollution.</p> <p>Act No. 409/2011 Coll. on Certain Measures in Relation to Environmental Burdens, as</p>	<p>See water pollution</p>

Member State	National legislation to remediate water pollution	National legislation to remediate contaminated land
	<p>amended, imposes liability, among other things, for remediating “environmental burdens”.</p> <p>Act No. 569/2007 Coll. on Geological Works, as amended (Geological Act), which entered into force on 1 January 2008, defines a contaminated site (environmental burden) as a site at which pollution by human activity poses a serious threat to human health, rock, soil or groundwater, with the exception of environmental damage (which is covered by the legislation that transposed the ELD). The Act defines a potentially contaminated site (potential environmental burden) as a site at which the risk of a serious threat (the presence of an environmental burden) is reasonably likely / expected.</p> <p>Regulation of the Ministry of the Environment SR No. 51/2008 Coll. implementing the Geological Act, which entered into force on 15 February 2008, contains, among other things, risk analyses.</p> <p>Act No. 409/2011 Coll. on Certain Measures in Relation to Environmental Burdens, as amended, provides detailed criteria for classifying environmental burdens into three sub-categories, with the final “K” classification consisting of the sum of the sub-categories. The criteria are used to provide points and a detailed scoring system for determining whether an environmental burden is low, medium, or high priority for</p>	

Member State	National legislation to remediate water pollution	National legislation to remediate contaminated land
	remediation.	
Slovenia	<p>The Environmental Protection Act applies to water pollution, contaminated land (and flora and fauna). It imposes liability for preventing and reducing “an environmental burden” and for eliminating its consequences.</p> <p>An “environmental burden” is defined as “any activity affecting the environment or any consequence of such activity which, exclusively or simultaneously, has caused or has been causing environmental pollution, environmental risk or the use of a natural asset”. A “natural asset” is defined as “any component of nature and may be a public natural asset, a natural resource or a valuable natural feature”. Public assets are natural resources that are economically or commercially exploited. Valuable natural features are features defined in nature conservation regulations.</p>	See water pollution
Spain	<p>The Water Act, as amended by Royal Decree 1/2001 of 20 July, imposes liability for remediating water pollution. If remediation to the condition of the water before the pollution occurred is not feasible or if the damage is irreparable, the liable person must pay a compensatory amount determined by the Spanish Government.</p>	<p>Law 10/1998 of 21 April on wastes, as modified by Law 22/2011 of 28 July, includes a separate section on contaminated land.</p> <p>Royal Decree 9/2005 of 14 January sets out activities that can potentially damage soil, together with criteria and standards for determining when land is contaminated land. The criteria and standards are based on the characteristics of the soil, the use of the land and an assessment of the risk posed by the contaminants. Some Autonomous Communities have also issued criteria and guidance on soil</p>

Member State	National legislation to remediate water pollution	National legislation to remediate contaminated land
		quality criteria and the re-use of decontaminated soil. The focus of the regime is on the remediation of historic contamination.
Sweden	<p>There is a single regime, set out in the Environment Code, for remediating water pollution and land contamination, with the focus on land contamination. The regime also includes buildings and structures.</p> <p>There are no legally-binding concentration values for contaminants that trigger a requirement to investigate or to remediate contamination. The Swedish Environmental Protection Agency has, however, published generic guideline values.</p>	See water pollution
United Kingdom	<p>The Water Resources Act 1991 (which applies to England and Wales) imposes liability for remediating “any poisonous, noxious or polluting matter or any waste matter [to be or to have] been present in, or [to be] likely to enter, any controlled waters [that is, surface, ground and coastal waters]” or to harm or to be likely to harm such waters “by any event, process or other source of potential harm”. Liability extends beyond removing or disposing of the matter to remedying or mitigating any pollution or harm caused by its presence in the waters, to “restoring (so far as it is reasonably practicable to do so) the waters, including any flora and fauna dependent on the aquatic environment of the waters, to their state immediately before the</p>	<p>Part 2A of the Environmental Protection Act 1990 (which applies to England, Wales and Scotland, but not Northern Ireland) imposes a duty to remediate contaminated land, including waters, when a threshold of significant harm, or a significant possibility of significant harm, is reached. The threshold differs for human health, specified ecological areas including sites of special scientific interest (which include Natura 2000 sites), property in the form of buildings, crops, pets, rights in wild animals and fish, and surface, ground and coastal waters,</p>

Member State	National legislation to remediate water pollution	National legislation to remediate contaminated land
	<p>matter became present in the waters”.</p> <p>Scotland and Northern Ireland have similar legislation.</p>	

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Annex C: Status of Marine Conventions in Member States

- International Convention of 27 November 1992 on Civil Liability for Oil Pollution Damage (**1992 Civil Liability Convention**)
- International Convention of 27 November 1992 on the Establishment of an International Fund for Compensation for Oil Pollution Damage (**1992 Fund Convention**)
- Protocol of 2003 to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1992 (**Supplementary Fund Protocol**)
- International Convention on Limitation of Liability for Maritime Claims, 1976 (**LLMC**)
- Protocol of 1996 to amend the Convention on Limitation of Liability for Maritime Claims, 1976 (**LLMC Protocol 1996**)
- International Convention on the Limitation of Liability in Inland Navigation (**CLNI 1988**)
- Strasbourg Convention of 2012 on the Limitation of Liability in Inland Navigation (**CLNI 2012**) (not yet in force)
- International Convention on civil liability for damage caused during carriage of dangerous goods by road, rail, and inland navigation vessel, 1989 (**Dangerous Goods Convention**) (not yet in force)
- International Convention on Liability and compensation for Damage in Connection with the Carriage of Hazardous and Noxious substances by Sea, 2010 (**2010 HNS Convention**) (not yet in force)
- International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001 (**Bunker Oil Convention**)

Member States	Conventions	Party to Convention ⁷⁴⁹ (ratified or acceded)	Comments on legislation transposing the ELD
Austria	1992 Civil Liability Convention	No	
	1992 Fund Convention	No	
	Supplementary Fund Protocol	No	
	LLMC	Not signed	
	LLMC Protocol 1996	Not signed	
	CLNI 1988	Not signed	
		Yes	
	CLNI 2012 Dangerous Goods Convention		
	2010 HNS Convention		
	Bunker Oil Convention		
Belgium	1992 Civil Liability Convention	Yes	
	1992 Fund Convention	Yes	
	Supplementary Fund Protocol	Yes	
	LLMC	Yes	
	LLMC Protocol 1996	Not signed	
	CLNI 1988	Signed	
		Not signed	
		Not signed	
	Yes		
	CLNI 2012 Dangerous Goods Convention		
	2010 HNS Convention		
Bunker Oil Convention			
Bulgaria	1992 Civil Liability Convention	Yes	
	1992 Fund Convention	Yes	
	Supplementary Fund Protocol	No	
	LLMC	Yes	
	LLMC Protocol 1996	Not signed	
	CLIN 1988	Not signed	
		Not signed	
	Yes		
	CLNI 2012 Dangerous Goods Convention		
	2010 HNS Convention		
	Bunker Oil Convention		

⁷⁴⁹ “Yes” indicates that the Member State has acceded or ratified a Convention. “No” indicates that the Member State has not acceded or ratified the Convention.

Member States	Conventions	Party to Convention ⁷⁴⁹ (ratified or acceded)	Comments on legislation transposing the ELD
Croatia	1992 Civil Liability Convention	Yes	
	1992 Fund Convention	Yes	
	Supplementary Fund Protocol	Yes	
	LLMC	Yes	
	LLMC Protocol 1996	Not applicable	
	CLNI 1988	Not signed	
		Not signed	
		Not signed	
		Yes	
	CLNI 2012 Dangerous Goods Convention		
	2010 HNS Convention		
	Bunker Oil Convention		
Cyprus	1992 Civil Liability Convention	Yes	
	1992 Fund Convention	Yes	
	Supplementary Fund Protocol	No	
	LLMC	Yes	
	LLMC Protocol 1996	Yes	
	CLIN 1988	Not applicable	
		Not applicable	
		Not signed	
		Not signed	
		Yes	
	CLNI 2012 Dangerous Goods Convention		
	2010 HNS Convention		
Bunker Oil Convention			
Czech Republic	1992 Civil Liability Convention	No	The legislation transposing the ELD does not refer to any of the Conventions ; the Czech Republic is, however, a landlocked country
	1992 Fund Convention	No	
	Supplementary Fund Protocol	No	
	LLMC	No	
	LLMC Protocol 1996	Not applicable	
	CLNI 1988	Not signed	
		Not signed	
		Not signed	
		Yes	
	CLNI 2012 Dangerous Goods Convention		
	2010 HNS Convention		
	Bunker Oil Convention		
Denmark	1992 Civil Liability Convention	Yes	
	1992 Fund Convention	Yes	
	Supplementary Fund Protocol	Yes	
	LLMC	Yes	
		Not applicable	
		Not signed	

Member States	Conventions	Party to Convention ⁷⁴⁹ (ratified or acceded)	Comments on legislation transposing the ELD
	LLMC Protocol 1996 CLNI 1988 CLNI 2012 Dangerous Goods Convention 2010 HNS Convention Bunker Oil Convention	Not signed Signed Yes	
Estonia	1992 Civil Liability Convention 1992 Fund Convention Supplementary Fund Protocol LLMC LLMC Protocol 1996 CLNI 1988 CLNI 2012 Dangerous Goods Convention 2010 HNS Convention Bunker Oil Convention	Yes Yes Yes Yes Not applicable Not signed Not signed Not signed Yes	The legislation transposing the ELD into Estonian law refers only to the 1992 Civil Liability Convention, the 1992 Fund Convention, and the Bunker Oil Convention
Finland	1992 Civil Liability Convention 1992 Fund Convention Supplementary Fund Protocol LLMC LLMC Protocol 1996 CLNI 1988 CLNI 2012 Dangerous Goods Convention 2010 HNS Convention Bunker Oil Convention	Yes Yes Yes Yes Not applicable Not signed Not signed Not signed Yes	
France	1992 Civil Liability Convention 1992 Fund Convention Supplementary Fund Protocol LLMC LLMC Protocol 1996 CLNI 1988 CLNI 2012 Dangerous Goods Convention	Yes Yes Yes Yes Not signed Signed Not signed Signed Yes	

Member States	Conventions	Party to Convention ⁷⁴⁹ (ratified or acceded)	Comments on legislation transposing the ELD
	2010 HNS Convention Bunker Oil Convention		
Germany	1992 Civil Liability Convention 1992 Fund Convention Supplementary Fund Protocol LLMC LLMC Protocol 1996 CLNI 1988 CLNI 2012 Dangerous Goods Convention 2010 HNS Convention Bunker Oil Convention	Yes Yes Yes Yes Yes Signed Signed Signed Yes	
Greece	1992 Civil Liability Convention 1992 Fund Convention Supplementary Fund Protocol LLMC LLMC Protocol 1996 CLNI 1988 CLNI 2012 Dangerous Goods Convention 2010 HNS Convention Bunker Oil Convention	Yes Yes Yes Yes Not applicable Not signed Not signed Signed Yes	
Hungary	1992 Civil Liability Convention 1992 Fund Convention Supplementary Fund Protocol LLMC LLMC Protocol 1996 CLNI 1988 CLNI 2012 Dangerous Goods Convention 2010 HNS Convention Bunker Oil Convention	Yes Yes Yes Yes Not applicable Not signed Not signed Not signed Yes	
Ireland	1992 Civil Liability Convention 1992 Fund Convention	Yes Yes Yes	

Member States	Conventions	Party to Convention ⁷⁴⁹ (ratified or acceded)	Comments on legislation transposing the ELD
	Supplementary Fund Protocol LLMC LLMC Protocol 1996 CLNI 1988 CLNI 2012 Dangerous Goods Convention 2010 HNS Convention Bunker Oil Convention	Yes Not applicable Not applicable Not signed Not signed Yes	
Italy	1992 Civil Liability Convention 1992 Fund Convention Supplementary Fund Protocol LLMC LLMC Protocol 1996 CLNI 1988 CLNI 2012 Dangerous Goods Convention 2010 HNS Convention Bunker Oil Convention	Yes Yes Yes No No Not applicable Not signed Not signed Not signed Yes	
Latvia	1992 Civil Liability Convention 1992 Fund Convention Supplementary Fund Protocol LLMC LLMC Protocol 1996 CLNI 1988 CLNI 2012 Dangerous Goods Convention 2010 HNS Convention Bunker Oil Convention	Yes Yes Yes Yes Yes Not applicable Not signed Not signed Not signed Yes	
Lithuania	1992 Civil Liability Convention 1992 Fund Convention Supplementary Fund Protocol LLMC LLMC Protocol 1996 CLNI 1988	Yes Yes Yes Yes Yes Not applicable Not signed Not signed Not signed Yes	

Member States	Conventions	Party to Convention ⁷⁴⁹ (ratified or acceded)	Comments on legislation transposing the ELD
	CLNI 2012 Dangerous Goods Convention 2010 HNS Convention Bunker Oil Convention		
Luxembourg	1992 Civil Liability Convention 1992 Fund Convention Supplementary Fund Protocol LLMC LLMC Protocol 1996 CLNI 1988 CLNI 2012 Dangerous Goods Convention 2010 HNS Convention Bunker Oil Convention	Yes Yes No Yes Yes Yes Signed Not signed Not signed Yes	
Malta	1992 Civil Liability Convention 1992 Fund Convention Supplementary Fund Protocol LLMC LLMC Protocol 1996 CLNI 1988 CLNI 2012 Dangerous Goods Convention 2010 HNS Convention Bunker Oil Convention	Yes Yes No Yes Yes Not applicable Not applicable Not signed Not signed Yes	
The Netherlands	1992 Civil Liability Convention 1992 Fund Convention Supplementary Fund Protocol LLMC LLMC Protocol 1996 CLNI 1988 CLNI 2012 Dangerous Goods Convention 2010 HNS Convention Bunker Oil Convention	Yes Yes Yes Yes Not signed Signed Not signed Signed Yes	

Member States	Conventions	Party to Convention ⁷⁴⁹ (ratified or acceded)	Comments on legislation transposing the ELD
Poland	1992 Civil Liability Convention	Yes	
	1992 Fund Convention	Yes	
	Supplementary Fund Protocol	Yes	
	LLMC	Yes	
	LLMC Protocol 1996	Not signed	
	CLNI 1988	Not signed	
		Yes	
	CLNI 2012 Dangerous Goods Convention	Not signed	
	2010 HNS Convention	Not signed	
	Bunker Oil Convention	Yes	
Portugal	1992 Civil Liability Convention	Yes	
	1992 Fund Convention	Yes	
	Supplementary Fund Protocol	Yes	
	LLMC	No	
	LLMC Protocol 1996	Not applicable	
	CLNI 1988	Not signed	
		Not signed	
	CLNI 2012 Dangerous Goods Convention	Not signed	
	2010 HNS Convention	Not signed	
	Bunker Oil Convention	No	
Romania	1992 Civil Liability Convention	Yes	
	1992 Fund Convention	No	
	Supplementary Fund Protocol	No	
	LLMC	Yes	
	LLMC Protocol 1996	Yes	
	CLNI 1988	Not applicable	
		Not signed	
	CLNI 2012 Dangerous Goods Convention	Not signed	
	2010 HNS Convention	Not signed	
	Bunker Oil Convention	Yes	
Slovakia	1992 Civil Liability Convention	Yes (will enter into force 8 July 2014)	The transposing legislation for Slovakia does not mention the marine Conventions
	1992 Fund Convention	Yes (will enter into force 8 July 2014)	
	Supplementary Fund	Yes (will enter into force 8 July 2014)	

Member States	Conventions	Party to Convention ⁷⁴⁹ (ratified or acceded)	Comments on legislation transposing the ELD
	Protocol	No	
	LLMC	Not signed	
	LLMC Protocol 1996	Not signed	
	CLNI 1988	Not signed	
		No	
	CLNI 2012 Dangerous Goods Convention		
	2010 HNS Convention		
	Bunker Oil Convention		
Slovenia	1992 Civil Liability Convention	Yes	
	1992 Fund Convention	Yes	
	Supplementary Fund Protocol	Yes	
	LLMC	No	
	LLMC Protocol 1996	No	
	CLNI 1988	Not applicable	
		Not signed	
		Not signed	
		Not signed	
		Yes	
	CLNI 2012 Dangerous Goods Convention		
	2010 HNS Convention		
	Bunker Oil Convention		
Spain	1992 Civil Liability Convention	Yes	
	1992 Fund Convention	Yes	
	Supplementary Fund Protocol	Yes	
	LLMC	Yes	
	LLMC Protocol 1996	Not applicable	
	CLNI 1988	Not signed	
		Not signed	
		Not signed	
		Yes	
	CLNI 2012 Dangerous Goods Convention		
	2010 HNS Convention		
	Bunker Oil Convention		
Sweden	1992 Civil Liability Convention	Yes	
		Yes	
		Yes	
	1992 Fund Convention	Yes	
	Supplementary Fund Protocol	Yes	
	LLMC	Not applicable	
		Not signed	
		Not signed	

Member States	Conventions	Party to Convention ⁷⁴⁹ (ratified or acceded)	Comments on legislation transposing the ELD
	LLMC Protocol 1996 CLNI 1988 CLNI 2012 Dangerous Goods Convention 2010 HNS Convention Bunker Oil Convention	Not signed No	
United Kingdom	1992 Civil Liability Convention 1992 Fund Convention Supplementary Fund Protocol LLMC LLMC Protocol 1996 CLNI 1988 CLNI 2012 Dangerous Goods Convention 2010 HNS Convention Bunker Oil Convention	Yes Yes Yes Yes Not applicable Not applicable Not signed Not signed Yes	

Annex D: Status of Nuclear Conventions in Member States

- Paris Convention of 29 July 1960 on Third Party Liability in the Field of Nuclear Energy, as amended (**Paris Convention**)
- Brussels Supplementary Convention of 31 January 1963 (**Brussels Supplementary Convention**)
- Vienna Convention of 21 May 1963 on Civil Liability for Nuclear Damage, as amended (**Vienna Convention**)
- Convention of 12 September 1997 on Supplementary Compensation for Nuclear Damage, as amended (**Supplementary Convention**)
- Joint Protocol of 21 September 1988 relating to the Application of the Vienna Convention and the Paris Convention (**Joint Protocol**)
- Brussels Convention of 17 December 1971 relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material (**Carriage of Nuclear Material Convention**)

Member States	Conventions	Party to Convention	Comments on legislation transposing the ELD
Austria	Paris Convention	No	
	Brussels Supplementary Convention	No	
	Vienna Convention	No	
	Supplementary Convention	No	
	Joint Protocol	No	
	Carriage of Nuclear Material Convention	No	

Member States	Conventions	Party to Convention	Comments on legislation transposing the ELD
Belgium	Paris Convention	Yes	
	Brussels Supplementary Convention	Yes	
	Vienna Convention	No	
	Supplementary Convention	No	
	Joint Protocol	Yes	
	Carriage of Nuclear Material Convention		
Bulgaria	Paris Convention	No	
	Brussels Supplementary Convention	No	
	Vienna Convention	Yes	
	Supplementary Convention	No	
	Joint Protocol	Yes	
	Carriage of Nuclear Material Convention	Yes	
Croatia	Paris Convention	No	
	Brussels Supplementary Convention	No	
	Vienna Convention	Yes	
	Supplementary Convention	No	
	Joint Protocol	Yes	
	Carriage of Nuclear Material Convention	No	
Cyprus	Paris Convention	No	
	Brussels Supplementary Convention	No	
	Vienna Convention	No	
	Supplementary Convention	No	
	Joint Protocol	No	
	Carriage of Nuclear Material Convention		
Czech Republic	Paris Convention	No	
	Brussels Supplementary Convention	No	
	Vienna Convention	Yes	
	Supplementary Convention	No	
	Joint Protocol	Yes	
	Carriage of Nuclear Material Convention	No	

Member States	Conventions	Party to Convention	Comments on legislation transposing the ELD
Denmark	Paris Convention Brussels Supplementary Convention Vienna Convention Supplementary Convention Joint Protocol Carriage of Nuclear Material Convention	Yes Yes No No Yes Yes	
Estonia	Paris Convention Brussels Supplementary Convention Vienna Convention Supplementary Convention Joint Protocol Carriage of Nuclear Material Convention	No No Yes No Yes No	-
Finland	Paris Convention Brussels Supplementary Convention Vienna Convention Supplementary Convention Joint Protocol Carriage of Nuclear Material Convention	Yes Yes No No Yes Yes	
France	Paris Convention Brussels Supplementary Convention Vienna Convention Supplementary Convention Joint Protocol Carriage of Nuclear Material Convention	Yes Yes No No No Yes	
Germany	Paris Convention Brussels Supplementary Convention Vienna Convention Supplementary Convention Joint Protocol Carriage of Nuclear Material Convention	Yes Yes No No Yes Yes	

Member States	Conventions	Party to Convention	Comments on legislation transposing the ELD
Greece	Paris Convention	Yes	
	Brussels Supplementary Convention	No	
	Vienna Convention	No	
	Supplementary Convention	Yes	
	Joint Protocol	No	
	Carriage of Nuclear Material Convention		
Hungary	Paris Convention	No	
	Brussels Supplementary Convention	No	
	Vienna Convention	Yes	
	Supplementary Convention	No	
	Joint Protocol	Yes	
	Carriage of Nuclear Material Convention	No	
Ireland	Paris Convention	No	
	Brussels Supplementary Convention	No	
	Vienna Convention	No	
	Supplementary Convention	No	
	Joint Protocol	No	
	Carriage of Nuclear Material Convention		
Italy	Paris Convention	Yes	
	Brussels Supplementary Convention	Yes	
	Vienna Convention	No	
	Supplementary Convention	No	
	Joint Protocol	Yes	
	Carriage of Nuclear Material Convention	Yes	
Latvia	Paris Convention	No	
	Brussels Supplementary Convention	No	
	Vienna Convention	Yes	
	Supplementary Convention	No	
	Joint Protocol	Yes	
	Carriage of Nuclear Material Convention	Yes	

Member States	Conventions	Party to Convention	Comments on legislation transposing the ELD
	Carriage of Nuclear Material Convention		
Lithuania	Paris Convention	No	
	Brussels Supplementary Convention	No	
	Vienna Convention	Yes	
	Supplementary Convention	No	
	Joint Protocol	Yes	
	Carriage of Nuclear Material Convention	No	
Luxembourg	Paris Convention	No	
	Brussels Supplementary Convention	No	
	Vienna Convention	No	
	Supplementary Convention	No	
	Joint Protocol	No	
	Carriage of Nuclear Material Convention		
Malta	Paris Convention	No	
	Brussels Supplementary Convention	No	
	Vienna Convention	No	
	Supplementary Convention	No	
	Joint Protocol	No	
	Carriage of Nuclear Material Convention		
The Netherlands	Paris Convention	Yes	
	Brussels Supplementary Convention	Yes	
	Vienna Convention	No	
	Supplementary Convention	No	
	Joint Protocol	Yes	
	Carriage of Nuclear Material Convention	Yes	
Poland	Paris Convention	No	
	Brussels Supplementary Convention	No	
	Vienna Convention	Yes	
	Supplementary Convention	No	
		Yes	

Member States	Conventions	Party to Convention	Comments on legislation transposing the ELD
	Joint Protocol Carriage of Nuclear Material Convention	No	
Portugal	Paris Convention Brussels Supplementary Convention Vienna Convention Supplementary Convention Joint Protocol Carriage of Nuclear Material Convention	Yes No No No No No (signed)	
Romania	Paris Convention Brussels Supplementary Convention Vienna Convention Supplementary Convention Joint Protocol Carriage of Nuclear Material Convention	No No Yes Yes Yes No	
Slovakia	Paris Convention Brussels Supplementary Convention Vienna Convention Supplementary Convention Joint Protocol Carriage of Nuclear Material Convention	No No Yes No Yes No	The transposing legislation for Slovakia excludes "nuclear risks caused by the activities covered by the relevant specific provisions or an incident or activity in respect of which liability or compensation falls within the scope of an international treaty to which the Slovak Republic is a signatory"
Slovenia	Paris Convention Brussels Supplementary	Yes Yes	

Member States	Conventions	Party to Convention	Comments on legislation transposing the ELD
	Convention Vienna Convention Supplementary Convention Joint Protocol Carriage of Nuclear Material Convention	No No Yes No	
Spain	Paris Convention Brussels Supplementary Convention Vienna Convention Supplementary Convention Joint Protocol Carriage of Nuclear Material Convention	Yes Yes No No No Yes	
Sweden	Paris Convention Brussels Supplementary Convention Vienna Convention Supplementary Convention Joint Protocol Carriage of Nuclear Material Convention	Yes Yes No Yes Yes Yes	
United Kingdom	Paris Convention Brussels Supplementary Convention Vienna Convention Supplementary Convention Joint Protocol Carriage of Nuclear Material Convention	Yes Yes No No No No (signed)	



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