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The Profit-with-purpose Corporation Confronted to Grand Societal challenges: Insights From the Study of a Formulation Process

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Abstract

The commitment of corporations to the contemporary Grand Challenges is a growing collective demand and yet suffers from a large deficit of credibility. In this context, new governance schemes built around the expression of a freely formulated mission are emerging behind the name of profit-with-purpose corporations. In this paper, we rely on a single case study of a company that has recently formulated such statutory mission in order to build on the conditions for a credible and robust commitment in the context of Grand Challenges. In terms of results, we highlight the interest in building the commitment around the efforts to be made, rather than current or past contributions.

Key-words : profit-with-purpose corporations; mission ; grand Challenges.

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Introduction

In a context of grands challenges, businesses are more and more considered as inevitable protagonists, and as such, solicited to be actively dealing with sustainability issues while staying economically competitive, including by deploying adapted business models, by designing products or services more directly involved in the management of their impacts (Martí, 2018). However, the efforts claimed by companies in these directions, often take on a suspicious character, to the point of blaming growing concerns about malicious practices, qualified as greenwashing (de Freitas Netto et al., 2020; Vollero et al., 2016).

Behind this lack of credibility, associated in particular with the difficulties of standard self-regulation schemes, voices are being raised to plead in favor of sustainability practices that push for more accountability, and there are many calls for renewed governance schemes, including through the law (Levillain et al., 2018). The emergence of a series of legal innovations, clustered behind the profit-with-purpose corporation (PPC) category, is also proposed as a means of working in this direction (Murray, 2012; Segrestin et al., 2021). As in France, with the creation in 2019 of the "*société à mission*", these legal forms have in common that they allow companies to specify in their articles of association a freely formulated purpose, which as such becomes a binding commitment, and to dedicate to this purpose a specific governance and reporting conditions to it.

The rapid increase in the number of companies formulating such missions raises new questions and in its very structure incorporates a paradoxical character. On the one hand, the free definition of an opposable purpose or "mission" is an original feature of the governance scheme of the for-profit corporation. The mission, or rather its content, becomes the basis for

what the company believes it must express in the first place as promises of responsibility, in content and scope, and consequently provide evidence of regular achievements in this regard. On the other hand, the definition of the mission seems to fall within the scope of a delicate exercise, especially in a turbulent context linked to major challenges. First, It is expected that this written object be sufficiently precise and stable over time to appear credible to those to whom it is expressed. At the same time, it must be able to express itself sufficiently broadly so that in the face of the complexity of major challenges and the degree of uncertainty that the future hold, does not trap the one who expresses the promise

Also, the mission as a new object of commitment and its freedom of enunciation raises the question about of the attributes of a "well-formulated" mission, as well as the principles of formulation and the methods for carrying out such projects of formulation. Therefore, in this research, we specifically investigate the nature of these commitments that can be expressed by businesses through these new governance schemes, and consequently, and consequently, can the formulation involve any new risks, in the context of grand Challenges ?

The article is structured as follows. First, we recall the specificities of grand societal challenges identified by the literature to understand what kind of managerial requirements is to be expected from a corporation which claims to address one of those contemporary challenges. This review highlights the complex, multi-level and multi-dimensional nature of these challenges, thus requiring not only joint efforts from heterogeneous actors, but also that companies adopt an exploratory stance building on product, service and social innovation, as well as acknowledging the entangled interdependencies of societal issues and expectations—so-called “wicked problems”. Concerning the question of the formulation of the mission, the review finally clarifies a research gap by highlighting the ambiguous nature of the responsible positioning of companies with regard to GCs, which consists of both taking into account the interdependent nature of the phenomena involved and accepting a form of unknown in the

knowledge of the issues at stake and their future dynamics. However, claiming a responsible stance that articulates these two dimensions still remains a paradox.

Then, we carry out an exploratory case study with a company that has recently conducted a mission formulation project. In this study, we seek to analyse the way in which the formulatory difficulties predicted by the literature were dealt with, in particular with regard to the management of interdependencies and the unknown. In terms of results, this work provides insights into the way in which critical interdependencies will gradually be taken into account, as well as the issue of managing their propagation. This leads to a major reworking of the initial proposals resulting from standard reporting mechanisms such as CSR policies or impact reports. Instead of designating a specific effort, the reformulation work progressively carried out by the company tends rather to express the characterisation of what we call “Not-yet-designed”, the substantive commitment is here based on the main efforts to be made, in terms of learning and building alternatives, to make credible over the long term, sustainability projects which are experiencing considerable uncertainty in a context of GC.

On the theoretical level, the research is intended to contribute to a better understanding of the issues associated with the requirement of mission formulation in a context of great challenges. On a practical level, it aims to provide a reading grid to navigate the diversity of these statutory missions.

Literature review

The corporation facing the paradoxes of a responsible business approach

Expecting from businesses that they be responsible can build on a whole range of definitions, from the frameworks on sustainable developments (such as the UN SDGs) to the “do not harm” and “do good” components of responsible innovation (Voegtlin & Scherer, 2017). However, a consensus has now emerged in management literature that the urgency of current

social and environmental crises requires more than an incremental adaptation of existing business practices, because these are not solutions to such “wicked problems” (Pradilla et al., 2022; Reinecke & Ansari, 2016). We propose here to adopt the Grand Societal Challenges (GSC) framework to highlight the key characteristics that expected from companies when qualifying the responsible character of their action (Voegtlin et al., 2022).

Grand challenges as a theoretical lens

The theoretical perspective of grand societal challenges has been popularised by Ferraro et al (2015). The authors propose three main characteristics to group into one concept the variety of these environmental, demographic, economic and social issues that call for both interdisciplinary and cross-sectoral innovation (Mazzucato, 2018). Thus, the three main characteristics are their complexity, their uncertainty, and their value-bearing character (sometimes referred to as evaluative).

The first characteristic is that a grand challenge is a complex phenomenon. This complexity is characterised by the fact that it brings into question numerous interactions between objects, individuals, or physical phenomena, and that the latter respond to singular dynamics, sometimes non-linear and on multiple time scales. Thus, the elements constituting these challenges, their nature or root causes, as well as the paths leading to their resolution are difficult to conceive in the state of available knowledge (Veers et al., 2022), or require sophisticated forms of multi-actor cooperation (Reinecke & Ansari, 2016).

The second characteristic is linked to the multiple uncertainties surrounding its evolution. Within the limits of current knowledge, the very nature of the problem and its probable evolution seem difficult to anticipate. It is complicated to identify possible future states of the world on which to base decision-making. Therefore, managing in consideration of a grand challenge does not refer to a standard decision-making situation, or project management

(Kuhlmann & Rip, 2014) but rather to a situation of radical uncertainty, or even of unknown. Rather, grand challenges refer to heterogeneous factors and forces to be mobilised, managed, and considered in action (Elmquist et al., 2019).

Finally, GSC are considered to be evaluative or value-laden problems. The scale of the problem and its determinants inspire multiple readings depending on the actors involved. The fact that the phenomenon transcends borders (territorial, physical, jurisdictional), implies multiple value criteria, and may bring new concerns as it is explored. Depending on the socialisation or and worldview of the actors involved who interpret them, they can be understood in multiple ways (A. Gümüşay et al., 2020). "*Solutions to wicked problems are not true-or-false, but good-or-bad*" (Rittel & Webber, 1973, p. 162). So, given the characteristics of these challenges, how can we assess the company's capacity to be a "force for good"?

Two main levers of action for companies are highlighted in the literature. On the one hand, companies' sustainable behaviour towards a grand challenge first includes managing situations of tension generated by multiple interdependencies. Those constituting the complexity of the phenomena at work first, and those linked to the joint pursuit of divergent goals, such as economic profitability. On the other hand, in the face of the unknown, research highlights the imperative need to be able to give ample space to learning, experimentation and the design of original responses.

Facing the interdependencies between societal issues

Management research has pointed out the numerous and consequent transformational issues to be solved to develop more virtuous behaviours and practices for business activities throughout their value chains (Martí, 2018). In terms of managing the complexity and uncertainty associated with GSC, Voegtlin et al (2022) emphasise the interest of reflections in the field of corporate social responsibility (McWilliams et al., 2006; Wilburn & Wilburn, 2015), since

this current has made it possible to extend the strategic concerns of companies beyond their usual perimeter, by explicitly expressing commitments and taking into account sustainability issues. Nevertheless, the authors also point out a major limitation of these approaches, which are resolutely "inside-out", i.e. they largely favour an interpretation of the phenomenon based on the interest of the company (Fu et al., 2020) and a limited capacity to take into consideration the interdependent and interrelated nature of the phenomena (Ferraro et al., 2015).

Other forms of commitment aimed at addressing sustainability challenges reflect more assertive postures in the face of interdependence and are found within pro-social enterprises (Dacin et al., 2011; Seelos & Mair, 2017). Here the search for sustainability is understood as having to coexist with other divergent goals, natively creating forms of interdependence that need to be managed (Davies & Doherty, 2019; Haugh & Doherty, 2022). These situations of tension are sometimes considered paradoxical and have received increased attention (Battilana et al., 2015; Jay, 2012), for example in the context of microfinance (Battilana & Dorado, 2010; Beisland et al., 2021). In relation to the grand challenges, these pro-social enterprises have interesting characteristics because the action directed towards different stakeholder groups opens up a wide field of social innovation, but in return they regularly expose themselves to difficulties in taking into consideration the value-laden nature of the big challenges (Voegtlin et al., 2022). Focusing too much on one group of beneficiaries, for example, can be detrimental in this context.

Dealing with the unknown pervasive to grand challenges

The literature on grand challenges also reveals a form of radical uncertainty, or unknown (Elmquist et al., 2019), when considering the future of companies' activities.

Recent work has explored the interest of a socio-cognitive posture, such as those of robust action, in facing a grand challenge (Grimes & Vogus, 2021). A project to transform companies in search of greater sustainability involves multiple forms of uncertainty regarding both the means to be used and the results - or impacts - that can be expected, both in nature and in scale. For companies that are proposing to explore highly original approaches and innovative products and services to meet these social and environmental challenges, the research shows that they are in an extremely precarious situation with regard to the future and that it is difficult to make the case for such innovations (see for example Veers et al., 2022). The principles of robust action integrate and insist, on the contrary, on the turbulent nature and the very strong evolutionary nature of the issues that give rise to responsibility, such as the grand challenges. The 'for good' action then must take another form, i.e., integrate both the constraints of today but also a capacity for reactivity and adaptation that is important in order not to mar its capacity for future action.

Research on—and practice of—responsible innovation (Owen et al., 2013; Voegtlin & Scherer, 2017), also points to the interest in pursuing an effort to design products, services and, more broadly, social innovations that are able to respond to grand challenges, but which, in this perspective, propose a simultaneous double responsibility for the designer with regard to the future. The first is the "responsibility to reach positive externalities": do good. The second is the responsibility to avoid harming people and/or the planet: do not harm. Acting “for good” therefore takes the form of the exploratory requirement imposed by the grand challenge, but proposes a reflexive posture, and increased vigilance with regard to the future consequences of the company's actions. In this respect, responsible innovation is based on a demanding representation of sustainability, understood as the capacity to meet the demands of

the present without compromising the ability of future generations to meet theirs (for instance, Garud & Gehman, 2012).

In summary: the management requirements regarding GCs implies an understanding of what is considered regarding two distinctive dimension (Table 1):

- assessing its efforts to a given issue - e.g.: fostering social inclusion or fighting poverty (Pradilla et al., 2022), but also managing the paradoxes or tensions between several issues, which intersect it (Mason & Doherty, 2016).
- appreciating the contribution of what is known today - but also recognition of the need to explore novelty: contribution by a means to be developed (Veers et al., 2022), to explore new desirable futures (Gümüşay & Reinecke, 2022) and to explore forms of vigilance against the unknown. e.g. the phenomenon of algorithmic opacity (Buhmann & Fieseler, 2021).

Table 1. Managerial requirements associated to grand challenges

	Engaging in today's sustainable practices	Facing the future unknown while transforming business toward greater sustainability
One sustainability issue or several separate issues considered as independent	<p>1° Challenge-specific contribution effort</p> <p>e.g. <i>poverty alleviation</i> (Pradilla et al., 2022)</p> <p>Or distributed contribution efforts: e.g. CSR policies Christensen et al., 2019; McWilliams et al., 2006)</p>	<p>2° Challenge-specific exploration effort</p> <p>a) by exploring new solutions that require significant learning e.g. <i>future of the wind turbines</i> (Veers et al., 2022)</p> <p>b) by engaging in today's activities while seeking to preserve futures capabilities (Grimes & Vogus, 2021) e.g. – <i>algorithms opacity</i> (Buhmann & Fieseler, 2021)</p>
Considering the system or strong coupling between sustainability issues	<p>3° Tensions or paradoxes management</p> <p>e.g. <i>pro-social activities</i> (Davies & Doherty, 2019; Haugh &</p>	<p>4° Commitment to a desirable future</p> <p>a) By maintaining society as a whole while imagining alternatives</p>

	Doherty, 2022) e.g – <i>microfinance organizations</i> (Battilana & Dorado, 2010)	(Gümüşay & Reinecke, 2022) b) By acting with vigilance against the unknown - Responsible innovation (Voegtlin & Scherer, 2017)
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Research gap ; Between robustness and credibility, the paradox of purpose as a commitment.

The management literature highlights the paradoxical nature of corporate action directed towards grand Challenges. It must be built both in consideration of the requirement for increased accountability (through measurement for instance) as noted in the CSR approach, while being able to integrate the tensions and dynamics of a turbulent environment. So then, this clarifies our research question : what is the nature of the commitment that makes this paradoxical positioning possible, and under these conditions, how are missions expressed today and to what extent do they intercept the concerns noted above?

Research setting: Following the formulation reasoning of a stated purpose within an energy company

Method and choice of case study

To address our research question, given the exploratory nature of the subject and considering that research targets the understanding of prevailing dynamics within specific environments (Eisenhardt, 1989), we have chosen here to rely on a single case study approach.

In particular, we were interested in the mission formulation phase, which constitutes the study of a contemporary phenomenon whose boundaries are not clearly evident and for which multiple sources of data are available and are used here (Yin, 1990), making the assumption that it would notably participate in shedding light on the requirements associated with a robust mission formulation, as well as on the practical difficulties of arriving at such a written object.

In this context, the authors followed the case of a French Energy corporation (here after F.E.C) whose main activity is to transport natural gas to industrial customers and public distribution networks. The authors had the opportunity to study and follow for several months - between the month of December 2019 and July 2020 - the different steps associated with a mission formulation project carried out within this company. This field observation work, supplemented by archival data as well as a series of complementary interviews with the main protagonists of the project, finally provides a fairly complete representation of a sustained reflection that mobilized several types of groups, before being adopted at the shareholders' meeting (Table 2).

Table 2. Type of data

Type of data		Period
Field observation	<ul style="list-style-type: none"> - Non participant observation of several meetings, including top executive levels, and group meetings with employees - Access to work documents : strategic roadmaps, CSR roadmap and policies 	Dec 2019/June2020
Interview	<ul style="list-style-type: none"> - Semi-structured interview & Follow-up interviews with the project leaders and a series of high-level experts on the main expertise of the company (6 experts, executive and top-level management) 	April 2019/Oct 2020 Follow- up interviews to be completed (2023)
Archives documents	<ul style="list-style-type: none"> - Documentation on prior Meetings and seminars related to the formulation project - CSR reports and presentation to the stakeholde committee - Statements of non-financial performance - Public documents : Regulatory documents and agenda, press releases 	2017 - 2020 Then 2021 – 2024

We gather in these data in particular the elements (forms and varieties of the commercial activities, stakes, activities or projects of transformations for example) whose mention required an intense work of discussion and which finally led to, on several occasions to propose a work of reformulation.

Also, in the analysis of the different stages and contents of the formulatory process, we will try to identify the main points and themes that have provided a formulary complexity. And we will try to code them according to the critical elements extracted from the literature (see table 1) considering their character a) interdependent or partially b) unknown.

Brief presentation of the case

F.E.C is a major operator in the high-pressure gas transportation sector. With around 4000 employees and a turnover of €2bn, F.E.C is a European leader in natural gas transmission. In France and through Europe, the company operates more than 32,000 km of buried pipelines to transport gas from suppliers to consumers connected to its network: public distribution services, powerplants and industrial sites.

Considering these simultaneous issues of credibility and robustness of corporate action in the face of contemporary paradoxes, the F.E.C case appears to be a particularly good example. On the one hand, its distribution activities are subjected to a particularly constrained regulatory context, which aims in the first place to guarantee the security of supply and equity in access to energy for the consumers, be it. On the other hand, gas is subject to a potentially major questioning of its place in a rapidly changing energy mix. As a predominantly fossil fuel, its acceptability and that of the associated network are now increasingly contested. As a result, the current public debates on the financing framework for the energy shift make the prospects for investment in the gas network, the potential for developing a renewable gas industry and the possible new uses of the network in the context of the energy shift are uncertain.

Faced with this fundamental question, F.E.C has begun to reflect on the formulation of its mission, perceived as a means of conceiving its role in a sustainable future and of dealing with the turbulence to come, in particular by providing a framework for thinking about the development of its activities. After several months of work, commissioned by senior

management, the company voted at its general meeting in October 2020 to include a mission in its articles of association, along with a new corporate project and a CSR policy¹.

Data Analysis

To initiate the project, a series of seminars was launched in April 2019 by the CSR department with the support of external consultancy services. It mobilized various audiences, including the executive committee, the corporation's community of managers, a group of volunteer employees bringing together the different colleges and territories, and representatives of stakeholders, notably via the Stakeholder committee, a consultative governance body.

Without claiming to be exhaustive, here are the types of topics discussed at these meetings. We group them into three dimensions.

- First, a strategic foresight dimension. For example, a seminar brought together the Board of Directors and the members of the Executive Committee. It focused on a prospective exercise aimed at defining plausible scenarios for the future of gas. In the same vein, another strategic seminar was responsible for specifying plausible diversification paths and developing market trends, including, for example, a rapprochement with electricity (sector coupling), the transport of new green or synthetic gases, support for the development of new production methods, and the development of new technologies, support for the development of local production, or other avenues linked to the provision of services.
- Then, a dimension focused on prioritising the group's responsibility issues. For example, a study of the links between F.E.C and the SDGs sought to identify the areas

¹ « Together, making a secure, affordable and climate-neutral energy future possible » (Originally in French, translated by the authors).

in which the activity could contribute to this international framework. In the same regard, the development of materiality assessment matrices and extra-financial performance diagnostics has provided a certain representation of the F.E.C's activities in relation to the expectations of its stakeholders. This focus also included a series of workshop organised from November 2019. It gathered a group of volunteer employees to help identify the main tensions in the sectors, as well as possible actions to be taken by the group to to restore the value of the use of gas.

The core of the reflection was therefore articulated around two main streams of thought. The first part of the strategic outlook highlighted the variety of possible diversification scenarios and the resulting prospects for the corporation. Some of the possible avenues, which diverged directly from F.E.C's main asset today, suggested the range of possible transformations and, consequently, the evolution of the associated responsibility issues.

It should be noted that all the scenarios presented in the forecast have in common the announcement of a reduction - more or less significant - in the volumes of gas consumed and the greening of the sector. Three main paths stand out in this landscape and indicate as many potential fields of innovation for the corporation and its business model. The first consists of preparing for the increasingly massive introduction of 'green gas' into a network, which today is mainly made up of gas from natural gas fields. The second avenue being explored is no longer transporting gas to energy consumers, but transporting or storing greenhouse gases (CO₂, methane, etc.). energy consumers, but to transport or store greenhouse gases (CO₂, methane, etc.) in order to fight against climate change, etc. with a view to combating climate change. Finally, a third route, which is further removed from the physical asset (i.e the distribution network and associated pipelines), consists of developing a range of services that take advantage of the corporation expertise, for example in the field of decarbonization.

At the end of the first few months, and mainly drawing on the legacy of pre-existing elements of responsible reporting in terms of wording, specifically in extra-financial reporting elements (such as materiality assessment matrices) - the working group within FEC made preliminary proposals for formulations that display an ambitious posture, whether in terms of positioning in the energy transition or as an exemplary player vis-à-vis its employees. As an illustration, it was proposed for the F.E.C to be *"a champion of the energy transition in a humane way"* or *"an orchestrator of the energy transition in the every local areas"*. These elements served as a basis for further discussions.

In addition, the reflection of the CSR department is being pursued, notably fed by a series of collective workshops initiated in November 2019, and completed in April and June 2020. They will have helped to complete the analysis in two ways. Firstly, by identifying a series of risks associated with the sector that could compromise any project aimed at defending ambitious transformations, and to make an inventory of the concerns expressed by the various professional branches. Secondly, this second stage proved useful in introducing into the discussion a number of elements that had not yet emerged in the preliminary work on the mission set out above.

First, This review shows that at all levels of the activities, starting with the collective perception of gas or its place in the energy mix, a variety of reasons generate uncertainties as to the possibility for F.E.C to express responsibilities or commitments in a credible manner, because some of these tensions are related to possible developments that are beyond its control, or these tensions that are illustrated at different levels of the sector, notably question the capacity of a company such as F.E.C., given its size and its involvement in the sector, to carry out the responsible transformations that it could display. This work associated with the risks of the sector was then doubled and completed by "an inventory of business concerns" and is summarised in the table below (Table 3).

Then, it led to the testing of the first drafts of formulations and to the identification of the difficulties of the first attempts at formulations resulting from the classic approaches of responsibility to arrive at satisfactory formulations with regard to the tensions thus expressed. In particular, it highlights a series of specific points that will justify important reformulations of the first attempts (title).

Table 3 Transformation dynamics of the energy and gas sector and associated risks for formulation

Type	Context today	Possible future risk	Coding
Collective representation/ desirability of gas	Gas is a relatively clean and easily accessible energy but classified as a fossil fuel. The climate emergency which tends to ban CO2 emitters, of which gas is one. This observation leads to fears of a progressive marginalisation of gas	Risk of rejection of gas as an energy and energy carrier even to the detriment of future new - possibly "clean" - gases	Pervasive Unknown
Socio-economic logic of the gas sector	The actor granularity of the gas sector tends to make all the players less responsible for the overall carbon footprint, by relegating responsibility for the climate to the other players in the chain	Risk of blocking ambitious initiatives in favour of the energy transition, on the grounds that no one will want to bear the burden. Problems of managing cooperation on the unknown: research, distribution, shared values, etc.	Interdependci es
Digitalization of the sector	A wave of digitalisation is sweeping through the energy sector, potentially providing access to new data and capabilities for action.	Uncertainties about the scope : a simple evolution or major changes ?	Pervasive Unknown
Reputation of the field	The energy sector exacerbates the dissonance between capitalist logics and environmental virtues. Profitability is based on continuous growth in flows.	Risk of significant dissonance with human resources. Employees' or recruits' aspirations in contradiction.	Interdependan cies
Network architecture	The network is built and optimised to be largely centralised	Difficulties in managing quality and integrating new production and consumption patterns at varying scales, most likely at a local level	Interdependan cies
Operational Performance Model	Grt gaz is a natural gas transporter whose model is based on: continuity of the network, energy efficiency, robustness, equality before suppliers and customers.	Risk of limiting activity to transport and not making the most of network expertise for the energy transition. What legitimacy do we have as a gas infrastructure operator in a hybrid and decarbonized energy system.	Pervasive Unknown

This last stage of the reflection will have finally inflected the initial perspective to a large extent and led to quite consequential re-interrogations regarding the way of approaching the question that we develop in the following section.

Findings of the case study

The type and source of initial proposals -

As we mentioned earlier, the company's initial resources for reflection were mainly based on non-financial reporting tools. The purpose of an extrafinancial reporting is to report on the main non-financial risks, the actions implemented and the quantified results achieved during a given accounting year or at the end of a plan running over several years - in this case, over the period 2017-2020 for F.E.C, at the time of the study. This exercise is here based on a "materiality" assessment. The materiality assessment matrix ranks a variety of risks to be managed by the company, according to two directions: 1) their potential impact on the company and its business model, and 2) the importance of these as perceived by external stakeholders. Following this logic, this leads to the identification of several "risks" and "opportunities" as priorities over the period under consideration. For example, the "Energy Transition and Renewable Energies" theme mentions the risk of not being able to compensate for the expected decrease in current consumption with opportunities linked to the energy transition. The performance indicators used here are the biomethane production capacities connected to the network and expressed in GWh/year. While this approach allows for the mapping of risks associated with sustainability, this study raised two potential pitfalls for the formulation of a credible commitment (See Table below). Firstly, it only reports on certain positive contributions resulting from the actions taken, particularly those that are most visible to third parties in the short or medium term - for F.E.C, for example, it is a question of reporting on the achievement of an objective in terms of reducing methane emissions or the

successful implementation of a waste recovery programme, but it does not allow us to draw up an inventory of the "work remaining to be done" and of the strategic choices that will determine the company's ability to deal with it in the years ahead. Here, for example, the efforts to be made in terms of industrial performance to operate a multi-producer and multi-fluid network are not addressed, even though they have in fact proved to be major in the subsequent discussions. Secondly, it leads to risks being dealt with in a "fragmented" or independent manner, even though they are strongly interconnected and potentially contradictory. For example, the theme of energy transition largely intersects with that of regulatory risks (evolution of green investments), as well as that of the obsolescence of business skills (the challenge of a so-called "fair transition").

	Engaging in today's sustainable practices	Facing the future unknown while transforming business toward greater sustainability
One sustainability issue or several separate issues considered as independent	<p>Challenge-specific contribution effort</p> <p>First formulations- inherited from the logic of materiality and pre-existing extra-financial reporting</p>	<p>Challenge-specific exploration effort</p> <p>N/A</p>
Considering the system or strong coupling between sustainability issues	<p>Tensions or paradoxes management</p> <p>N/A</p>	<p>Commitment to a desirable future</p> <p>N/A</p>

Limits of the first formulations in the face of possible crisis situations

In relation to this starting point, which is the logic of extra-financial reporting, the methodology then used to arrive at the task formulation consisted precisely in identifying the challenges that still require effort to be pursued. First, by drawing up a list of the main challenges perceived by the various business activities; then, by testing the provisional mission

formulations in the face of the possible crises that the corporation could be led to experience in the near future if the risks were to come to reality. This reflection revealed two phenomena that we will illustrate through two examples taken from the case study.

The first example highlighted the profound contradictions between the challenges of decarbonization and those of territorial energy solidarity, which for F.E.C meant that it was impossible a priori to position itself as a "neutral" coordinator of inter-territorial investments. Reconciling a variety of specific interests at the same time, such as promoting access to the system for new producers who would like to secure a new income through biogas capacity, and demanding that operational excellence be maintained throughout the system, in all aspects of quality, requires the design of new systems. For example, it would be necessary to have the capacity to manage a transmission network that receives a wide variety of gases in terms of quality and of a very heterogeneous nature.

This example, among others, confirms that there are interdependencies between the various issues on which the promises of responsibility are based. Considering these interdependencies is a delicate exercise, because the juxtaposition of independent promises can lead to possible contradictions, or even inconsistencies, and, ultimately, be a source of non-credibility. Whereas the Extra-financial reporting advocated taking risks into account separately, this case study highlights the need to take account of the interdependencies between issues at the level of overall consistency in order to assess the responsible nature of F.E.C's decisions.

Moreover, this case has reinforced the idea that the issues that are critical in terms of responsibility are partly unknown and respond to their own dynamics, over which F.E.C sometimes has little or no control. For example, its position (as a transmission operator) in the gas sector casts doubt on its ability to influence the perception of this energy carrier and the validity of its action in defending the virtues of gas as a resource for participating in the energy transition. Such a situation was illustrated in one of the meetings featuring in which

was raised by certain people within the project, namely the fear of having to "compartmentalize" between projects and employees who are involved in "green" activities and those who are not. However, the exploration carried out then tried, on the contrary, to explore under what certain technical conditions, gas can be a resource contributing to the development of intermittent renewable energies: for example, by offering opportunities for storage and thus being able to play the role of catalyst for the transition of the global energy system. However, in order to achieve this, and thus make F.E.C's plan to adopt a role as a "balance" of the energy system credible, it would seem critical to make commitments to maintain the research efforts needed to meet the challenges posed by the development of these solutions, and to specify the yardstick by which future strategic choices in this area will be assessed.

	Engaging in today's sustainable practices	Facing the future unknown while transforming business toward greater sustainability
One sustainability issue or several separate issues considered as independent	<p>Challenge-specific contribution effort</p> <p>First formulations – inherited from the logic of materiality and pre-existing extra-financial reporting</p>	<p>Challenge-specific exploration effort</p> <p><i>Pervasive unknown puts some challenge specific - effort at risk : effort to be maintain in terms of learning or research to reveal this unknown</i></p>
Considering the system or strong coupling between sustainability issues	<p>Tensions or paradoxes management</p> <p><i>Interdependencies issues puts some challenge-specific effort at risk: effort to be made to restore or protect a contribution under this circumstances</i></p>	<p>Commitment to a desirable future</p> <p>N/A ?</p>

Reformulation of the mission – committing to “not-yet-designed”

Ultimately, this leads to the conclusion that maintaining a responsible position in the future requires clarifying and pursuing learning that is important to address these unknowns. It is on

this condition that F.E.C will be able to claim to be a player committed to the energy transition and express a robust commitment toward a desirable future. Here again, the case study is a significant departure from the propositions derived from the CSR reporting materials. Whereas the latter was interested in the question of sustainability through the identification of proven elements of contribution, the reasoning developed through the case study pushes us to formulate the efforts to be made in the future to ensure that these behaviours are sustainable, which is what we refer to as "not-yet-designed" (see Table Below)

	Engaging in today's sustainable practices	Facing the future unknown while transforming business toward greater sustainability
One sustainability issue or several separate issues considered as independent	Challenge-specific contribution effort <i>Build on a fine representation of what challenge is to be addressed</i>	Challenge-specific exploration effort <i>commitment toward a effort to explore and learning regarding this unknown</i>
Considering the system or strong coupling between sustainability issues	Tensions or paradoxes management <i>commitment toward the effort to be made to protect or build alternatives in an interdependent context</i>	Commitment to a desirable future Second formulation step: identifying and committing to not-yet-designed

Discussion

Conditions for formulating a mission that meet credibility and robustness

The process of elaborating the mission at the level of F.E.C. finally revealed some of the requirements associated with the formulation of a mission for PPC, particularly in the articulation between its credibility today and its robustness for tomorrow. Firstly, by instilling the idea that the constitution of a credible commitment for the company can be based on a new representation of the way in which the company formulates its sustainability issues and, consequently, of the way in which it constructs its accountability.

The case here illustrated the interest of a specific exploration which involves extending this expertise concerning the position of the company in its ecosystem. This coverage work, in particular, leads to the identification of relatively critical interdependence nodes, as well as the identification of a certain number of general or sectoral dynamics, which are sometimes partially beyond the company's control but whose existence is likely to make it difficult to fulfil future commitments.

This makes it possible to make visible both the contradictions and the unknowns that would be likely to compromise a sustainable overall positioning. Rather than highlighting the contributions, this work underlines the interest of building the reflection on these critical elements, because they are the source of future risks in terms of sustainability, and consequently of building on those "unknowns", those that justify providing further learning and making the necessary efforts in terms of design to remove a visible or latent contradiction, or even, conversely, to maintain a desirable situation in a context that we foresee as being turbulent.

The most visible consequence of this work is the shift it proposes in relation to an approach to materiality. Rather, it pushes us to formulate commitments less as proven and independent contributions than as not-yet-designed efforts, on which it seems essential to formulate precise commitments, which aspire to manage the compatibility between several promises or to ensure overall coherence.

From a practical point of view: this suggests in particular the expression of commitments that are precisely aimed at these "not-yet-designed", whether in terms of the design efforts to be made to remove the contradictions that arise from interdependencies, or the efforts (including research) to be made to continue learning about the risks and unknowns to be removed in this specific context.

Contributions to the literature of Grand challenges

To describe the crises that accompany the grand challenges we are currently facing, the management literature mobilizes the perspective known as paradox (Jarzabkowski et al., 2019). According to this approach, the difficulty for companies to credibly position their actions in relation to these contemporary challenges, such as climate change or increasing social inequalities, is due to the scale, complexity and value-laden nature of these major challenges (Ferraro, Etzion and Gehman, 2015). Significant tensions, linked to the interdependencies between factors with divergent effects, result, and sometimes contradictory injunctions are emerging, as it should be possible, as of today, to prepare to make transitions in order to deal with dynamic issues, the future trajectories of which are still largely unpredictable.

Under these conditions, it is difficult to decide what the 'responsible' strategy would be, as any strategy risks committing the company to a direction that could prove contradictory to future emerging issues (Howard-Grenville et al., 2014). From this perspective, the responsible nature of action is expressed more in terms of robustness, i.e. acting today to maintain its ability to cope with a wide variety of possible future changes (Grimes and Vogus, 2021). But how can we evaluate strategic choices made today, the validity and consequences of which will only be assessed in the coming years? Another difficulty associated with the paradox's framework is that it promotes a 'reactive', case-by-case approach to emerging tensions, against which a genuine and sustainable corporate commitment becomes ineffective (Grimes, Williams and Zhao, 2019). If everything is subject to change, when a major challenge arises, what is left to judge the credibility of a past commitment, which may then be called into question? This concern reveals the fragility of the legitimacy of action as perceived by third parties, particularly those to whom commitments are expressed (Ebrahim, Battilana and Mair, 2014). The literature then insists on the need to account for and measure the effects of the company's

action to ensure its credibility, hence the emergence, in practice, of extra-financial reporting engineering, in an attempt to account for the 'impact' of the company's action (Ebrahim & Rangan, 2014)). However convincing this accountability approach may be, it faces a mirror criticism. It lacks resilience, since the evaluation of corporate responsibility is based on stabilised criteria that prevent adaptation to future transformations and the evolution of social expectations in the face of innovative projects (Grimes and Vogus, 2021), particularly in the context of great uncertainty described above. This work finally proposes to contribute to this literature on grand Challenges by exploring the conditions under which these new commitment schemes proposed with the PPC could make it possible to remove this latent contradiction, in particular with the opportunity offered to build the commitment around a specific formulated mission. The study, in this matter, highlighted the interest in building accountability and monitoring the legitimacy of companies, not in consideration of past contributions or according to their capacity to react, but on this specific element that is the 'not-yet-designed'. That is to say, on the elements on which it has been identified that an effort is needed to make a responsible contribution possible, or even a reactive posture. In a more systematic way, we could use the framework extracted from this literature as a means to systematize the analysis and categorise these missions and draw up a typology according to their capacity to integrate all or part of the considerations emanating from this academic field.

Avenue for future research

At this point, the analysis is supported by a single case study. Supplementing the analysis of this case with more diversified industrial situations and other contexts of mission implementation could make the analysis more robust.

In this context, similar work has already been started in parallel and is ongoing. It should eventually provide a comparative study based on several cases, and support or refute some of the elements expressed here.

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