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Summary report of the results of the preliminary field studies - Cool Food Pro

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Summary report of the results of the preliminary field studies - Cool Food Pro

Deliverable T1.3.1 – March 2022 version



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Summary

This report presents the results of the two parts of the study Work Package 1 (WP1) of the CoolFood Pro (CFP) project. It is structured in two parts:-

- Part 1 of the document presents the results of a series of 32 individual interviews. The aim of these interviews was to illustrate the range of elements influencing the commitment of institutional catering organisation to adopt a food transition, and elements encouraging adoption or the obstacles to institutional catering organisations implementing it;
- Part 2 reports on the focus groups devoted to expressing the ideal functionalities of a web application being developed as a support tool for the catering sites.

Part 1. Individual interviews

1. Background to the research

The EGalim bill of law was approved by the French Parliament on 2 October 2018. Its aim is to improve fairness of agricultural trade relations and promote healthy and sustainable food. It was enacted on 1 November 2018. We present here the main points promoting healthy, safe and sustainable food for all, and reducing usage of plastic for food. In a second step, we present the conceptual framework of our work.

1.1. The EGalim bill in France

The EGalim bill provides rulings applying to catering services for schools and universities, institutions for children under six years of age, health institutions, public and private social and care institutions. The rules promote access to healthier, safer, and more sustainable food for guests (patients, visitors, children, students, etc.) and staff:

- from 30 October 2018: multi-annual plan to diversify protein sources (plant alternatives) for institutes serving more than 200 covers/day;
- from 01 January 2020: compulsory yearly information for diners; ban on single-use plastic utensils; ban on destroying surplus food by making it unfit for consumption;
- from 20 October 2020: diagnostic and measures to fight food waste; suggested donations to authorised associations from canteen-retaurants preparing more than 3,000 meals/day;
- from 01 January 2022: the law's flagship rule - supply of a minimum of 50% of quality and sustainable products, including at least 20% organic.

Quality and sustainable products refer to organic products, products benefiting from official quality and origin identification certificate (SIQO) or certain value-adding claims, such as the “label rouge”, the sustainable fishing “ecolabel”, the “designation of origin” and the “geographical indication”, products from French overseas territories that comply with European regulations and benefit from the "Outer-Region" logo, etc. This regulatory base could be supplemented by the development of supplies of fair-trade products, local products

or products obtained within the framework of territorial food projects (PAT¹), even if they are not included in the 50% provided for by the bill of law.

The objectives of the EGalim bill are ambitious and on date of writing of this report not all institutions concerned are complying yet. Some are even very far from compliance (ADEME et al., 2021). This disparity between different institutions calls for a better understanding of the steps that lead to the implementation of the measures provided for in this bill of law. Understanding the progress of institutions to implement CSR requirements, with the drivers and obstacles, will can shed some light.

1.2. The commitment of institutes to sustainable practices

According to Mair & Jago (2010), the '*corporate greening process*' corresponds for institutes to invest in environmentally friendly facilities and practices. According to these authors, research attempts to understand the reasons for these behaviours as well as the obstacles, by developing generic models, that present a risk simplification, supplemented by sectoral models. The general factors identified relate, among other things, to managerial and personal values, to the search of a competitive advantage, to pressure from stakeholders, to regulations, etc. On this basis, Mair & Jago propose a general model of the *corporate greening process*, which they then refine to adapt it to the business event tourism sector. François-Lecompte & Gentric (2013) use this specific model to create a model for the hotel sector (Appendix 1). The specific model, validated by a qualitative study, distinguishes *organisational* and *external context* elements, *internal* and *external drivers*, *catalysts*, and *brakes*. The *internal drivers*, such as the expected benefits, seem to be decisive and, in contrast, the major *brake* is related to the lack of resources and appears to be a major obstacle. The authors also highlight the role of *catalysts*, triggers, such as the leaderships values. This model from the hotel sector seems relevant to an analysis of the situation in the contract catering sector.

¹The PATs (Projet Alimentaire Territoriaux) bring together the actors of a territory around the issue of food, thus contributing to the consideration of the social, environmental, economic and health dimensions of this territory; <https://agriculture.gouv.fr/plus-de-330-projets-alimentaires-territoriaux-reconnus-par-le-ministere-au-1er-janvier-2022>, on 21/3/22.

In this context, the TAPs aim to support the emergence of new projects carried out by the territories. These are :

- to encourage the emergence of new TAPs, by granting a subsidy to the project leader to finance part of the diagnosis, coordination, governance, and the development of an operational action plan;
- to support the implementation of actions planned by the PATs that have been awarded the label or are underway, through aid for material investments (processing tools, logistics, storage, etc.) or intangible investments (engineering, studies, communication, etc.) and the animation of the PAT.

<https://www.economie.gouv.fr/plan-de-relance/mesures/structurer-filieres-locales-projets-alimentaires>, on 1/4/22.

It can be complemented by the work of Ademe & al (2021), which gives an overview of obstacles and levers facing the expectations of the EGalim bill in school catering and identifies:

- general obstacles: costs incurred by changes in practices, speed of the required transformation (which requires a major change), recognition of professions and management of skills, compartmentalisation of actors and absence of collective strategies;
- specific obstacles to logistical organisation: difficulties to establish inventories of “products of quality”, discontinuous supply due to holidays, constraints in delivering to small and scattered institutes, lack of knowledge of the content of the EGalim bill of law regarding supply, difficulties in knowing the existing offer, and optimising procurement, lack of internal and external communication;
- levers for a successful approach to sustainable catering: make savings by fighting against food waste and diversifying protein sources, create attractive training for catering teams, cooperation and pooling between institutes, communication adapted to the stakeholders.

These academic and professional works made it possible to set up an original interview analysis grid, presented in the following section.

2. Methodology

Our **empirical analysis is qualitative** and focuses on factors that positively and negatively influence the adoption of processes to achieve the EGalim bill objectives. We contacted 32 people in 10 different organisations in June 2021. The choice of a multi-site study allows for a greater generalisation of the results obtained, as well as a deeper insight of the phenomenon under study. The individual semi-structured interviews were conducted with staff with different profiles, in terms of responsibilities and involvement in the projects to change practices, belonging to structures linked to CoolFood Pro (CFP) but diverse in terms of status, sectors of activity, number of meals/day, degrees of commitment to the EGalim bill (Appendix 2).

The interview guide that was used to conduct the study was developed based on literature review (see 1. Research context), in consultation with members of the CFP consortium with expertise in conducting projects related to sustainable food and the concerns of collective catering stakeholders in France. The interviews began with a short presentation of the CFP project and the objectives of the interviews. The interviewees were then asked:

- to describe the organisation of work in their structure and according to their profile (purchasing/procurement, menu preparation, production, organisation of services, waste management, etc.);
- their perception of the EGalim bill of law, its implications for the organisation and the projects carried out or underway in this context.

The interview guide focused on the factors that could explain the absence or initiation of projects, aimed at compliance to regulations and the evolution of food supply in their structures and the role of public authorities. The end of the interviews focused on the interviewees' expectations of the other components of the CFP project.

Due to the Covid crisis, all interviews were conducted by Visio by the three lecturers of the LEGO laboratory in charge of the study and lasted on average one hour. The data analysis technique was that of thematic content analysis, carried out using NVivo12 software with a mixed coding approach² in line with our abductive epistemological positioning. The thematic analysis allows us to focus on the most important information from the transcripts of the

² A list of initial codes, fed as the interviews are coded.

interviews, following the established coding grid. The coding of all the interviews allowed us to have a hierarchy of results in the form of blocks of factors, presented in the following section.

3. Results

We present here the results of the qualitative analysis highlighting the obstacles and favourable factors to environmental commitment and changes in food practices for this study. The results corroborate the previously mentioned works and also show new facts.

3.1 Identified barriers

Three categories of obstacles to the commitment of collective catering to healthy and sustainable food can be identified: cost control, logistics and the human factor.

3.1.1. Product costs

A major obstacle to changes in catering practices is **the increased prices**, organic products being up to 30% or even 50% higher, depending on products.

According to an agri-food expert, cost saving can explain the shift towards ultra-processed products. Nonetheless the interviewees accept the additional cost of switching to organic meat. To compensate, it is possible to reduce portion sizes or increase the ratio of plant protein, also of organic source. There is also a cost increase for some non-meat ingredients when switching from traditional to organic source. The increase in plant-sourced proteins does not necessarily reduce the overall cost of the meals. All these factors may explain why certain institutes prefer ‘quality products’ (AOC, IGP, etc.) rather than organic products. Also, for our interviewees, the review on the product procurement is often associated to a change of sourcing. They often switch to **small local structures**, that struggle to match pricing of larger suppliers, as they do not have the same economies of scale. All in all, the increase in costs can be significant when considering the low margins made per meals in institutional catering, as mentioned by a production manager of a private restaurants chain:

"For meat, we once considered ham. We pay 8 € per kilo, organic ham is 23€. We use ham in sandwich, numbers don't work. (...) In institutional restauration, it will be complicated to offer such products. Organic peppers are about €3.80 a kilo, while conventional products cost €1.20. So, for institutional restaurants, where a portion of pepper is 50 grams, it's works out to be 20 cents extra per dish, that is not viable."

Strategies based on grouped purchasing for communal structures such as public hospitals, seem paradoxically to reduce the negotiating power of buyers, due to a **lack of direct contact with producers**, as indicated by a food buyer from a university hospital:

"Our Procurement rules generally do not allow us to negotiate directly with suppliers... In my opinion, from my experience in the private sector, the buyers added value is limited in state structures. It is a pity because it would sometimes allow us to access quality products that are more environmentally friendly, at costs that are aligned to our budget."

The cost increase is also related to **packaging**. While recyclable packaging and alternatives to plastic are increasingly in demand, they are also more expensive.

3.1.2 Investments

Changes in practices may require expenditure in equipment and increase in storage space: low temperature cooking equipment for a reduction in energy consumption, trolleys adapted for sorting waste, computer software to monitor the measures taken, a larger capacity cold room to develop bulk purchases or 'home-made' food, areas for washing fresh ingredients, etc. An important issues for the EGalim bill is the reduction of plastic and the switch to reusable containers, which may be difficult to apply in certain areas, such as home delivery, where the use of glass salad bowls instead of plastic trays seems delicate. For example, for a central kitchen manager:

"What I see as a problem with the EGalim bill is that we deliver in plastic containers for home delivery to the elderly. I don't see how at a national level, we can find a solution to this problem. (...) We're going to say we must work with glass reusable bowls. It becomes unmanageable."

The question of financing expenditures is then raised and according to an INRAE expert, that of the *acceptability of the costs*: are diners ready to pay more for better quality menus? For some, the answer is 'no'. The subject is echoed in the desire of local authorities not to increase the price charged to users or taxation, which can lead to budgetary arbitration. The issue is a political one.

3.1.3. Logistics: supply networks and traceability

One obstacle identified encountered is the difficulty to **obtain regular supply of organic and/or local supply**, especially if the volumes are high, as is the case at a university hospital

with 6,500 covers/day. If the EGalim bill increases demand for organic and quality products in institutional catering, and the supply does not increase, the requirement will be more difficult to satisfy. Also suppliers do not always wish to sell to small structures, such as schools, preferring to sell directly to companies offering a regular activity. For the Ministry of Health employee of a municipality, the supply of certain quality products is not sufficient to fulfil the requirement the bill will generate, and her strategy is to increase the proportion of organic products in order to respect the rates imposed by the EGalim bill:

"A sustainable fishing label? There are only three fisheries in France (laughs)... It's not at the level of the fishmonger's supply that we'll be able to reach these rates. So, we're going to try to reach the 50% through organic farming, and if we reach 50% organic farming, then we'll respect the law.

One of the measures of the EGalim bill is the **compulsory information to customers at least once a year**. This concerns the proportion of quality products used in meals and other information, such as the origin of products, processing methods or nutritional data. An obstacle to be implemented this communication is the inadequacies of the traceability system. For the catering manager at the Uni Hospital, traceability is guaranteed up to the patient's plate at 98%, except in case of self-service. In the private sector, the IT tool used by IZEE does not allow to identify the exact origin of products and nor to highlight the efforts made in terms of local or regional sourcing.

3.1.4. Guests and staff

The behaviour of customers and the work organisation can influence the implementation of a new food offer.

3.1.4.1. Reluctance of diners

A distinction must undoubtedly be made between diners of different ages. For some of the people we spoke to, the lack of communication aimed at parents may be the reason for their dissatisfaction with the changes to the menus offered to children. While children quickly get used to industrial products, it is also difficult for adults/seniors to change their eating habits. Furthermore, the French Breton region has long been associated with cattle and pig farming and fishing; this context may also explain the reluctance to consume vegetarian meals, as indicated by the supply and logistics manager of a service provider:

"They are mainly in rural areas and as in Brittany we have a fairly strong animal agriculture, it is complicated to understand vegetarian meals, also it can jeopardise the activity of some neighbours or parents, etc. We don't have strong support for plant-based meals from all our customers.

3.1.4.2. Staff: perception of work, training, participation, health crisis

For operational staff in the kitchen or in care services, The EGalim bill may involve **additional workloads or activities that do not always correspond to their core business**, such as waste sorting or more extensive cleaning of the workstation in view of the new cooking methods. The reluctance is also linked to **eating habits** of the staff and their personal convictions as consumers. Several interviewees were not aware of the **existence of the EGalim bill** and the relevant measures required: *"the EGalim bill? Now you're talking Chinese to me!*" (a chain restaurant manager). Non-participation in decisions is also reported as a difficulty. For example, for the kitchen manager of an association in the medico-social sector, decisions concerning in particular the choice of products are not taken at the operational level or by middle managers but, in general, by the governance team:

"We don't really have a choice in selecting products or suppliers. It is generally decided upstream, jointly all the same, with the kitchen managers. In general, we do not have the final choice.

All these elements can have an impact on professional commitment. It therefore seems necessary to assist changes in order to overcome these obstacles. Nevertheless, the operational level interviewees underline the absence or lack of training to help them acquire new skills, for example to cook alternative meals.

Finally, **the COVID19 crisis** is not a real obstacle to the implementation of the EGalim bill-but the start of related projects may have been delayed.

Box 1. Barriers to public hospital engagement

The qualitative analysis makes it possible to identify obstacles specific to the Uni hospital studied that may help explain its low level of commitment to date (Annexes 2 and 3).

For the managers interviewed, the major difficulty is the lack of financial resources allocated to meet a rise in costs. As a public institution, the Uni hospital is financed by a limited budget, which does not always allow it to cover new investment, operating and personnel expenses. For example, according to a Uni hospital food buyer:

"For example, *the EGalim bill, which comes into force in 2022, currently does not have a budget for the additional cost.*"

This Uni hospital serves an average of 6,500 meals per day, so the additional annual costs linked to implementation of EGalim bill can be significant. The lack of operational staff to carry out new tasks linked to the reorganisation of work, particularly in the kitchen, was mentioned by some interviewees from the Uni hospital:

- the implementation of reusable containers to reduce plastic requires dedicated staff to clean them;
- the parameterisation of the computer software for monitoring orders and menus linked to changes in practices requires time resources, when the staff lacks time, resulting in delays in improving the information system.

Finally, from an organisational point of view, interviewees felt that it was difficult to enforce certain changes in practice on care assistants, as the emphasis was not on hierarchical but functional relationships³.

3.2 Acceptance factors

3.2.1 Background

3.2.1.1. External context

External context for the institution studied is namely **the guidance of the public authorities**. **The EGalim bill** is a major point at the heart of the interviews. The development of organic food dominated the interviews, but the other aspects of the bill were also covered. Even if changes are slow, as mentioned by an operations manager at the Uni hospital, regarding the reduction of plastic:

"The EGalim bill will make some people evolve. At futur laws regarding plastic packaging, some will be biting their fingers, 'how are we going to do it, we are 100% dependent on plastic?' Indeed, laws push to change, but on condition that all the stages of the rocket have the same message. (...) There are always budgetary interactions, interactions of choices and decisions."

In practice, there are points in the bill of law that some stakeholders feel are conflictual. For example the requirment to offer vegetarian meals may have a negative impact on food waste because if these meals are not welcome by the guests, waste will increase

³Studies on the obstacles to the implementation of a logistics approach in hospitals show the priority given by professionals in the sector to care activities, to the detriment of support functions (Bourgeon et al., 2001). Logistics activities may thus seem useless to healthcare staff, diverting resources from their main purpose: ensuring quality care (Landry and Philippe, 2004).

Local authorities also impact environment trends through their call to tender, which may, in addition to the bill of law, specify requirements in terms of quality (with organic or labelled products), short circuits⁴ and the cost of the meal. But this can go further, as a manager of a private collective kitchen service provider points out:

"We also talk about the reduction of organic waste or of packaging. (...) Plastic containers are no longer the favored option, we are asked to use more sustainable options, like reusable packaging. These are big changes for our business, because the central kitchen was not designed to work with these type of packaging. We need to find solutions to adapt to these new expectations."

Counties and regions can use important levers, such as high number of daily school meals, even if this remains small relatively to the global food business in these areas.

Box 2. Regionalisation and coordination of supply

For our interviewees, the EGalim bill and in general all environmental issues go hand in hand with local-sourced procurement. In this aspect, local authorities consider the development of local organic and/or quality products as an opportunity. Land management is than an important issue, as an elected representative indicated:

"We know farms, even organic ones, have struggle to not be taken over. So what will happen to this agricultural land? (...) The Councils can take position, since it has a a local urbanism plan (...), even if the land is coordinated by the metropolis Council minister of Agriculture. But we still have input on whether this sector will remain agricultural or not. That's the first point. And what form of agriculture do we want within the metropolis? That's a question for the elected representatives."

Projects linked to the development of a local and often organic produce are sometimes carried out by isolated communities. The question of moving to an inter-municipal scale, in order to reach more users and make the activity more effective, may then rise. This requires an agreement with the councils concerned. This is a delicate matter, from a political or organisational point of view, as indicated by a person looking after agriculture and food in a large urban area:

"A number of managers are discrete about their business with local suppliers, for fear of losing their supply to others. (...) Convincing farmers to switch to short circuits and organic at the same time is a challenge. But many farmers who do switch to a short circuit end up asking about organic, specifically in terms of added value. (...) For towns and their elected representatives, it's a trial phase, and a phase of mobilising the economic players. This is linked to the fact that it is the only economic sector, apart from land, for which the elected representatives have significant decision-making power, which allows them to be consistent with their political agenda."

⁴The award of contracts on the basis of a local preference criterion is not possible, as this would disregard the principles of freedom of access to public procurement and non-discrimination. Nevertheless, the notion of "short circuit" (maximum one intermediary) is legally accepted.

In the same time, one of the major difficulties mentioned by our interviewees is linked to the fragmentation of local supply, and sometimes its inconsistency. Bringing together stakeholders from supply and demand, such as local authorities or associations, is therefore a major point. The methods are varied, direct or via an intermediary:

- in the form of meetings,
- by distributing listings of producers and catering establishments,
- using digital tools, that are developed by local authorities or by service providers. Agrilocal.fr is an example of such a tool, bringing together public purchasers (secondary schools, retirement homes, primary schools, municipalities, communities of municipalities, etc.) and suppliers in the same area⁵.

Another way to influence stakeholders **is through public financial action**. This can take various forms, in particular

- Land use plans, which support local actions;
- By local authorities, the additional cost of organic and/or quality products may give rise to budgetary trade-offs, to reduce the price impact on users;
- the Government also intervenes, with the National Food Programme, PNA⁶, which can help finance TAPs.

3.2.1.2. Organisational context

The EGalim bill requires more quantitative data over time. To meet this requirement, **the information systems**⁷ of the institutes concerned will need to adapt.

For an agriculture-food officer in a large urban area:

"It is always very complicated to get statistics regarding supplies from the local authorities. (...) For some canteens, there is a computerised dashboard, so it is not complicated to have the volumes. (...) Others still use a notebook. (...) The EGalim bill will require improved monitoring. For example we don't know in our area the percentage of supplies of local products or of organic products.

The IT service offering is evolving with the EGalim bill. There are IT systems with possibilities to track the specific objectives relating to the bill (quality, organic, waste...).

The study highlighted sometimes partners have **organisational methods** that can raise issues.

These are:

⁵<https://www.agrilocal.fr/>

⁶ The NAP addresses different dimensions of food (health, nutrition, food aid, education, waste, territorial anchorage, circular economy, environmental protection) and is at the crossroads of different public policies related to health preservation, environment and agro-ecological transition. <https://agriculture.gouv.fr/programme-national-pour-l'alimentation-2019-2023-territoires-en-action>, 21/3/22.

⁷An information system combines a technical system, where IT is central, and a system of social relations.

- *sustainability*, this translates into the implementation of menus that follow seasonal offering. The object is to avoid standardised supplier contracts throughout the year, with deliveries that are always the same and do not respect the seasonal offering;
- the *search for compromises*, in particular between internal stakeholders on organisational priorities, their justifications and the means to achieve them;
- *professional qualities*, putting the profession of cook back in the spotlight, which is no longer limited to reheating prepared dishes;
- the *participation of consumers*, even if there are technical limitations or limits linked to maintaining a balanced diet; for example, one of our contacts at the Uni hospital said:
 - "We have 'menu' commissions with our different audiences, but we can't always respond favourably, because we have production constraints;*
- the *robustness of the processes*, for example by relying on external audits of the meal production processes, as is the case at the Uni hospital.

Pooling is a way of reducing costs and increase reliability of supply. A central, modern and well-equipped production organisation, rather than several small structures of varying standards. This organisational mode can be implemented through different channels:

- in the production of meals in towns, there is often a central kitchen, public or private, which can work for both public and private education canteens, nurseries, leisure centres, home delivery services, etc. ;
- from supply perspective, there may be a major player, as in hospitals, where the major central purchasing body is UniHA; but the supply may also appear in a very fragmented way, even if there are directories such as those linked to Agrilocal or the MAB. It would probably be possible to structure this within land use plan. A catering director of an association in the medico-social sector states:

"That's why the Agrilocal platform was set up, why the MAB created a directory of suppliers with a map, but we would like it to be better structured, through land use plans. But each time, the question that arises with regard to the land use plans is 'who is managing the project'?"

In the background, we find the question of financing investments and operating costs.

The challenges of the EGalim bill may lead to changes in the **production or distribution processes of meals**. Table 1 presents changes in this sense.

Table 1. Possible organisational changes

Objectives	Impacts
waste reduction	low temperature cooking = less fatty or tough meat, especially for children, but you need suitable ovens, so you need to invest; weight of dishes: may be contracted and/or regulated
vegetarian meal	changing the eating habits of the guests can lead to a rejection of the dishes; therefore the taste quality of the dishes is important, but also the pedagogy, to explain the reasons for the change and to present the products
plastic reduction	change of containers for diners (glass, porcelain, etc.); but new processes such as washing
kitchen process	fresh produce, reduction of plastics, etc., modify internal processes, and therefore the role of individuals and sometimes the timetable; this requires education to get people to adhere to the project and training if necessary.

3.2.2. Engines

3.2.2.1. External motors

Professional networks are important for our interviewees. Some councils are recognised leaders, such as Mouans-Sartoux⁸. The central kitchen of the town, under a public service contract, is known for the proportion of organic food in its meals. For the implementation of concrete actions, the partners mentioned are the Sustainable Canteens and Committed Territories network, the AMAP (association for the maintenance of peasant agriculture), the MAB (organic house), the chambers of agriculture, the Agrilocal platform of the general council⁹, the associations Reseco¹⁰, Bruded¹¹. As a result of this profusion of actors, the deputy director general of a municipality has '*the feeling of having a small nebula of networks around me*' and, faced with the risk of dispersion, some of the people she spoke to felt that the **land use plan was an institutional reference point that could contribute to the coherence of the action between the stakeholders**. Furthermore, **managing relationships between actors over the long term** is a key success factor: if purchasing managers have regular

⁸This commune in the Alpes-Maritimes has a 100% organic school canteen supplied in part by an agricultural company.

⁹For the deputy DGS of a municipality: "*it is a very suitable platform for direct agreement, for one-off purchases, which can also be relevant for framework agreements with our orders up to 40,000 euros per year in the same product family*".

¹⁰Reseco, composed of public law structures subject to the public order code (local authorities, EPCI, SDIS, universities, etc.), promotes dialogue between its members and forges links with other players (associations, companies, etc.) in order to pool and co-construct sustainable public ordering. <https://reseco.fr/>, 25/3/22.

¹¹Bruded is an association open to municipalities and inter-municipalities. It is a network of exchanges between communities involved in sustainable development projects. <https://www.bruded.fr/>, 25/3/22.

relationships with organic/quality producers, trying to guarantee the stability of orders over time, this allows producers to feel confident and to invest if necessary to meet demand.

The evolution of **customers' expectations over** time is an important driver for change. For example, for a central kitchen manager in a public service contract: "*in five years, we have noticed that things are moving, today's expectations are not the same as yesterday's (...) we have more and more requests for vegetarian meals*". In this respect, it is important for a school official to educate children to tastes other food than industrial and ready-made meals, because they get used to them and then seek them; but with a little time, experience and explanation, it is possible to make them appreciate less industrial preparations.

External compliance audits are a driving force because, if defects are found, investment in the premises may be necessary and it is an opportunity for managers to consider new directions for their work. For the deputy director general of a municipality :

"The Departmental Directorate for the Protection of Populations, DDPP, carries out the hygiene control on our equipment and says 'your central kitchen is no longer up to standard, there is a major non-conformance: the flow of your kitchen, designed twenty years ago, no longer respects the forward movement'. So we said to the elected representatives, 'What are we going to do? Is the kitchen in danger of closing? Do you still want to run it on a self-managed basis or do you want to do something else, buy the meals or delegate the public service? They wanted to keep the catering service under public control. The project that wasn't planned was the construction of a new central kitchen, but it became the main investment of the last mandate, given the cost of the equipment.

This project was combined with the development of organic food in the community's catering, offering a holistic approach.

3.2.2.1. Internal drivers

Commitment to healthy and sustainable catering practices is linked to various factors.

The beliefs of professionals, particularly their desire to offer 'home-made' meals to their guests, is a major lever. The contribution of professionals to the quality of catering depends on the mobilisation of their skills and values. Thus, for a catering manager at the Uni hospital :

"The hos'itals approach has been to keep production in-house: for example, we make

our own milk. This seems normal, but many hospitals have outsourced these products, which are basic. After that, we are lucky to have a pastry shop. And the other hospitals say to us: 'Do you still have your pastry shop? We have really tried to keep our know-how and our professionalism. This is one of the strengths of our hospital. With regard to the 'New Offer' project¹², we are really capitalising on our know-how.

The skills of the cooks (see Box 3) and the communication, such as the *Taste Week*, help the internalisation of catering, limit waste and help to promote quality food. In some organisations, there is communication on the quality of products, their traceability and the promotion of home-made food, as the deputy director general of a municipality indicates:

"The menus of the month are posted on the website, but this also applies to schools. In addition, for the schools we produce a weekly menu, which can be displayed during the day, in which we highlight whether it is organic and whether it comes from an easily identifiable local producer. In the monthly menu, we have colour codes, where we highlight organic, organic and local, local and home-made. When it's homemade, it's colour-coded, so it gives value. It shows that it's not just bags that have been opened and thrown into the casserole dish, but that there has been work done in the kitchen to prepare the raw products.

Rationalising costs usually means internalising catering and fighting waste. Tools for managing orders are important for this. In some cases, the savings made by fighting waste are reinvested in the supply of quality products, as the catering manager of a medico-social sector association indicates:

"We're working on reducing waste, the money saved is not kept, but goes towards buying even more organic and quality ingredients. That makes sense. At the same time, we're going to introduce legumes. It's a great way of saying, 'We're going to buy more organic food and more quality labels without spending more money. Because for a menu based on vegetable proteins, when it is home-made, such as a soya steak, is a considerable savings.

Box 3: Internalisation of catering: between skills management and cost rationalisation

The feeling of competence perceived by the professionals is important in the implementation of actions for healthy and sustainable food. This feeling of competence is often associated with cooking with fresh products, as stated by the kitchen manager of an association in the medico-social sector:

"When I walk into a kitchen and see that you're just taking stuff out of the freezer, out of a bag or a box, I'm not interested at all. A cook is not someone who is just good at assembling ready-made dishes. A cook is supposed to cook! So, my premise in the kitchen has always been: make fresh, homemade food".

¹² The 'New Food Offer' project at this university hospital is based on the principle of in-house catering and the replacement of industrial dishes with 'home-made' ones. Compared to industrial products, the menus prepared on site by cooks were unanimously appreciated by the residents and carers.

The deployment of skills and the desire to follow training in alternative catering are reflected, in particular, in a critics of industrial meals, and the desire of professionals to internalise catering. These changes in practices are aimed at the guests satisfaction, through the pleasure of eating and the taste buds, preserving their health and limiting waste. The quality of the menus therefore requires the use of culinary skills, quality ingredients and awareness of the harmful impacts of certain products on health and the environment. The actors involved are generally those who understand these issues and who initiate projects to formalise a policy of internalising catering in order to reduce costs. A dietician from the CHRU thus observes:

"If you buy a ready-made pastry, it will obviously take you less time. But in terms of cost, elaborate prepared dishes are more expensive than home-made ones."

The **expectations of the professionals** are mainly oriented towards involvement, the search for training in alternative cooking, such as vegetarian cooking, the reduction of the use of plastics and the sensitisation of users to the fight against waste. For a central kitchen manager :

"It's important that everyone is involved, from the beginning to the end. If parents and children don't care about the reduction of plastic, for example... It's something that is essential, we're talking about microplastics in the ocean. If no one makes an effort or feels concerned about this, one day we will all be responsible."

In terms of support, stakeholders need **management tools to quantify their actions**. Quantification through indicators makes it possible to enhance the value of the actions carried out, to consider corrective measures, to communicate with stakeholders and, thus, to give meaning to the change in food practices. For a restaurant manager :

"Quantifying it gives an idea. For example, we have this recovery and we see that we find solutions to reduce it. I think that's great. And being able to communicate about this... We have the impression that we're working hard on these subjects and then we say to ourselves 'but the customers don't realise all the efforts we've made'. When you have figures, it speaks for itself."

3.2.3. Catalysts

Some of the organisations studied already have parameters that go beyond legal or regulatory requirements. A major lever, both for quality supplies, organic, substitution of animal proteins by vegetable proteins, reduction of plastic, seems to be **the will of the leaders**.

Thus, in the restaurant chain we studied, the managers' desire to go organic and local has been clearly stated from the very beginning of the business. Today, even in the absence of a label

recognising the commitment of private restaurants, the structure uses cornstarch plates instead of plastic plates, the recruitment of a pastry chef has made it possible to limit the use of frozen food, and the company has several projects: integration of an agroecological farm for supplies, a composting plant, filtered water fountains, and delivery by bicycle. This same desire can be found in an institute in the medico-social sector, as one agent indicates:

"I know that our director pays a lot of attention to this: the waste, she is very organic, she pays attention to where it comes from. She wants to put a lot of things in place that are good for both the workers and the planet. She really cares about that, that's for sure.

In the local authorities studied, the high levels of commitment are the result of a **political will that has been** expressed and implemented, sometimes over one or two decades. Thus, for the deputy director general of a municipality, *'the most important criterion is the human element, that they have the hands to do it, the head and the heart to be there. (...) In the end, it is a political choice that has been made and accepted'*. From this perspective, the fact that the elected officials involved are not part of a green party seems to be perceived as a strong signal by the other stakeholders, even if it may also show that the ecologist discourse sometimes has difficulty carrying beyond its political and social boundaries. For a municipal and metropolitan councillor, if a project such as organic food in canteens is supported by *"someone who is not labelled as an ecologist (...), it will perhaps open more doors, more quickly"*. This interviewee nevertheless regrets that organic food is still perceived by some elected officials and economic leaders as an activity that offers fewer development and profitability prospects than traditional activities.

This desire seems to be rooted in **the personal values of individuals**. Thus, in our interviews, the personal value most expressed by public (politicians and administrative managers) and private leaders is sustainability. The director of catering for an association in the medico-social sector indicated that *"there is a permanent crossroads between what I do personally and what I implement in the kitchens and which concerns sustainable development. It all makes a lot of sense to me.*

These values are translated into policy choices, objectives, strategy and organisation.

4. Summary of results and managerial recommendations

4.1. Summary of results

Tables 2 and 3 summarise the results of the analysis of the interviews.

Table 2. Barriers to the adoption of sustainable food practices in mass catering

COUTS	LOGISTIQUES	CONVIVES ET PERSONNEL
<ul style="list-style-type: none"> Augmentation des prix pour les produits bio (essentiellement viande) 	<ul style="list-style-type: none"> La disponibilité du matériel (en cuisine, informatique pour le suivi des mesures, 	<ul style="list-style-type: none"> Réticences convives (essentiellement pour plus de menus végétariens) : manque de
CONTEXTE	MOTEURS	CATALYSEURS
<ul style="list-style-type: none"> Contexte externe : L'obligation de répondre aux exigences de la loi EGalim ; l'engagement des dirigeants et élus, l'aide financière de la part de certaines communes et de l'Etat (dans le cadre du PNA) ; l'accompagnement des pouvoirs publics. Contexte organisationnel : les systèmes d'information existants ; des valeurs organisationnelles (la durabilité, la recherche de compromis, les qualités professionnelles, la participation des usagers, la robustesse des processus) ; la mutualisation (moyen de production, achat). 	<ul style="list-style-type: none"> Moteurs externes : Les réseaux professionnels comme les AMAP, la MAB, Reseco, Bruded, etc. (mutualisation, échanges entre collectivités, etc.) ; l'évolution des attentes des convives ; les audits externes de conformité. Moteurs internes : Compétences et volonté du personnel (proposer des menus de qualité, « fait maison ») ; communication (sur la qualité des produits, leur traçabilité et la valorisation du fait maison) ; convictions personnelles des opérateurs (engagement environnemental) 	<ul style="list-style-type: none"> Conviction du dirigeant : la valeur personnelle de « durabilité »

Table 3. Factors for the adoption of sustainable food practices in mass catering

4.2 Managerial recommendations

Several recommendations can be made.

4.2.1 Developing public action

Public action can be a strong message to stakeholders. This is the case for the choice of organic products, as indicated by the deputy of Ministry of health of a municipality:

"When you announce in an area where there is one or two per cent organic product that you intend to increase to 50 per cent in the catering industry, I think that this is an important marker. The local agricultural co-operatives will say to themselves this is a

new market we are missing." Now they have a home market. (...) This is the interest of the institutional procurement, it is an very powerful lever".

For an agriculture and food officer in a large urban area, there are several possibilities:

- promote coordination between public actors:

"There is a need to structure the to food sourcing relocation of public institutes on a regional scale. I think it is on the regional level this should be considered. The EGAlim bill supports this with the implementation of the CRALIM¹³ .(...) I think the coordination of public institutes needs be at a regional level. The organisation of the supply-demand balance must be done first at the territorial level and then at the regional level.

- better coordination of public funding:

"In order for territories to take ownership of financing, it must be at the inter-commun level and the region should seek regional, state and other financing, so territories are provided with the means to organise their supply. It is not on the municipality level that things can be settled (...).) when we work on the scale of an agglomeration such as ours, if we really want food to be accessible to all in order to respond to the third pillar of sustainable development, we need to give the local authorities the means to manage this.

- developing inter-municipal law:

"Another issue is the legal question, i.e. that collective catering should be an inter-municipal competence. We could consider including a new optional competence for collective catering in the Code of territorial communities. In the area of town planning we can observe a progressive shift (...), a shift towards an inter-commune level seems to me to be inevitable for agri-food industry organisation".

Even if municipalities would not be happy to lose their prerogatives in this area and may consider they are 'relegated'. Failing that, it is possible to consider inter-municipal charters: within a territory, the municipalities retain their prerogatives but adhere to a common project.

4.2.2 Pooling, coordinating

Regardless of the status of the parties involved, pooling strategies should undoubtedly be favoured in order to meet expectations in terms of volumes, economies of scale and the sustainability of the activity. Tools exist to put institutional catering buyers in contact with product suppliers, such as Agrilocal, the Mangerbio network¹⁴ or to pool transport and

¹³The Regional Food Committee, CRALIM, set up under the EGAlim law, is responsible for examining any question relating to the implementation of the NAP and in particular for consultation on the supply of collective catering to facilitate the achievement of the thresholds set by the EGAlim law. <https://draaf.bretagne.agriculture.gouv.fr/Le-Comite-regional-pour-1, 21/3/22>

¹⁴<https://www.reseaumangerbio.fr/>

storage, such as Coclicaux¹⁵ . It is therefore necessary to map them in order to improve the coordination of supply and demand, especially in short distribution circuits.

4.2.3 Carry out training actions, develop individuals

The adoption of healthy and sustainable food practices depends on the human elements of organisations¹⁶ . The analysis of internal drivers indicates that changes in ways of working towards greater internalisation of catering, marked by sourcing from short and/or local circuits and by homemade food, seem to be driven by skills rather than by work equipment, as indicated by the deputy of Ministry of health of a municipality:

"I know people who don't have the tools we have and who do a great job, without tools. On the other hand, it requires investment and involvement, a lot of working time, to work on the products.

As a result, professionals need to be trained in alternative cooking, in managing actions with monitoring tools, in communication and in change management. Maintaining the motivation of cooks also requires the recognition or enhancement of their skills and changes in practices.

¹⁵ <https://coclicaux.fr/>

¹⁶ Human capital refers to "the knowledge, skills, experiences, and motivations and attitudes of an organisation's employees" (Méreaux and Feige, 2022, p.36).

Part 2. The focus groups with guests

Between October 2021 and January 2022, ten focus groups of catering customers or parents of catering customers were carried out as part of the Cool Food Pro project. Four focus groups were conducted in England and six in France. The main objective of these focus groups was to improve understanding on the expectations of diners in terms of supply, support and information from their canteen.

The focus groups also gave an insight of the canteen guests thoughts concerning environmental footprint of meals there. The results show that there are differences in the way impacts of food at home and in the context of a meal taken in a canteen are approached. These results have been included into the conceptualisation of the evaluation of the animations that is planned in WP3 of the project.

We will first present the methodology used to carry out these focus groups. We will then present the results of the analysis of the discussions along four lines: the specificities of canteen and of the apprehension of the environmental footprint of meals; the levers perceived by the diners; their motivations and finally the actions they favour.

1. Focus group methodology

Use of focus groups is good technique when the objective is among other things to refine the definition of a problem, to explore opinions, beliefs, perceptions, or to generate ideas (Gavard-Perret et al., 2012). The technique is based on Lewin's (1952) theory of small group dynamics. The focus group generally brings together six to eight members for a period of one and a half to three hours maximum. It is possible to interact with a fairly large number of people in a relatively short time. The composition of several consecutive groups enables to interview a variety of profiles. A single facilitator will lead this, focused on a single theme, and requires the use of a well structured facilitation guide (Jolibert and Jourdan, 2011). Observers are often supporting the facilitator to take notes without intervening (or only very occasionally) in the discussion.

1.1. Presentation of the participants

The criterion that guided the selection of participants in the focus groups was above all to reflect the diversity of the profiles of users of institutional catering. We therefore sought to interview users of collective catering in companies, universities and hospitals, as well as the parents of children using collective catering. This diversity was completed by intermediate profiles, i.e. people involved in the implementation of activities in schools or universities in England. During this first stage, 6 focus groups were carried out, with a total of 20 people and a cumulative duration of the discussions of 5 hours and 39 minutes.

In a second stage, and only for the focus groups carried out in January, an attempt was made to saturate the discussions on the subject with a more homogeneous public of young adult students. During this second stage, 4 focus groups were carried out, with a total of 22 people and a cumulative duration of the discussions of 3 hours and 20 minutes.

In total, the group interviews made it possible to gather the views of 42 diners or relatives of diners, including 32 women and 10 men. Table 1 shows the data for each focus group, as well as the gender and user category of each participant. The table also specifies the composition of each focus group (facilitator and observers).

Table 4. Composition of the Focus Groups; guests and people involved in helping guests to reduce the environmental footprint of meals in catering

Focus group ^a	Duration	Composition of coaching	Number of participants	Participants ^b	Type of guests / functions	Type
UK						
FG1_UK 11102021	1h04	1 facilitator 2 observers	3	Emma	Environmental advisor - University	F
				Lauren	Geography student	F
				Shannon	Student in digital arts	F

FG2_UK 12102021	0h56	1 facilitator 1 observer	2	Karen	Food Coordinator - Primary School	F
				Ann	Environment officer - school	F
FG3_UK 13102021	0h54	1 facilitator 1 observer	2	Dan	Director of a catering company	M
				Graham	One-off customer of the company canteen	M
FG4_UK 15112021	1h07	1 facilitator	2	Emma	Teaching assistant - primary school	F
				Claire	Teaching assistant - primary school	F
FR						
FG1_EN 05112021	2h08	1 facilitator 2 observers	7	Sylviane	Employed at the hospital and user of the staff canteen	F
				Cécile	Parent of a child eating in the canteen and member of the school catering committee (BMO)	F
				Xavier	Parent of a child eating in the canteen (BMO)	M
				Fella	Parents of children eating in the canteen (not included in the experiment)	F
				Corinne	Parents of children eating in the canteen (Plouguerneau)	F
				Benjamin	Customer of the company canteen	M
				Michèle	Customer of University self-catering, close to her work	F
FG2_EN 17112021	1h30	1 facilitator 2 observers	4	Alexandre	Doctoral student who occasionally uses the university cafeteria	M
				Sannae	Doctoral student who very occasionally uses the cafeteria	F
				Laura	Doctoral student Parent of a child eating in the canteen (BMO)	F
				Carla	Student who occasionally uses the university cafeteria	F
FR - Phase 2						
FG3_EN 13012022	1h	1 facilitator 1 observer	6	Jade	Students who attend the dining hall of their university engineering degree more or less regularly (agri-food training)	F
				Aziliz		F
				Mila		F
				Louise		F
				Solène		F
				Elena		F
FG4_EN 14012022	0h35	1 facilitator 1 observer	5	Edouard		M
				Emma		F
				Simon		M
				Mathieu		M
				Logan		M

FG5_EN 19012022	0h53	1 facilitator 1 observer	6	Popo	Students who attend the dining hall of their university engineering school more or less regularly (agri-food training)	F
				Norel		F
				Nohaila		F
				Mahamadou		M
				Clementine		F
				Tanguy		M
FG6_EN 31012022	0h52	1 facilitator 1 observer	5	Camille	F	
				Léa	F	
				Laure	F	
				Angèle	F	
				Jennifer	F	

a: Identified by Country (UK then FR) and by chronological order

b: Identified only by their first names

1.2 Interview methodology

1.2.1. The facilitation guide

The focus groups were conducted using an interview guide shared for the interviews conducted in France and England. The guide was designed based on a similar framework to the one used for the professionals, adapted for a larger audience, particularly concerning matters on tools to support and assistance in reducing the environmental footprint of meals.


The introductory part of the interview guide included a short presentation of the Cool Food Pro project, a presentation of the objectives of the workshop discussion and a reminder of the rules of the discussion (respect everyone's view, workshop will be recorded, and transcription ensuring participants remain anonymous in the presentation of results). The core of the interview guide was made up of three main questions, as shown in Table 2. The follow-up questions (see Table 2), which were specific to the audience, were discussed among the partners in order to best answer everyone's questions, while ensuring a uniform methodology between France and England.

1.2.2. Focus group tools (consent, sign-in, project presentation document)

Three additional documents were used in the organisation of the focus groups: a consent form for usage of the data collected during the discussion workshops, each participant was asked to

sign before the start of the focus group, a sign-in sheet and a project presentation document that was given to the participants during the face-to-face focus groups (focus groups 1 and 2 in France).

Table 5 - Interview guide for Focus Group Guests - Main themes and follow-up questions

The three main themes	Dunning questions
 <p>The slide features a white background with a yellow title box at the top center containing the text "L'empreinte environnementale des repas dans les restaurants collectifs". Below the title box, the question "Qu'est-ce que cela vous évoque ?" is written in bold black font. The slide is decorated with images of fresh produce: tomatoes in the top left, a slice of bread on the right, and a bunch of green herbs in the bottom right. At the bottom, there are logos for "Project Partners" including "Maison de la Bio", "PECT", "U30", and "Soil". At the top right, there are logos for "Interreg France (Normandie) England", "Cool Food Pro", and the "EUROPEAN UNION".</p>	<p>When you think of environmental footprint reduction of meals, what does it mean to you?</p> <p>Do you consider certain environmental factors at your level? If so, how, and what does this mean for you?</p> <p>What would you like to be informed about concerning the institutional restaurants you use, what they are doing in terms regarding environmental footprint per meal?</p> <p>In what form, at what time and in what places would you like to find this information/knowledge?</p>
 <p>The slide features a white background with a yellow title box at the top center containing the text "L'empreinte environnementale des repas dans les restaurants collectifs". Below the title box, the question "Selon vous, quels seraient les aspects les plus importants à faire évoluer ?" is written in bold black font. The slide is decorated with images of fresh produce: tomatoes in the top left, a slice of bread on the right, and a bunch of green herbs in the bottom right. At the bottom, there are logos for "Project Partners" including "Maison de la Bio", "PECT", "U30", and "Soil". At the top right, there are logos for "Interreg France (Normandie) England", "Cool Food Pro", and the "EUROPEAN UNION".</p>	<p>When you make decisions about what you eat, or what your children eat, what factors do you consider most important?</p> <p>In your opinion, what are the main barriers to eating (and having people eat) "more sustainably" in the context of collectivity catering?</p> <p>If you already consider environmental factors, can you give us examples of what you think are the most important points?</p> <p>For example, how important do you think it is to eat seasonal, organic, local or have access to products with sustainable fishing claims, and also to have a vegetarian alternative?</p>

 <p>L'empreinte environnementale des repas dans les restaurants collectifs</p> <p>A quoi ressemblerait un outil web idéal pour s'informer et mieux s'alimenter? <i>(contenu, fonctionnalités)</i></p> <p>Project Partners</p> <p>Maison de la Bio, PECT, UBO, SOI</p>	<p>What does it allow you to do? Who uses it? When is it used? What is it used for? What would cause it not to be used? What would help it to be used? Would an environmental impact score, for example on CO2 emissions, influence your consumption choices, or those of your children? What formats would you consider appropriate: numbers, visual representation, equivalence? Are you interested in this information? Where would you like to find it? If so, with what other information?</p>
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2. Results

The focus groups investigated how diners in France and the UK perceive the environmental footprint of out-of-home meals, taken in institutional catering.

The area spontaneously cited to improve carbon footprint was above all to limit the transport distance of food ingredients used, while linking it to the overall impact of the product, from field to plate. The vast majority of diners do not have a very precise knowledge of the different impacts, though transport from site of production to place of consumption appears to be the determining factor. This local supply character often goes hand in hand with a product that follows agricultural seasonality of produce, coming back to the idea of consuming something grown as close as possible to the place of consumption. The consumption of organic products is sometimes cited, and mostly when diners express themselves on their home practices. This aspect seems to be more pronounced in England than in France, although the environmental benefits of organic produce are not explicitly highlighted.

Reducing meat consumption is also mentioned quite spontaneously as a way of reducing greenhouse gas emissions. This is followed by the reduction of waste, especially plastic, and food waste.

It was observed that **the environmental footprint is mainly associated with the CO2 footprint of the meal** and that other parameters, such as water quality or the preservation of biodiversity, are not (spontaneously) addressed.

The underlying motivations for having a more sustainable diet, whether at home or in the context of collective catering, are based, as is now well identified, on the two pillars of environment and health, which are, for some diners, very much linked.

We present here the characteristics of the specificities of meals taken in institutional catering with regards to their impact on the environment and the perception that the consumer has of his role in improving it. We then describe the actions favoured by diners to improve the environmental footprint of meals.

2.1. The specificities of the meal taken in collective catering

The focus groups carried out with diners revealed five characteristics of consumers' perceptions of the meals they eat in the collective restaurant(s) they use. Some of these characteristics can apply to all meals, whether taken at home or out of home. Examples are the lack of awareness of the environmental impact of meals, or the importance of taste over other characteristics. However in both cases, the fact of not being the designer of the meal or the purchaser of its ingredients increases expectations of consumers. After describing these different characteristics, we propose an explanatory diagram of how they interact and how they lead to a reduced sense of environmental responsibility regarding the content of the plate for the collective catering customer.

2.1.1. The feeling of not having a choice

One of the recurring elements in the discussion of the guests is the fact that they feel they do not really have a choice when they eat in institutional catering. This is obviously more or less

true. An elementary school student is offered only one choice of menu, the same goes for some hospital patients or senior citizens living in retirement homes. On the other hand secondary school student from key stage 3 to 5 will have options to choose from. For some high school students, and even more so for students or employees with a company restaurant, going to the canteen is not a requirement as there are alternative options: buy a sandwich or a salad or bringing a packed lunch. In some cases this is the only this solution , if there is no canteen.

This particularity has long been identified (Poulain, 2002, 2017). In a canteen, the consumer is considered as a user (Crédoc, 2014) who depends on the institution and cannot consume according to his or her own criteria, but only according to the choice offered to him or her, or even imposed on him or her, and has few means of making himself or herself heard (Dubuisson & Quellier, 1999).

Therefore, the service provided by the catering industry is mostly a captive service. Captive services are services that are provided in a non-competitive system or through processes that limit consumer choice, control and power (Rayburn, 2015). This type of service can be found in public services (passenger rail, postal mail, health or social services).

This perceived imbalance in the service relationship (both in terms of expectations and choices offered) leads to a captive service in which the user perceives or actually experiences a lack of power, voice and choice.

We will see that this has an important influence on the consumer's perception of his or her personal responsibility in reducing the environmental footprint of his or her catering meal.

2.1.2. Lack of awareness of the environmental impact of meals

A second element shared by the people we interviewed is the lack of awareness of the environmental impact of the meals they eat, whether in the catering industry or at home. This lack of awareness is reflected in the difficulty to imagine the impact of everyday actions and choices. An exchange that took place between diners during one of the focus groups (FG1_FR) illustrates this difficulty:

M: *"It's the fact that we don't know the impact of our actions. So here we are, we set ourselves challenges to reduce meat and well, in the overall scheme of things, we don't really know how we can contribute to reducing greenhouse gases, or CO2.*

C: *"Because if this project is equivalent to skipping only two meals with beef over a year, on an individual scale, then it's within everyone's reach and it seems feasible. But at this point, it's within everyone's reach and it seems feasible to me. It's good and it's not even ambitious enough. It's too little.*

The fact that the discussion focuses on the impact of meat reduction is not insignificant. Several studies have indeed shown that European consumers still do not perceive the real impact of meat consumption in terms of greenhouse gas emissions (Hartmann & Siegrist, 2017).

2.1.3. Taste is everything

Several participants in the Focus Group pointed out the importance of taste quality in their choice of menu in mass catering. The importance of taste is not specific to mass catering, but the testimonies gathered show that the context of out-of-home consumption reinforces the weight of this aspect compared to the domestic context.

G (FG3_UK):

"Okay, well, at home, everything we buy is usually organic, so it's usually local, from the organic farm we go to. So we're pretty good at home. At work, to be perfectly honest, I don't know where the food comes from. [...] When I go out for a meal [at a restaurant], I'm usually guided by my stomach, to be perfectly honest. So anything that goes, goes. [...] . So it's not about being directed by what's served, which is the red meat or the chicken. To be perfectly honest, it's just what's going on that night."

This is a decisive criterion when it comes to taking advantage, or not, of the collective catering offer for those who have this choice.

S (FG2_FR): *"In fact, the pleasure of eating is also part of it. I don't know about me, but we have to enjoy eating too, because it's an important part of the day. [...] I have to eat either here when I'm in the lab, or bring a bit with me, but I'm a bit sceptical. I'm not very comfortable with this image of the sandwich, finally, which is too big, not diversified and not delicious."*

In addition, the problem of the taste of vegetarian menus, and more particularly the taste of vegetables, is frequently raised.

A (FG2_FR): *"I agree that often either the vegetarian option or the vegetable option on the side, without being a real dish, is not very attractive, it is not very sexy. What to eat then? I had a phobia when I was in primary school of gingham carrots that were cut in a zigzag pattern. They were the Sodexo steamed carrots in plastic trays. And I really like carrots, it could have put me off for life because it really wasn't good. And it was really a steamed vegetable with no interest at all."*

2.1.4. The problem of perceived accessibility

In the student population, the problem of accessibility to a more environmentally beneficial offer comes up regularly, particularly in England, whether this is seen as an impossibility for institutional canteens:

S (FG1_UK): *"I know it's not always something that's accessible to institutions because there's obviously costs and stuff, but in terms of organic practice, that kind of thing is really important to me."*

Or because of the higher cost of organic products:

L (FG1_UK): *"I always intend to buy organic products, like vegetables and stuff, but it's so much cheaper to buy a normal cucumber rather than an organic one."*

The fact that diners do not always have a choice, that they are not able to assess the impact of their choice when they have it, whether it concerns the weight of animal products or the weight of transport or growing methods, leads to a kind of dilution of social norms regarding food.

2.1.5. Other people's views: a variable weighting on behaviour to reduce the plate's footprint

During the second wave of focus groups, carried out in France, we focused on the weight of other people's views on food choices during meals in university restaurants. It emerged that food waste was the only point of consensus, modulated by the taste quality of the meals offered. Students may feel guilty about not finishing their plate and try to limit this waste by asking for portions adapted to their appetite when possible, or by limiting the number of pieces of bread put on the tray. Some also expressed judgement about students whose trays went back half-full of food, while pointing out that this was not necessarily their fault, as the dish was bad or they were not always allowed to choose their portion.

On the other hand, the choice of the origin or quality marks of the product is not discussed. In other words, there is no consideration of their peers in terms of choosing an organic or locally sourced menu. This can be partly explained by the lack of information in this area, but not only. There is no moral pressure to choose these types of foods. This is even more so when it comes to meat. Indeed, whether it is for students or children, the lunchtime meal in collective catering is seen as an opportunity to eat "the required amount" of meat at a reasonable price, the daily meal with no meat being taken at home in the evening.

However, some respondents pointed out that because of the current structure of the offer in canteens, the norm remained in favour of the meat offer, and that the removal of mentions specifying that a dish is vegetarian could be a solution to reverse this social norm.

A (FG2_FR): *"Sometimes, the vegetarian dish could be the only offer, or there could be a choice from several vegetarian dishes only, instead of a single vegetarian option alongside 5 or 6 meat options. [...] I'd like to see, but do not believe, that meat offers would disappear. There could be an equal offering between meat and vegetarian... So, um, yes, seeing as many vegetarian options as there are meat options would be a good thing. Then people would start to see you can replace the meat-protein by plant-protein."*

2.1.6. The low sense of responsibility for the footprint of the plate

Through this series of focus groups, we observed that the feeling of responsibility of diners regarding the environmental footprint of meals taken in collective catering is generally low. When individuals are aware of the impacts and wish to take action, this sometimes leads them to abandon the use of out-of-home catering services, as this guest explained so well:

X (FG1_FR): *"That's why I don't go to collective catering [packaging, waste], our use takeaway. I'm a salesman, so I'm always on the road, and never eat in the same place, and eating in a takeaways generates a huge amount of packaging and waste. Let's say that I can also go to a sandwich shop and just have a little paper wrapping to put my sandwich in, but then I have to fight not to take a dessert, fight not to take drinks. Well yes, because in fact, they always offer you, for the price of your sandwich, almost free dessert and free drink. So, what I do is make my own sandwiches, and bring my own drinks."*

Another guest concluded that "*you can't really be green when you eat out*" (C-FG1_FR), implying that the responsibility for this state of affairs does not lie with the guest but with the offer that is made available to them.

2.1.7 A situation that raises questions about the respective roles of demand and supply

When we try to articulate the different parameters we just described, we arrive at a situation that raises questions about the respective roles of demand (the guests) and supply (what the institutional catering actors can offer).

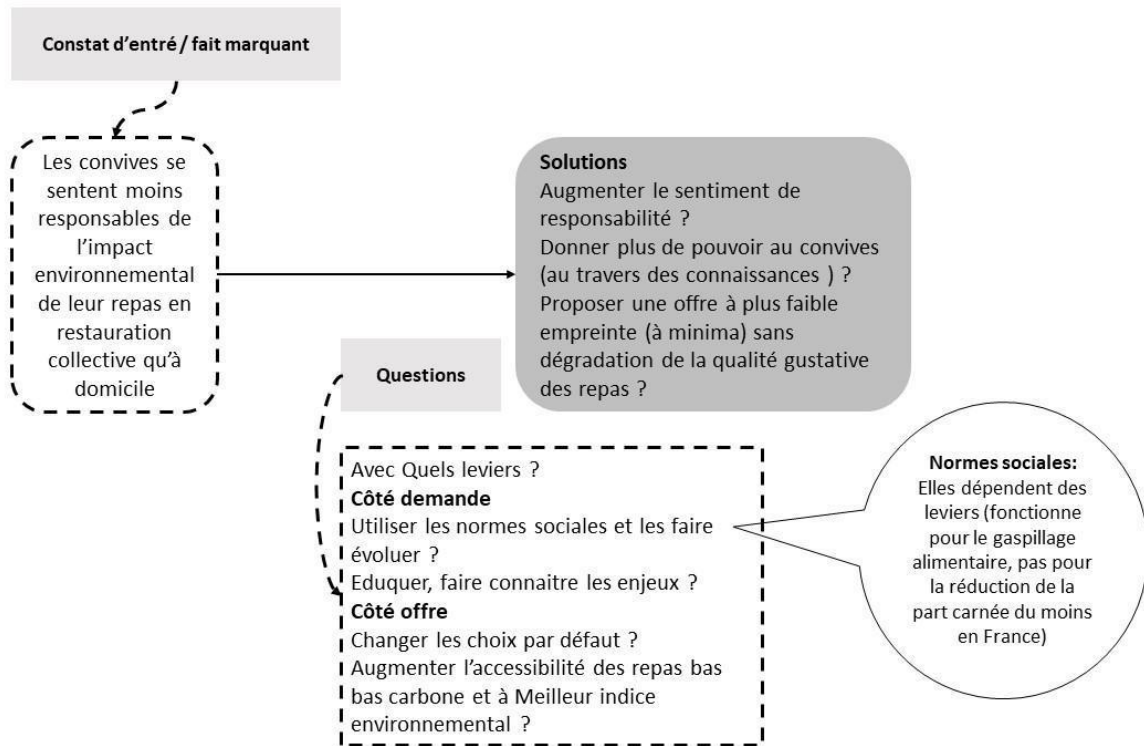
The concept of consumer *social responsibility* (CSR) is not new (Caranua and Chatzidakis, 2013) and includes environmental responsibility. It is the counterpart of CSR for organisations, whether public or private. However, when focusing on the perceptions of individuals more specifically on environmental responsibility, it is mainly about understanding and addressing the consumer's sense of environmental responsibility (Luchs and Miller, 2015).

In the case of large-scale catering in both France and England we found there was a low sense of responsibility regarding the canteen meals environmental footprint. The results suggest that this phenomenon is all the more pronounced when the guest feels captive to the catering offer available to him. We found that individuals do not measure their impact well, that the taste of the meal is very important, especially as the lunch break should be a moment of peace and relaxation in the working day, while remaining financially accessible. Finally, we also saw that while certain social norms can be used, particularly those relating to food waste, this is only a partial lever. In other words, the format of the offer, its accessibility and the selected choices offered to diners seem to be just as important as the individual choices of the diners.

This system makes it possible to distinguish between two types of levers. The demand can modify individual choices, and the supply can react to an already existing demand or little by little modify social norms. On the demand side, two levers seem relevant: *nudges* to reinforce the action of social norms, mainly anti-waste, and knowledge. On the supply side, it is mainly a question of changing default choices and making them financially accessible.

Figure 1 summarises these results, which we will now compare with the actions that were voted for by the guests we interviewed.

Figure 1: Consumers' sense of responsibility for the environmental footprint of catering meals and possible actions



2.2. Actions favoured by diners to improve the environmental footprint of catering meals

The expectations of diners in terms of support for reducing environmental footprint of canteen meals in institutional catering can be summed up in three categories: more information, being able to measure one's personal impact, and flexible tools allowing access to levels of information depending on one's curiosity on the subject. This flexibility also enables to adapt to different audiences, especially children.

The feeling of not having enough information is unanimously shared by the guests. However, there are two types of expectations in terms of information. On the one hand, indicative information, such as the origin of the products, which finally enables the quality of the offer of the restaurant to be assessed. On the other hand, information that could play a more

decisive role in the choice of diners, when they have it, such as a coloured indicator (like a green light), or a value, for low-carbon or "good for the planet" meals. This form of information is more about quantifying its personal impact for the consumer and being able to improve it.

In addition, there also seems to be a general lack of information about balanced nutrition. For example, a guest mentioned interest in a double labelling of dishes, including the caloric value and the CO2 emission rate, to be able to benchmark dishes. The question of the correct amount of animal protein, especially for children, was also raised. There is a need for guidance on how to balance health and environmental considerations. The importance of the source of data (scientific, medical) was mentioned. There are many ways of providing this information: paper guides, labelling of dishes, signs, traffic lights, information on menus, QR codes, applications for monitoring one's own food emissions, information in the form of posters at the place of consumption, etc.

We note that events are popular in the university sector, in addition to more daily information through existing tools such as the payment application used for university restaurant. Awareness-raising for children was mentioned, for example through farm visits. For adult public, the prevailing view was to use existing communication streams such as the company's website to access information.

The last striking element that emerged from the focus groups was the desire for flexible information communication formats enabling to go different levels of information, adapted to the target audience. One of the interviewees, engineer by profession, explained there could be statistics in form of graphs about the footprint of the restaurant, which he would like to have available on his company's intranet. This form would be suitable for the target audience:

"Just the facts. I mean, everyone at Rolls Royce is a statistics expert anyway, so they understand, you know? They're all driven by statistics. So you could see it as a visual, and seeing a reduction or increase in the carbon footprint of the canteen would work."
(G, FG3_UK).

This need for adaptation was also emphasised in relation to children and parents in the school environment. Parents emphasised the need to have two levels of information: for parents, similar to what we described for adults in general, and a more pictorial communication for

children about the impacts of food, such as comparing the size of an animal and the emission of a dish. This idea of adapted communication extends to information such as tips or recipes:

"To have this aspect of advice and recipes adapted to children, that is to say with easy recipes that I can make with my dad, my mum. (L, FG2_FR)

There is therefore a real need for information and evaluation tools on the effectiveness of choices in terms of environmental footprint, and mainly in relation to CO2 equivalent emissions. These tools should be flexible and consider the target audience. In most of the cases mentioned, digital technology is used, and in the case school-children and students, additional awareness-raising activities at the catering site or as part of school programmes.

3. Recommendations

The recommendations we can make at the end of this series of focus groups can be grouped into three points.

3.1. Raising awareness to diners about their responsibilities, in addition to modifying the offer

The first point is to consider that catering is a service for which diners are more or less captive (more so in hospitals or schools and less so in company catering or in universities). When the consumer has no choice, the approach must come mainly from the supplier who is responsible for the change. Where consumers have a choice, information, nudges, and awareness-raising events are tools to engage that will accompany the change in supply.

This means more than changes coming from eating habits at home, the food transition in the catering industry must come from the suppliers. The idea that diners should be the driving force behind the change cannot work, and it is a joint evolution that can only take place under certain conditions.

3.2. Do not neglect the hedonic character of the dishes and the cultural coherence of the menus proposed

One of these conditions is the modification of the content of the plate maintaining taste quality and cultural coherence. This is a major point. In the focus groups, particularly in France, we clearly revealed the obstacles to the 'vegetalisation' of meals, whether it is a question of increasing the proportion of vegetables or introducing foods rich in plant proteins, such as legumes. We believe that this reluctance stems from two distinct facets.

For foods such as vegetables, which are part of the traditional composition of the plate, this is mainly a taste barrier. Improving the taste of the vegetables served, no longer considering them as a simple "side dish" but as part of the main course is certainly a way to pursue.

The reduction of animal proteins on the plate directly affects the traditional composition of the dish or menu. Certain options already used by the catering industry make it possible to replace meat with eggs without affecting this composition. This is also possible using the generally ultra-processed alternatives, such as vegetable steaks. Finally, for some recipes based on a single dish, the substitution is less obvious, as in lentil-based Bolognese or vegetarian lasagne. However, the question of the traditional composition of the dish and the 'default' choice remains and was mentioned by the diners we interviewed. The scope is then of gradually modifying cultural references of the eaters and deconstructing the traditional dish made up of the trio "meat/animal protein" + "starchy foods" + "vegetables". World cuisines are a source of inspiration in this area and offer many dishes combining a starch with a legume and vegetables. Cooks in public catering are increasingly taking advantage of this, through Dahl, vegetarian couscous or Chili sin Carne, which are an interesting way to change our food culture.

3.3. Relying jointly on social standards and default supply

This evolution of culinary social norms can be supported by nudge approaches that gently encourage diners to conform to expected norms. As described above, diners are most likely to be receptive to gentle incentives regarding food waste. For meat consumption, research shows that this is more uncertain (Hartmann and Siegrist, 2017). However, it can be hypothesised that a greedy, vegetarianised offer, becoming the default offer, should make the consumer increasingly receptive.

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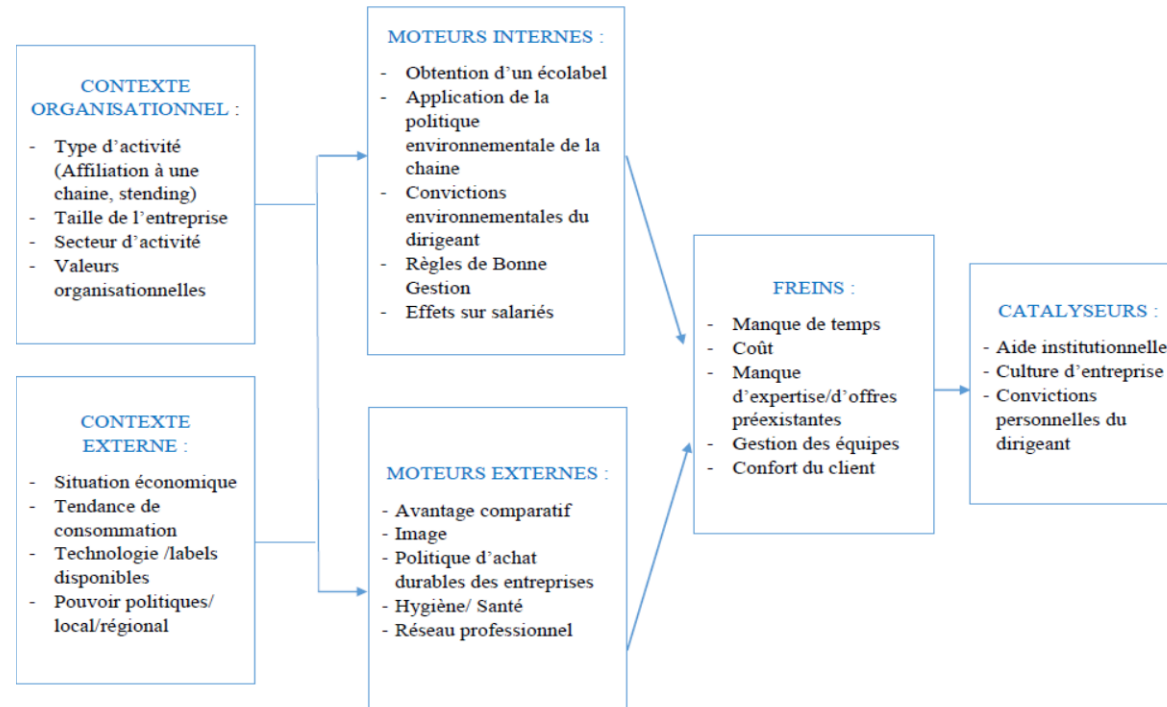
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Annexes

Annex 1. Model environmental commitment of hotels¹⁷



Source: François-Lecompte and Gentric, 2013.

¹⁷In François-Lecompte and Gentric (2013), the institutions, public authorities and CCI, are mentioned twice:
- one in catalysts, supporting the will of the manager in independent hotel structures, in the form of training and/or financing,
- the other in the external context, in the perspective of territorial development, without further specification.
We have grouped the action of these institutions in the external context.

Annex 2. Interviews conducted: institutions involved, people met¹⁸

Establishment	Type	Status	Degree of commitment EGalim	Category of actors	Function
CHRU Brest	Hospital	Public	2	Governance	Catering Manager
				Governance	Deputy Logistics Manager
				Governance	Operations Manager
				Governance	Head of hot preparations
				Governance	Quality Manager
				Governance	Dietician
				Operational	Head of self-catering and boarding schools
				Governance	Kitchen Manager
				Middle management	Kitchen Manager
				Governance	Food Buyer
				Operational	Care assistant officer
				Operational	Team Leader
Fontaine Blanche College, Plougastel	School	Public	5,75	Operational	Head chef
				Governance	Assistant Manager
Central kitchen, Plouguerneau	Community	Public	7,75	Governance	Deputy DGS, TAP project leader
				Middle management	Head of Central Kitchen
IZEE	Restaurant (7 locations)	Private	8,25	Governance	Co-manager
				Middle management	Restaurant Manager
				Middle management	Production Manager
Golden broom	Association	Private	4,25	Governance	Director of catering, AGORES administrator and departmental delegate
				Governance	Kitchen Manager
				Middle management	Head of Department
				Middle management	Kitchen Manager
				Operational	Duty Officer
Société Bretonne de Restauration et Services (Sodexo Brest)	Provider	Private		Governance	Supply and Logistics Manager
				Governance	Regional Purchasing Manager
				Middle management	Client Manager
				Governance	Central kitchen manager (DSP)
City of Brest and Metropolis	Community	Public	8	Governance	Elected city councillor for "nature in the city, short circuits"; elected metropolitan councillor for "sustainable food, short circuits and metropolitan food plan".
Lorient Agglomeration	Community	Public		Expert	Agriculture and Food Officer
INRAE	Search	Public		Expert	Food engineer, doctor in human nutrition (HDR)
MAB29	Association	Private		Expert	organic farmer

¹⁸ The degree of commitment of each structure is estimated on the basis of an average of the scores attributed to the 4 key measures of the EGalim law and indicated in appendix 3: the offer of quality products (at least 50%, of which 20% organic), more vegetarian menus, information for diners, reduction of food waste. A rating scale from 0 (no action) to 10 (100% commitment) was used with an evaluation based on the diagnosis of practices, carried out by other members of the consortium in the framework of the CoolFood Pro project.

Annex 3. Assessment of the degree of commitment of the beneficiary sites

Site bénéficiaire	Offre de produits de qualité (au moins à 50%, dont 20% de Bio)	Plus de menus végétariens	Information des convives	Réduction du gaspillage alimentaire	Note Globale
CHR Brest	1 0% de Bio, un peu de label	2 Pas vraiment de menus vege prévus, ou de manière très ponctuelle	2 Très peu de com pour le moment, quand bio, écrit au marqueur dans le self	3 entre 22% et 40% de GA indiqué par les diet. lors de pesées ponctuelles. qql efforts déjà fait	2
Collège Fontaine Blanche	5 Pas de données actuellement sur % produits durables, et 19% de Bio	7 1 repas VG / semaine	7 Coms sur les menus, rampes, etc.	4	5,75
Cuisine Centrale de PLOUGUERNEAU	8 50% de produits durables, dont env. 33% de Bio"	7 1 repas VG / semaine	8 Coms sur les menus, site mairie, panneaux ardoises	8 60g / convive en moyenne	7,75
IZEE	8 Déjà beaucoup de bio, non mesuré	10 Options VG tous les jours	8 Tout est mentionné au client, différ. concurrence :)	7 pas mesuré mais pas trop de GA à priori	8,25
Les Genêts d'or	4 10% de Bio + env. 5% de produits sous autres labels	4 Plats VG 2 à 3 fois par semaine le soir 1 fois par mois le midi	6 Coms sur affiches	3	4,25
Société Bretonne de Restauration et Services (Sodexo Brest)	10 75% de produits durables, dont 69,79% de Bio	9 1 repas VG / semaine actuellement, et la Ville demande à ce qu'un repas VG en + toutes les 3 semaines soit proposé à partir de Sept2022	9 Lettres de menus, logos sur les menus, site internet, etc.		
Ville de BREST				4	8

