Walk The Talk: The Ethical Challenge of Sustainable Development Between Companies and Governments

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Abstract

The everyday operations of a 21st-century business involve a number of intricate and multifaceted issues. Furthermore, there is a growing push for Sustainable Development (SD) from stakeholders and society at large. It is evident that there are several theoretical and practical interpretations of sustainable development, despite the fact that it is not a novel idea. According to the author's triple bottom line theory, the economic, social, and environmental facets must all be addressed at the same time and are valued equally. This article outlines in detail guidelines to improve the practical and realistic application of sustainable development within the reality of a very complex and constantly changing business setting, while also highlighting the unique obstacles that companies and the developing states encounter.

Keywords: Corporate Governance, Sustainable Development, Integrated Strategic Approach, Ethical Responsibility, Risk Exposure, The Precautionary Principle.

I. Introduction

For the last decade or so, the world of big business has discovered sustainable development. This discovery was triggered by major international events of a very different nature: the earth summit in Rio de Janeiro in June 1992, the terrorist attack on the twin towers in New York in September 2001 or, more recently, the earth summit in Johannesburg. At this last summit, states' representatives took a very active part in the development of a new approach based on the setting up of new public-private partnerships, at a time when large states (US, Russia) were clearly lagging behind.[1]

Beyond the effects of such events, there is continuous evolution, a kind of work done by a number of leading companies.[2] The most visible aspect from the outside is the choice made by some of them to make sustainable development an essential vector of their communication. For example, in France, EDF, the Lafarge Group, or Vivendi Environment to name just three examples.[3]

[1] Chad Holliday, 'Sustainable Growth, the DuPont Way' (2001) Harvard Business Review 129.
[2] Alexandre Michelot, 'Pour un principe de solidarité écologique ? De la critique à la proposition, du droit interne au droit international' (2020) 45(4) RJE 733.
[3] Laurence Tubiana, *Environment and Development: The Challenge for France* (Report to the Prime Minister, La Documentation française 2000).

They also chose this theme to think about their projection in the medium and long-term future and to organise the responses that they give to the new social demands that urge them to broaden the way of justifying their activity, even their existence, and to report on their choices and performance.[4]

These choices confirm the role that sustainable development can play as a vehicle for reform. However, for the researcher, especially with a legal background, there is a process that surprises. The challenges of sustainable development, whether they concern the future of the planet's climate or the equity of North-South relations, are issues that fall primarily within the political and moral responsibility of countries. Why would companies go beyond what the states are asking for through their policies and regulations? In which directions, with which benchmarks, will the companies that go forward lead this conversion to sustainable development?

The thesis takes a positive view by proposing an explanatory model of the uneven success of the sustainable development theme in the business world. One proposition is advanced: it is to prevent social protest phenomena that some companies are oriented towards sustainable development when they do not find a direct market. Therefore, only certain types of companies have a strategic interest in engaging in this kind of activity.

The second part adopts a normative point of view and seeks to clarify the dimensions of ethical responsibility for the long term and for the prevention of potential risks under the aegis of the precautionary principle.[5] The dimension of controlling the risks imposed on society is indeed one of the burning questions in the range of those raised by the quest for sustainable development in industrial countries.

II. The Risk Trigger Challenge

2.1 Sources of Uneven Conversion

The quest for sustainable development is usually understood as an integrated consideration of three requirements: economic development, environmental sustainability and social equity. It leads to concern about the implications of local decisions in the short and medium term for global and longer-term balances, going as far as intergenerational time, so that it 'Meet the needs of today without compromising the ability of future generations to meet their own needs', as famously stated in the 1987 Brundtland report of the UN Commission on Environment and Development.[6]

[4] Peter Hardi and Terrence Zdan, *Assessing Sustainable Development: Principles in Practice* (International Institute for Sustainable Development 1997).

[5] Alexandre Michelot, 'Pour un principe de solidarité écologique ? De la critique à la proposition, du droit interne au droit international' (2020) 45(4) Revue Juridique de l'Environnement 733.

[6] Olivier Godard, 'Environnement et commerce international – Le principe de précaution sur la ligne de fracture' (2001) Futuribles 37.

But how can we ensure that the concern for the long-term global impact is reflected and influenced in the daily lives of economic agents? States are in the front line, having a duty to maintain their sovereign territory according to the objectives and obligations defined by the international community. Nevertheless, each state sees its share of responsibility modulated according to its capacities and its role in creating the problems.[7] However, the era of making states accountable alone no longer exists, when all the burden of concern for the common good was imputable to the state where the latter was the main seat if not alone of the impulse of economic development of society.[8] Non-governmental organisations, citizens, consumers and businesses are now calling for sustainable development to guide or position their actions.[9] It is therefore necessary to give intelligibility to the existence of other relays than those put in place by governments, especially in the case of companies.

One example is a classic economic mechanism: demand response. The company would be concerned with sustainable development because it would face an effective demand in this sense from its various partners. Shareholders, bankers, insurers, distributors, consumers and others would be demanding sustainable development, forcing companies to adapt.[10] It would be the ordinary course of economic relations which would ultimately convey the requirements of sustainable development through the frame of contractual relations and trade in goods and services. This answer shifts the question more than it answers it: how would the benefit of sustainable development have fallen on these different partners? It also raises technical difficulties. Ordinary economic relations are based on precise conditions concerning the nature of the exchange goods and the terms of exchange.[11] How can these relations directly integrate these concerns, which are foreign to the ordinary and rather indeterminate economic universe, given the spatial temporal horizon in which they take root, that of sustainable development? We feel the need for relays and mediation, but this explanation does not suggest any.

The existence of a still small segment of end consumers who are so keen to buy ‘green’ or ‘ecological’ products that they are willing to pay more for them, without even obtaining any benefits on the quality of consumer products, is not up to the phenomenon and does not explain the strategies of companies that are not in direct contact with the end consumer.[12]

Anticipate, first. One of the first conditions for companies to be able to place their activities under the umbrella of sustainable development is that some of them adopt proactive behavior and then disseminate the constraints and objectives they set themselves in the frame of

[7] Clair Gough and Simon Shackley, ‘The Respectable Politics of Climate Change: The Epistemic Communities and NGOs’ (2001) 77(2) International Affairs 329.

[8] Lindsay M. Dreiss and Mindy B. Rice, ‘Finding Climate Refugia on the US National Wildlife Refuge System: A Focus on Strategic Growth Values’ (2025) Conservation Science and Practice.

[9] Peter M. Haas, *Saving the Mediterranean: The Politics of International Environmental Cooperation* (Columbia University Press 1990).

[10] Maarten A. Hajer and Hendrik Wagenaar, *Deliberative Policy Analysis: Understanding Governance in the Network Society* (Cambridge University Press 2003).

[11] Thomas Hale, ‘Thinking Globally and Acting Locally: Can the Johannesburg Partnerships Coordinate Action on Sustainable Development?’ (2004) Journal of Environment and Development 220.

[12] David Levy and Peter Newell, *The Business of Global Environmental Governance* (MIT Press 2005).

economic relations through concertation and economic exchange upstream and downstream of the sectors.[13] The classical economic study of environmental policy instruments (regulations, taxation, negotiable permits, allocation of rights) is based on the same general assumption. In the case of effects external to ordinary exchange and collective property regulations, the behaviour of economic agents is assumed to be reactive. It is up to the public authorities to take the initiative by setting up a regulatory framework to which agents will adapt.[14] In this analytical framework, in situations of uncertain and controversial scientific information, uncertainty of rights and responsibilities, and absence of direct public intervention, no environmental internalisation should be observed, even less for global and long-term issues than for local issues.[15]

Yet, companies are taking the lead. They adopt plans and measures to improve the environmental profile of their activities (inputs, releases) or products (energy consumption at the point of use, end-of-life management of products, packaging recovery), implement environmental management systems or increase the safety of their production sites beyond current standards.[16] If these proactive or anticipatory behaviours are only attributable to factors such as the personality or ethical orientation of leaders, it would not be possible to make an economic characterisation. Such choices should be observable in the most varied contexts from the point of view of sectors or the size of enterprises.[17] This is not the case, for example when looking at the distribution of companies that have decided to implement an environmental management system under ISO 14001 or the European environmental management system program EMAS.[18]

We should place the concept of potential challenge in place of the concept of effective demand and seek to identify economic conditions that may lead companies to take into account in advance the threats related to potential risks, environmental or public health. We then come across the mechanism, the so-called 'questionable management', through conducting an analogy with the theory of 'questionable markets' developed in industrial economics by William Baumol.

III. The Contestable Management Model

To account for the implementation of proactive management opportunities for contestation, we introduce two key concepts. The first is the time horizon for engagement in an activity. It is

[13] Thomas P. Lyon, '"Green" Firms Bearing Gifts' (2003) Regulation 36.

[14] Anja Schaefer and Andrew Crane, 'Addressing Sustainability and Consumption' (2005) 25(1) Journal of Macromarketing 76.

[15] Anil Markandya and Klaus Halsnæs, *Climate Change and Sustainable Development: Prospects for Developing Countries* (Earthscan 2002).

[16] John Robinson and David Herbert, 'Integrating Climate Change and Sustainable Development' (2001) 1 International Journal of Global Environmental Issues 130.

[17] Robert D. Putnam, *Making Democracy Work: Civic Traditions in Modern Italy* (Princeton University Press 1993).

[18] Harold Winkler and others, 'Sustainable Development Policies and Measures: Starting from Development to Tackle Climate Change' in Kevin A Baumert and others (eds), *Building on the Kyoto Protocol: Options for Protecting the Climate* (World Resources Institute 2002) 61.

linked both to the amortisation of investments to be made and to the time required to justify what are called unrecoverable costs that entrepreneurs must bear to start in a sector of activity, without being able to recover them under normal conditions of competition.[19] The activities most affected by this type of cost, those which impose the longest horizon, are generally those of heavy industries, including specific equipment (blast furnaces, refining plants, thermal power stations, etc.). Those cannot be reassigned to other jobs which require large scales of production and duration to be profitable. These are also activities that, due to the nature of the production processes or products placed on the market, have a significant environmental impact and carry potential risks for the environment and public health. This commitment horizon is also the critical exposure horizon to a possible lifting of an environmental or health-based challenge.[20]

The second concept is the social legitimacy of the company. Some companies have to manage the social legitimacy of their activity or technical choices (processes, products) in relation to public interests or concerns.[21] The concepts of ownership rights and regulatory compliance, which are part of the traditional reactive model, do not take their place. From a practical point of view, social legitimacy should not be confused with legality: activities or behaviours that conform to the current state of regulation are no less disqualified in the eyes of a significant part, if not the majority, of the public.[22] This results in hostile actions and defective movements on the part of consumers or distributors.[23]

In order to preserve their social legitimacy in the face of threats of dispute based on potential environmental and health risks, some companies would put forward a management plan to deal with these threats at better of their interests.[24] Questionable management is management exposed to the discipline of potential social contestation, a basic mechanism comparable to how oligopoly pricing policies are disciplined by the threat of potential competitors when entry and exit barriers in the business sector are low.[25] The identification of this mechanism brings to light a new area of strategic management of the company: the management of its state of contestability or, in other words, of its exposure to different types of threats to its positions and activities. Such management would benefit from being engaged at the stage of designing

[19] Durwood Zaelke, Donald Kaniaru, and Eva Kružíková, *Making Law Work: Environmental Compliance & Sustainable Development* (INECE 2005).

[20] Sian Yearley, 'Social Movements and Environmental Change' in Michael Redclift and Ted Benton (eds), *Social Theory and the Global Environment* (Routledge 1994) 150.

[21] Ibid 156.

[22] To illustrate, after the episodes of legal challenge to its cultivation authorization before the French Council of State (1998) and then the European Court of Justice, Novartis' Bt corn was finally allowed to be grown in France (2001). Despite this, the company then announced that it was giving up on the introduction of this GMO on the market: it had the intuition that legality and social legitimacy did not mix.

[23] David Thompson, *Tools for Environmental Management: A Practical Introduction and Guide* (New Society Publishers 2002).

[24] Christopher Gough, 'The Respectable Politics of Climate Change: The Epistemic Communities and NGOs' (2001) 77(2) International Affairs 329.

[25] David L Swanson, *National Strategies for Sustainable Development: Challenges, Approaches and Innovations in Strategic and Co-ordinated Action* (IIED-GTZ 2004).

innovative processes and products.[26] However, the hedging actions against these risks must be modulated according to the stage of development of the company's projects.

IV. Morphology of Hedging Strategies

The company has different methods to limit its risks of exposure to the challenge: lengthening its forecast horizon by developing its ability to make rational anticipations, modulating the duration of its commitment, depending on the possibilities afforded to it by the type of technology characteristic of the field of activity in which it operates, reducing its objective exposure by excluding certain techniques and renouncing certain products, or by making additional safety investments, focusing on financial or insurance risk coverage measures, without worrying about further limiting the residual risks of environmental and health impacts, maintaining a dialogue and partnership with various civil society organisations that could play a key role in raising or amplifying a protest.[27]

At a given point in the company's commitment trajectory, only certain time sequences of actions can still be envisaged. The variety of options depends on the nature of the threats to be considered, but also on the options that have already been chosen and exhausted.[28] For example, the research and development phase preserves a greater latitude in reorienting technical choices than the production phase, which is more difficult to reverse because of the tool that has been built.

This leads to the idea of a path for managing contestability. Two viable paths deserve particular attention:

- The one in which decisions taken in the early stages neutralise possible bases for future environmental and health challenges; This trajectory is based on the assumption of good predictability of the threats of protest and on the idea that the protest would remain confined to environmental and health risks, without leading to more global challenges (rejection of globalisation, capitalism, etc.)[29];

- The one that is concerned with regularly replenishing the basket of options in order to be able to deal with disputes that were not initially anticipated; The aim is to avoid a

[26] Stefan R. Schaltegger, Roger Burritt and Holger Petersen, *An Introduction to Corporate Environmental Management: Striving for Sustainability* (Greenleaf Publishing 2003).

[27] Sandeep Sharma, 'Research in Corporate Sustainability: What Really Matters?' in Sandeep Sharma and Michael Starik (eds), *Research in Corporate Sustainability: The Evolving Theory and Practice of Organisations in the Natural Environment* (Edward Elgar 2002).

[28] John B. Robinson and Derek Herbert, 'Integrating Climate Change and Sustainable Development' (2001) International Journal of Global Environmental Issues 130.

[29] Terry Hale, 'Thinking Globally and Acting Locally: Can the Johannesburg Partnerships Coordinate Action on Sustainable Development?' (2004) 13(2) Journal of Environment and Development 220.

> situation where the development of the firm is accompanied by a gradual contraction in the range of options available to manage future episodes of dispute.[30]

In the economic theory of disputable markets, the weaker the market's contestability is, the more companies in an oligopolistic position can benefit from a situation rent at the expense of agents who demand their products.[31] This rental situation, however, has a counterpart in the form of an increased vulnerability to environmental and health-based challenges. The link between these two phenomena is not contingent. Indeed, the existence of barriers to entry and exit and the presence of specific assets such as productive equipment and skills, render it difficult or not at all, to redeploy without significant financial losses. Therefore, it implies significant sunk costs that limit the strategic mobility of the company and make it vulnerable to environmental and health challenges.[32]

When it arises, social protest mobilises various uncertainties and scientific controversies regarding possible risks. It relies on warning processes, initiated by scientists or NGOs and relayed by the media to public opinion. This challenge is characterised by proposing not only explanations (causes) to the negative phenomena reported or feared, but also by imputing responsibility to agents (experts, agencies, companies, generic objects such as GMOs).[33]The evolution of threats to the legitimacy of certain innovative techniques depends on the dynamics of the assumptions made about the environmental and health risks feared, especially the representations of these risks in the public.[34] If the protest takes hold, it tends to set the targets that it has given itself. These gradually become the object of a social struggle, whatever the further development of scientific knowledge of the risks highlighted.[35] In the case of GMOs, for example, protesters first mobilised health risks (allergies) and agronomic practices (formation of resistant trends among crop-harmful insects). Their protests then became widespread and radicalised. Eventually, they take the form of a demand for a general ban on all agricultural experimentation, framed as a fight against the 'commodification of the world' and in favour of preserving biodiversity, which is announced to be seriously threatened by this technology.[36] This has gone so far as to create a situation in Europe where the agricultural uses of these seeds are de facto blocked. Historical experience suggests that some threats of contestation can be realised in a credible way and would probably have deserved to be better anticipated by the companies concerned.[37]

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[30] Henrik R. F. Winkler, 'Sustainable Development Policies and Measures: Starting from Development to Tackle Climate Change' in *World Resources Institute Report* (World Resources Institute 2002) 61.

[31] Chad Holliday, 'Sustainable Growth, the DuPont Way' (2001) Harvard Business Review 129.

[32] Rod Rhodes, 'The New Governance: Governing Without Government' (1996) 44 Political Studies 652.

[33] Andrew Pharaoh, 'Corporate Reputation: The Boardroom Challenge' (2003) 3(4) Corporate Governance: The International Journal of Business in Society 46.

[34] Sally Yearley, 'Social Movements and Environmental Change' in Michael Redclift and Ted Benton (eds), *Social Theory and the Global Environment* (Routledge 1994) 150.

[35] The process of contestation can thus lead to lasting stigmatisation, the most dramatic example being that affecting nuclear technology in many countries in Europe.

[36] Michael Redclift, *Social Movements and Environmental Change* (World Health Organization, Routledge 2006).

[37] Catherine Gough, 'The Respectable Politics of Climate Change: The Epistemic Communities and NGOs' (2001) 77(2) International Affairs 329.

V. For an Integrated Strategic Approach

5.1 Market and Social Contestability

These different elements of analysis lead to the characterisation of two polar industrial configurations which are opposed from the point of view of the modalities of contestability. The first one refers to a configuration with a high degree of contestation by potential competition and a low degree of social contestation. The companies grouped in this category have one or another feature: a short commitment horizon (reversibility of commitments). It is a standardised and flexible production tool, an initial investment in fixed capital of a low level, with predictability commensurate with their commitment horizon[38]. Because of these characteristics, the markets in which these firms operate have a high degree of competition; the technological base of the activity does not allow the entry of barriers[39]. The strong contestability by competition limits profitability to the strict remuneration of production factors. In return, these companies are not very sensitive to threats of social protest that would be based on collective risks.[40] It is not that they cannot be challenged one day on the basis of scientific discoveries or changes in collective representations, but rather that they would then have the resources to get rid of the activity in question without suffering heavy losses. Even if the obsolescence horizon of the technologies used is shorter than the initial commitment horizon, the low residual costs to be amortised do not not constitute a threat to the economic security of the company.[41]

The second configuration is characterised by a low degree of contestation by potential competition and a high degree of social contestation based on environmental and health.[42] Firms hold heavy and specific assets, with low recoverable costs if they do not have the duration. Once they have invested in a particular activity, they cannot redeploy their assets without significant costs or easily exit the market if their social legitimacy is eroded or collapses. The branches of heavy industry and in particular the chemical industry are in this configuration.[43]

Of course, there are intermediate cases where a given activity may be exposed to both significant levels of competitive and environmental and health challenges. This is the case for the agricultural input industry, particularly for GMO production.[44] This situation then brings up

[38] James E Post, *Redefining the Corporation: Stakeholder Management and Organizational Wealth* (Stanford Business Books 2002).

[39] Maarten A Hajer, *Deliberative Policy Analysis: Understanding Governance in the Network Society* (Cambridge University Press 2003).

[40] Michael E Porter and Claas van der Linde , 'Green and Competitive: Ending the Stalemate' (1995) 73(5) Harvard Business Review 120.

[41] Robert D Putnam, *Making Democracy Work: Civic Traditions in Modern Italy* (Princeton University Press 1993)

[42] James E Post, Lee E Preston, Sybille Sauter-Sachs, *Redefining the Corporation: Stakeholder Management and Organizational Wealth* (Stanford Business Books 2002).

[43] Jeremy G Richardson, *The Concept of Policy Style* (George Allen & Unwin 1982).

[44] Steve Rayner, 'National Case Studies of Institutional Capabilities to Implement Greenhouse Gas Reductions' (1993) 3(Special issue) Global Environmental Change 7.

the following dilemma: one train may hide another, the choice of certain options to reduce exposure to one form of contestation has the effect of increasing exposure of the firm to the other form of contestation. For example, the GMO industry's obsession with competition from US companies and its desire to force itself into Europe for this reason, may have led to a series of choices (types of GMOs first placed on the market, timing of introduction, changes in economic relationships with farmers, communication arguments to the general public) which have aroused a protest mobilising first the theme of environmental and health risks and then generalising around protectionist themes.[45]

This example shows that companies concerned about the future of their social legitimacy would benefit from making their state of contestability the integrated object of strategic management, without focusing on competition through markets and without separating the domains. The issue of health and environmental risks is often referred to a specialized department responsible for managing the downstream strategic decisions of the company from a strictly technical point of view, without proper strategic integration.

In the case of GMOs, proactive strategic management had begun to be undertaken, but only by using the traditional options of communication and negotiation of a public regulation which were expected to kill in the root of the threats to the development of biotechnologies (At the beginning of the 1990s, EU directives were adopted to control the release of GMOs at the research and experimental stage and to authorise their cultivation).[46] Without much Without much success, the companies concerned failed to see that their development strategies were doubly changing their exposure to the challenge: on the one hand, massive investment in specific assets related to new biotechnologies implied a commitment horizon that made them vulnerable to environmental and health challenges; on the other hand, this investment altered the balance of economic relations in the agricultural input sector, making them a threat to some farmers.[47]

There is no doubt that companies can come to sustainable development for a variety of reasons. Nevertheless, the proposed model around the concept of contestability allows us to understand why companies in certain sectors of activity and only some of them feel strategically involved in the theme of sustainable development or related themes. The chemical industry, which has been the most controversial industry for its environmental and health impact, has voluntarily adopted a strategic line of responsibility around the charter since the 1980s.[48] And a leading member of the Business Council for Sustainable Development, established at the Earth Summit in 1992. The proposed model also draws attention to the close links between market strategies and vulnerability to social protest. It may provide a stronger framework for the

[45] Olivier Godard, 'Environnement et commerce international – Le principe de précaution sur la ligne de fracture' (2001) Futuribles 37.
[46] Chad S Holliday, *Walking the Talk: The Business Case for Sustainable Development* (Greenleaf Publishing 2002).
[47] Steven Kelman, *Regulating America, Regulating Sweden: A Comparative Study of Occupational Safety and Health Policy* (MIT Press 1981).
[48] Michael Howes, *Politics and the Environment: Risk and the Role of Government and Industry* (Allen and Unwin 2005).

willingness of some companies to place their own development under the umbrella of sustainable development.[49]

From this analysis, two conclusions can be drawn. First, the idea that a company should only be concerned with its markets and competitiveness for the best benefit of its shareholders without worrying about maintaining its legitimacy leads to a blurred vision of the problems that managers must address. In a very prosaic way, this means that this idea leads to strategic mistakes. Secondly, it would be naive to expect a sort of spontaneous general conversion of companies of all sectors and sizes towards sustainable development, without considering the economic and technological characteristics of their activities and markets. While voluntary approaches can be considered credible when they are emanating from certain industrial configurations, they have no economic basis in other configurations. In the latter case, sustainable development can only be achieved through the mediation of public regulation, whether it uses regulatory instruments (emission standards) or economic ones, such as taxation or transferable emission permits.[50]

VI. An Ethical Responsibility Assumed

6.1 Long-Term And Risk Exposure

The emergence of the theme of sustainable development in the corporate world has gone hand in hand with the promotion of the ethical responsibility of economic actors.[51] In some cases, this may be only a response to the new ethical demands that are emerging within certain components of shareholding, such as some pension funds.[52] The movement is, however, more general. The company is being assigned new responsibilities and obligations to its partners and society from all sides.

This expansion of ethical reference is even more evident as states reveal their limitations in maintaining social ties and their difficulties in promoting economic development that do not involve social exclusion or a part of the future of humanity.[53]

The limitations and difficulties of states have many origins, as is known. The centre of gravity of influence power has shifted to multi and international bodies (the European Union, the World Trade Organisation), at the same time, that political regulation gives way to regulations by

[49] Anna Gueorguieva, *A Critical Review of the Literature on Structural Adjustment and the Environment* (World Bank Environmental Economics Series Paper 90, World Bank 2003).

[50] Stefan R Schaltegger, Roger Burritt and Holger Petersen, *An Introduction to Corporate Environmental Management: Striving for Sustainability* (Greenleaf Publishing 2003).

[51] Theo Henckens, 'Chapter 5 - Mineral Resources Ethics' in *Governance of the World's Mineral Resources* (Elsevier 2021) 71, based on Theo Henckens, Marie-Louise C M Ryngaert, Cornelis M J Driessen and Paul P J Worrell, 'Normative Principles and the Sustainable Use of Geologically Scarce Mineral Resources' (2018) 59 Resources Policy 351.

[52] Amy Gutmann and Dennis Thompson, *Why Deliberative Democracy?* (Princeton University Press 2004).

[53] Douglas G Cogan, *Corporate Governance and Climate Change: Making the Connection* (CERES 2006) 300.

independent authorities or economic mechanisms ('financial markets').[54] The states, particularly developing countries, are experiencing serious difficulties in reforming themselves to better assume their most traditional missions (justice, security, the rule of law) under modern conditions. Finally, democratic governments face structural difficulties in designing and implementing long-range actions when they are not based on a solid and stable configuration of present interests.[55] National defense is an interesting example in this respect, since countries with long-term military security concerns are most prominent when these concerns are based on the current strength of a military industrial complex.[56]

Will companies be able to meet the ethical challenge of sustainable development better than governments? Will they not be crushed under the weight of responsibilities thus multiplied and densified? Will they be able to avoid the facilities and traps of hypocritical, opportunistic and cynical communication? The ethical dimension of business management is claimed by some managers and rejected by others who see it as a kind of category error.[57] In the eyes of the latter, companies are not entities with responsibilities for collective morality, let alone exercising a moral magisterium; Moreover, from ethics to moral order, regrettable shifts can be rapid.[58]

Nevertheless, let us accept the starting point and question the forms and ethical implications of the sustainable development theme for companies. Several figures can then give a translation to the guiding idea of corporate responsibility for sustainable development. The first task of our exploration will be to sketch them.

The uncertainties inherent in long time and the discontinuities between local and global phenomena impose on the thinking of sustainable development a need for the mediation of risk and potential danger, in their different probabilistic and non-probabilistic expressions. This is why the precautionary principle must be considered as the leading edge of sustainable development, if we are to avoid turning it into a slogan for crisis management.[59] Although this principle is primarily of interest to public action on collective risks, it cannot leave companies committed to promoting sustainable development indifferent. How to understand the requirements for companies?

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[54] Alan Boyle, *International Law and Sustainable Development: Past Achievements and Future Challenges* (Oxford University Press 1999).

[55] This is not an original observation. The German philosopher Hans Jonas had endeavored in his book on the principle of responsibility to grasp the consequences from the point of view of moral philosophy. It was his understanding that the dissemination of a 'fear heuristic' in society was necessary to overcome the structural inability of democratic governments to take firm action to safeguard the future; Hans Jonas, *The Imperative of Responsibility: In Search of an Ethics for the Technological Age* (University of Chicago Press 1984).

[56] Frank Biermann and Klaus Dingwerth, 'Global Environmental Change and the Nation State' (2004) 4 Global Environmental Politics 1.

[57] Frank Berkhout, 'Technological Regimes, Path Dependency and the Environment' (2002) 12 Global Environmental Change 1.

[58] Helena Alves-Pinto and others, 'Opportunities and Challenges of Other Effective Area-Based Conservation Measures (OECMs) for Biodiversity Conservation' (2021) 19 Perspectives in Ecology and Conservation 115.

[59] Theo Henckens, 'Chapter 5 - Mineral Resources Ethics' in *Governance of the World's Mineral Resources* (Elsevier 2021) 71, based on Theo Henckens, Marie L C M Ryngaert, Cornelis M J Driessen, and Paul P J Worrell, 'Normative Principles and the Sustainable Use of Geologically Scarce Mineral Resources' (2018) 59 Resources Policy 351.

VII. Ways of Interpreting Ethics of Sustainable Development

One of the main components of sustainable development is the inclusion of long-term relationships with distant generations as a relevant element in the decision-making horizons of companies and other social actors.[60] But what does that mean? Some groups or bodies in the administration, as well as some public or private enterprises, for example in the field of energy, have traditionally derived their power and notoriety from taking charge of a longer time rather than those with a shorter time that form the ordinary economic horizon, a long time which these actors willingly present themselves as guarantors. With the objective of sustainable development, this type of attitude is expected to become widespread:[61] the companies that claim to be responsible are then required to produce a discourse of responsibility that goes beyond short-term configurations and interests and extends virtually to intergenerational time.
The companies concerned will not be content with speeches. The speeches enterprises make expose them by displaying the norms and criteria on which they accept to play their legitimacy. The simple concern for their credibility will then command those enterprises to adopt a behavior and achieve observable performances that are in line with their discourse on sustainable development.[62] How can companies do this?

The future world is neither precisely given nor precisely identifiable, so the challenge for companies is not to plan for the very long term as short-term actions are planned. They have to deploy another intellectual structure of action around two poles: on the one hand, a concern for the viability of segments of development trajectories on which they have practical and cognitive control; on the other hand, concern for the initial conditions which they will pass on to the economic actors of tomorrow and to future generations.[63] Five examples can be given for which such a concern of intergenerational character is obvious, albeit with quite different timelines. They are the increase in the state's debt, the management of long-lived radioactive waste, pension reform; global climate change and soil contamination with polluting residues.[64] The first example concerns primarily public authorities, while the others are more directly relevant to enterprises.

With this aim, leaders have a duty of vigilance. They must be attentive to the rhythms of evolution, identify the imbalances that are emerging and identify the factors of irreversibility, critical points and potential bifurcations already discernible in the trajectories. Any elements

[60] Anna Gueorguieva, *A Critical Review of the Literature on Structural Adjustment and the Environment* (World Bank Environmental Economics Series Paper 90, World Bank 2003).
[61] Olivier Godard, 'Environnement et commerce international – Le principe de précaution sur la ligne de fracture' (2001) Futuribles 37.
[62] Hugh Turton, 'Long-Term Security of Energy Supply and Climate Change' (2006) 34(15) Energy Policy 2475.
[63] Warren Walker, 'Entrapment in Large Technology Systems: Institutional Commitment and Power Relations' (2000) 29 Research Policy 833, 846.
[64] David Victor and Thomas C Heller, *The Political Economy of Power Sector Reform: The Experience of Five Major Developing Countries* (Cambridge University Press 2007).

that they may suspect may pose a longer-term viability problem.[65] This applies to the three dimensions of sustainable development, economic, environmental and social.

In this context, the relationship between the future and future generations is a free promise and not a kind of obligation that results from the fundamental rules of reciprocity. This is all the more so as companies have several ways of assuming responsibility for the long term. Four reference points constitute the primary matrices of the enunciation of the sustainability promises of development: (1) the intergenerational contract between interlinked generations; (2) the investment generating future technical production possibilities, to be framed by the search for the satisfaction of essential needs; (3) wealth management centered on the transmission of an essential heritage; and (4) the reworking of the company's relationship fabric, both internally and externally, based on civic requirements.[66]

7.1 The Intergenerational Contract

With the figure of the intergenerational contract, the quality of the relationship established with distant generations passes first through the establishment of quality relations between different generations who share the same present and form society. This way, from time to time, the sustainability of development trajectories could be better ensured.[67] The reference to the idea of contract is intended to draw attention to the quest for equity between the parties and the need for explicit institutional procedures or mechanisms to achieve it.[68] Primarily concerned with the production and use of goods whose life span exceeds that of a generation, or with the production of goods intended by one generation for contractual transfer to another generation (education expenditure on the one hand, pay-as-you-go pensions on the other).[69]

Intergenerational equity, in the legal context, refers to the obligation for the current generation to manage natural resources and make decisions that do not hinder the ability of future generations to meet their own needs. It manifests itself in various areas of law, notably environmental law, health law, and labor law, and is articulated around the concept of sustainable development.[70]

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[65] Mathis Wackernagel and William Rees, *Our Ecological Footprint: Reducing Human Impact on the Earth* (New Society Publishers 1996).

[66] Martin Wagner, 'The Carbon Kuznets Curve: A Cloudy Picture Emitted by Lousy Econometrics?' (Discussion Paper 04-18, University of Bern 2004) 36.

[67] Thibault Deleuil, 'La Protection de la "Terre Nourricière": Un Progrès pour la Protection de l'Environnement?' (2017) 42 Revue Juridique de l'Environnement 255, 272.

[68] David Windsor, 'Stakeholder Influence Strategies for Smarter Growth' in Sanjay Sharma and Michael Starik (eds), *Research in Corporate Sustainability: The Evolving Theory and Practice of Organisations in the Natural Environment* (Edward Elgar 2004).

[69] Antoine Michelot, 'Pour un Principe de Solidarité Écologique? De la Critique à la Proposition, du Droit Interne au Droit International' (2020) 45 Revue Juridique de l'Environnement 733, 750.

[70] Theo Henckens, 'Chapter 5 - Mineral Resources Ethics' in Theo Henckens (ed), *Governance of the World's Mineral Resources* (Elsevier 2021) 71, based on Theo Henckens, MLCM Ryngaert, CMJ Driessen, PPJ Worrell, 'Normative Principles and the Sustainable Use of Geologically Scarce Mineral Resources' (2018) 59 Resources Policy 351.

The focus should be on implicit transfers of various burdens (debt, contaminated land, long-lived waste, lack of childcare, degradation of ecosystems and water resources...) that the generations of age to decide to impose on the following generations, even though these charges would probably not be accepted under these conditions if the present generations were to obtain the agreement of the succeeding generations in a proper contract.[71] Whatever the difficulty in defining the counterfactual situation as a point of comparison, this first reference leads to a question that business leaders should systematically ask themselves: would such action with lasting effects be freely accepted by future generations in the framework of a contract which would fix its benefits and burdens?

Thus, the most serious moral argument against the use of nuclear technology is that it imposes on a succession of future generations a vital threat to their safety in the form of very long-lived radioactive waste, and the corresponding obligation to be the guardians of this threat.[72] It is the present generations who directly benefit from the economic benefits of this technology (low-cost electricity supply) without the assurance that future generations will have the technical or political capacity to manage these wastes safely. If they had the choice, would future generations accept this contract? This may or may not be the case, depending on the rewards provided in the form of a less dangerous evolution of the global climate.

For companies, the most direct translation of the concern for equity between intergenerational relationships is to invent a method of personnel insertion adapted to each age. This should not only take into account the occupational expectations, the wage and choice of working time, but also to the explicit establishment of a link of solidarity between members of different age groups. The systematic use of early retirement to remove employees aged 55 and over from the company or, conversely, the collective refusal to reserve a place in the company for the younger generations are not compatible with the promise of sustainable development, regardless of the hygiene and environmental cleanliness of the facilities.[73]

7.2 Investing In The Future

There is no need to dwell too long on the essential role of investment in preparing for the future. Productive investment and technological progress make a decisive contribution to the promise of a sustainable future for future generations. And this despite all the doubts that have arisen about the general equation of progress. Contemporary demand is a demand for the selection of techniques that are truly interesting to consumers and a demand for control over the conditions under which the techniques are implemented.[74] It is not opposed to any

[71] Joshua Weiner, 'Comparing Precaution in the United States and Europe' (2002) 5(4) Journal of Risk Research 317, 349.
[72] Tom Wilbanks, 'Integrating Climate Change and Sustainable Development in a Place-Based Context' (2003) 3(S1) Climate Policy S147, S154.
[73] Sandra M Waddock and Malcom McIntosh, 'Beyond Corporate Responsibility: Implications for Management Development' (2009) 114(3) Business and Society Review 295, 325.
[74] L. Alan Winters, Neil McCulloch, and Andrew McKay, 'Trade Liberalization and Poverty: The Evidence So Far' (2004) Journal of Economic Literature 72.

innovation, if we exclude the claims of certain fringe fringes of the ecologist movement and other 'alternative' movements.

The guiding axis here is to ensure an enlarged reproduction of capital, to use this expression, but in a different sense than that which it took in economics with reference to Marx's analyses.[75] Indeed, the theme of sustainable development calls first for an expansion of the components of capital whose reproduction must be ensured, as suggested by Robert Solow, Nobel prize-winning economist. It is no longer just physical assets directly involved in production. Total capital includes the formation of human capital (knowledge, skills, know-how) to be directed towards preparing for the future. It also incorporates natural capital, the renewal of which can no longer be expected to be assured by nature alone.

The golden rule of reinvesting in new capital formation, drawn from the exploitation of exhaustible natural resources and natural environments, is a benchmark here. Sustainable development does not mean giving up the exploitation of natural resources; it means rebuilding, in the economic sense of the term, the resources used.[76] This involves the search for greater efficiency in the processing and use of these resources (such as energy efficiency, material efficiency), and the search for substitutes. If necessary, limits on current exploitation rates should be imposed, in order to preserve the natural capacity for the renewal of certain resources (marine fisheries).[77]

Sustainable development also leads to a new approach to the criteria for evaluating and selecting innovations, addressing the issue of collective risks and concerns about the social acceptability of new technologies.[78] New modalities for negotiating innovations need to be developed, particularly to broaden the types of partners involved in this negotiation so as to better represent relevant viewpoints.

Modernisation of the production tool, technological research, broadening of the scope regarding the components of capital, reinvestment of the rent derived from the exploitation of the natural factor, broadening the evaluation criteria and concerns for the social acceptability of innovations are then the axes of a sustainable development strategy for a company according to this figure of investment.[79]

The dashboard to be followed must be particularly sensitive to identifying and tracking failures or limitations of the industry promise. The latter may take the form of under-investment in

[75] Francesco Perrini, *Developing Corporate Social Responsibility: A European Perspective* (Edward Elgar Publishing 2006).

[76] David Morrow and Dennis Rondinelli , 'Adopting Corporate Environmental Management Systems: Motivations and Results of ISO 14001 and EMAS Certification' (2002) 20 European Management Journal 159, 171.

[77] Sanjay Sharma and Irene Henriques, 'Stakeholder Influences on Sustainability Practices in the Canadian Forest Product Industry' (2005) 26(2) Strategic Management Journal 159, 180.

[78] Oliver Salzmann, Aileen Ionescu-Somers and Ulrich Steger, 'The Business Case for Corporate Sustainability: Literature Review and Research Options' (2005) 23(1) European Management Journal 27, 36.

[79] Miguel Rocha, Cory Searcy and Stanislav Karapetrovic, 'Integrating Sustainable Development into Existing Management Systems' (2007) 18(1/2) Total Quality Management 83, 92.

capital formation, particularly with regard to the process of destruction of natural capital; insufficient progress of new techniques which are expected to replace existing techniques; failures in technological control (accidents, new technological risks remain unanswered); and an inability to solve certain societal problems from a technological response.[80]

7.3 The Ethics Of Heritage Transmission

With reference to assets, the central idea is that of the transmission of wealth, as it differs from the notion of an exchange contract. Heritage should not be understood here as a collection of objects that would be qualified once and for all as heritage objects, and among which one would find, for example, all natural resources.[81] Heritage involves a selection of goods, natural or not, to which is attached an essential value for the survival of a reference community, beyond individual destinies. This includes property with identity value for a community. Heritage is thus the desire of present generations to pass on certain assets to succeeding generations or at least to preserve them for their own use. This characteristic orients the nature of the phenomena to be studied: alongside indicators reflecting the objective evolution of assets classified as heritage (flow and stock, qualitative evolution), it is necessary to observe and analyse the forms and means of 'asset investment' of the groups that make up the company or are its partners. These include resources (time, income) allocated and constraints accepted in connection with protection activities, restoration or management of heritage assets for their transfer.[82]

Naturally, the concern for transmission must consider not only goods valued positively but also those that are negative. It is because ultimately the preservation of the ability of future generations to make their own choices in life and development depends on the set of resources and heritage assets and challenges, that they will inherit.[83]

If we consider the heritage elements that those involved in the development of the enterprise might wish to transmit because of the identity value which would be recognised, several stand out. The most obvious heritages concern a mode of organisation, a style of human relations, particular know-how, trades and technical gestures that are learned on the job and passed on by example in a close relationship.[84] There is also the contribution of certain economic activities to preserving the territorial environment: a habitat, an economic fabric, and landscapes. Finally, the heritage reference is a particular requirement from the perspective of income distribution

[80] Amy Reilly, 'Communicating Sustainability Initiatives in Corporate Reports: Linking Implications to Organizational Change' (2009) SAM Advanced Management Journal Summer 33, 43.

[81] Derk Loorbach, 'Transition Management for Sustainable Development: A Prescriptive, Complexity-Based Governance Framework' (2010) 23(1) Governance: An International Journal of Policy, Administration, and Institutions 161, 183.

[82] Olivier Godard, 'Environnement et commerce international – Le principe de précaution sur la ligne de fracture' (2001) Futuribles 37, 62.

[83] Stuart L Hart and Mark B Milstein, 'Creating Sustainable Value' (2003) 17(2) Academy of Management Executive 56, 69.

[84] John Ledwidge, 'Corporate Social Responsibility: The Risks and Opportunities for HR; Integrating Human and Social Values into the Strategic and Operational Fabric' (2007) 15(6) Human Resource Management International Digest 27.

equity within a single generation, as noted by international law specialist Edith Brown-Weiss.[85] Income should be sufficiently redistributed to the most disadvantaged groups so that they can get out of a daily economic survival logic and take part in collective actions directed towards future generations; and by the same means, attain the full moral dignity which had been denied them until then.

7.4 The Civic Referrer

The emergence of sustainable development is inseparable from the rise in power of what we can call a citizen's claim. The common feature of these quite disparate movements is that they call into question the integral delegation of the responsibility for deciding collective fate to the elite who animate public institutions and who run companies.[86] In contrast, the legitimacy of new forms of participation, deliberation and social control over choices often left until then in the hands of entrepreneurs and only the control of administrative services suffering from lack of means is affirmed.[87] The claim of this social control is built in particular around an enhancement of the values of equity and justice based on the democratic postulate of fundamental equality of citizens.

For businesses, this civic requirement has multiple implications. Internally, wages and working hours cannot be the result of market arbitrage alone. The different categories of employees must be offered minimum conditions of income and free time to fulfil their various social roles, within the family and in the city.

The responsibility of companies is also engaged in different ways towards external partners. Companies thus have valuable information on their activities, affecting both the quality of products placed on the market, working conditions and impacts on the physical environment[88]. For those whose activity is based on innovation, they have information, which can be crucial, about collective risks to health or the environment. The concern to protect industrial secrecy and not to draw attention to possible problems in which the company could be involved often leads to strategies of information retention. They deprive consumers, citizens and public authorities of important means of identifying threats and taking them into account at an early stage.[89] The sense of social responsibility that sustainable development implies makes the transmission of public utility a full requirement whose conditions must be legally organised.

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[85] Tobias Hahn and others, 'Trade-offs in corporate sustainability: you can't have your cake and eat it' (2010) 19 Business Strategy and the Environment 217.

[86] Robert Putnam, *Making Democracy Work: Civic Traditions in Modern Italy* (Princeton University Press 1993).

[87] Simon Yearley, 'Social Movements and Environmental Change' in Michael Redclift and Ted Benton (eds), *Social Theory and the Global Environment* (Routledge 1994) 150.

[88] Rolf Garvare and others, 'Management for Sustainability – A Stakeholder Theory' (2010) 21(7) Total Quality Management 737, 744.

[89] Derk Loorbach, 'Transition Management for Sustainable Development: A Prescriptive, Complexity-Based Governance Framework' (2010) 23(1) Governance: An International Journal of Policy, Administration, and Institutions 161, 183.

Finally, since the sustainable development claim is a demand for participation in the deliberation on choices that will have benefits for the community, it is up to the companies to establish a prospective partnership with representatives of those whose fate will be affected by their initiatives and strategic decisions: employees, population in the vicinity of their installations at risk, consumers, environmental protection NGOs, etc.[90]

Certainly, in contemporary society, these different ways of making the promise of sustainable development are not exclusive to each other but have to be combined. At the junction of ethical requirement, applied will and economic necessity there is the moment of strategic interpretation. The path to sustainable development cannot be unique. It is up to each company to invent its own.[91]

VIII. The Precautionary Principle in Relation to Potential Collective Risks

French law has a balanced definition of the precautionary principle, far from the extreme forms supported by this or that organisation. It was the Barnier Law 95-101 on strengthening environmental protection which defined it as the principle according to which 'the lack of certainty, taking into account current scientific and technical knowledge, should not delay the adoption of effective and proportionate measures to prevent a risk of serious and irreversible damage to the environment, at an economically acceptable cost'.[92] Community case law in 1998 extended this to the areas of public health and food safety in the context of the dispute with the UK government over the mad cow disease epidemic.[93] It has made it an autonomous legal standard, although its scope of application remains uncertain: who is directly concerned by this standard, the state alone or all public and private people, and thus companies?
Despite strong fears, the precautionary principle alone is not likely to have significant consequences for the exercise of civil and criminal liability by companies in the state of positive law: French law does not provide for a crime or offence of 'lack of precaution'[94]; as regards the engagement of civil liability for defective products, it is already assessed by the courts without any reference to the notion of fault (we speak of responsibilities for risk). So, a principle for nothing? No doubt not.

8.1 Public Attitudes

Thinking must start from public attitudes toward risk. One thing is for sure. These attitudes are not the same towards chosen and assumed risks as well as risks incurred. The former do not cause rejection, while the latter arouse suspicion, mistrust, or denunciations and, when they are

[90] Sandra M Waddock and Malcolm McIntosh, 'Beyond Corporate Responsibility: Implications for Management Development' (2009) 114(3) Business and Society Review 295, 325.
[91] John Elkington, 'Governance for Sustainability' (2006) 14(6) Corporate Governance 522, 529.
[92] Shirley-Ann Hazlett, Rodney McAdam and Lisa Murray, 'From Quality Management to Socially Responsible Organisations: The Case for CSR' (2007) 24(7) International Journal of Quality and Reliability Management 669, 682.
[93] Charles O. Holliday Jr, Stephan Schmidheiny, and Philip Watts, *Walking the Talk: The Business Case for Sustainable Development* (Greenleaf Publishing 2002).
[94] Joshua Weiner, 'Comparing Precaution in the United States and Europe' (2002) 5(4) Journal of Risk Research 317, 349.

met, call for criminal sanctions.[95] This dichotomy manifests not only an attitude towards risks, but also more deeply, an attitude towards public institutions and the group of leaders responsible for creating or regulating collective risks: business leaders, civil servants, scientific experts and policymakers.[96] The public no longer has systematic confidence in how companies and public institutions manage collective risks. There is a general suspicion that the officials are under the influence of different lobbies and do not give due priority to health and environmental safety.[97]

One of the attributes of risks that are accepted and assumed is that they are subject to a deliberation of individuals, most often personal, sometimes collective within small groups (families, professional units):[98] everyone calculates their risks more or less explicitly and those who take the most are not those who calculate them least (formula 1 drivers, mountain climbing...).

This is why a significant change in attitudes towards collective risks in developing countries requires institutional and social innovations. That is to extend the class of risks on which the public has the power to deliberate and consider 'responsibility' on their well-considered preferences.[99] It is by introducing new scenes and deliberation procedures that a culture of the chosen or consented risk can develop, away from both the inconsequential glorification of the 'risk for the risk' and the denial or flight of collective risk.[100]

8.2 Deepen The Reform Of Expertise

The gateways to be established relate primarily to the exercise of expertise. The nuclear syndrome, the asbestos battle and the tainted blood scandal have contributed to the suspicion of experts, to the point where the end of their supposed reign is perceived by some as a prerequisite for the restoration of a living democracy.[101] Restoring the conditions for a reasonable confidence in expertise is a first step towards implementing reasonable risk prevention.

This does not primarily and principally involve 'communication' actions. On the one hand, it involves opening up access to information held by companies in frameworks offering guarantees

[95] Martina K Linnenluecke and Andrew Griffiths, 'Corporate Sustainability and Organizational Culture' (2010) 45 Journal of World Business 357.

[96] Amy Reilly, 'Communicating Sustainability Initiatives in Corporate Reports: Linking Implications to Organizational Change' (2009) SAM Advanced Management Journal, Summer, 33.

[97] Frank Biermann, 'Global Environmental Change and the Nation State' (2004) 4 Global Environmental Politics 1.

[98] Andrew D F Price and K Chahal, 'A Strategic Framework for Change Management' (2006) 24(3) Construction Management and Economics 237.

[99] Raghunath Patra, 'Vaastu Shastra: Towards Sustainable Development' (2008) 17 Sustainable Development Journal 244.

[100] David Owen, *Beyond Corporate Social Responsibility: The Scope for Corporate Investment in Community Driven Development* (World Bank Report No 37379-GLB, 2007).

[101] David Nguyen, 'Hitting the Sustainability Sweet Spot: Having It All' (2010) 31(3) Journal of Business Strategy 5.

about the authenticity of these companies.[102] On the other hand, it involves establishing procedures enabling citizens to be made aware, directly or through representatives who would have their confidence, of the effective functioning of the expertise at its various stages, and in particular the collection of primary information.[103]

This can go as far as the financing of counter-expertise with the approval of the various parties involved. This may include the participation of 'ordinary citizens' in expert panels, so that they can participate in defining the terms of reference and approach to be followed and then serve as witnesses.[104] It can also be based on consensus conferences involving citizens in a position to train and hear experts before deliberating on recommendations for risk prevention.[105]

These guidelines imply a much more thoughtful organisation of expertise, both at the level of the overall scheme (definition of the different types of expertise required) and at that of the rules applicable within an expert committee, such as pluralist disciplinary composition, declaration of interests, mention of minority opinions, or the personal responsibility of experts.

8.3 Take Responsibility Without Blabbing

Conflicts and suspicions often arise between those who create risks, the companies and the citizens exposed to these risks as producers, consumers, or users. These tensions can only have a chance of being overcome in a positive way, if the companies accept to assume civil liability for the damages that their activity or the products they put into circulation may create for health and the environment.[106] The defense of innovative forces does not involve their liability. The double talk sometimes heard, for example about GMOs: (1) 'Rest assured, there is no danger, everything is under control'; (2) 'we refuse to be held responsible if by chance a damage was realised because we are the glorious fighters of the modern battle of innovation' can only maintain the public's distrust and radical rejection of risks whose tangible benefits it would not perceive.[107] Responsibility assumed without fighting back is a condition for establishing a minimum of confidence in the corporate world. This liability must, where applicable, goes beyond the current legal rules, in particular when the damage is caused by a cascade of partial liability linked to each other by unclear contracts.

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[102] Maria S Rocha, 'Integrating Sustainable Development into Existing Management Systems' (2007) 18(1/2) Total Quality Management 83.

[103] Stefan R Schaltegger, Roger Burritt and Holger Petersen, *An Introduction to Corporate Environmental Management: Striving for Sustainability* (Greenleaf Publishing 2003).

[104] Amy Gutmann, *Why Deliberative Democracy?* (Princeton University Press 2004).

[105] Donilo Borja and others, 'Rethinking Scenario Building for Sustainable Futures: Mobilizing Conscientização' (2025) 21(1) Ecosystems and People.

[106] Derk Loorbach, 'Transition Management for Sustainable Development: A Prescriptive, Complexity-Based Governance Framework' (2010) 23(1) Governance: An International Journal of Policy, Administration, and Institutions 161.

[107] Shalini Sharma, 'Stakeholder Influences on Sustainability Practices in the Canadian Forest Product Industry' (2005) 26(2) Strategic Management Journal 159.

The sense of responsibility must extend to active search for information. The precautionary principle certainly does not require that companies know what they cannot know, but that they seek to know what they can learn and take it into account.[108]

8.3.1 Precaution is Not a Threat to Innovation, It is the Condition

The precautionary principle is often criticised as a vital threat to innovation and entrepreneurship. This is taking things the wrong way and it is to endorse a conception of precaution that it is precisely to avoid, the one that makes it an abstention rule.[109]

It is first of all to take things the other way. The precautionary principle is not at the origin of the crisis of confidence noted and attitudes of refusal of collective risks incurred, but rather different scandals, health matters and major technological accidents.[110] It is rather the means to overcome this crisis of confidence by a double movement of channeling the protest and early but proportionate prevention of potential risks.[111]

In other words, it is by following the path of precaution that it will be possible to preserve the fundamental springs of innovation which, otherwise, risk being broken off in the face of a 'front of refusal'.

It is, then, an unintentional confirmation of the precaution conception that makes it a rule of abstention in the face of potential risks. This is not the objective of the law or of the doctrine developed in Europe.[112] The forbearance rule is defined as the requirement that a product or technique must be proven to be safe in the long term before anything can be authorised. In an uncertain and controversial universe, such proof is difficult to be provided.[113] The sponsor can only provide evidence that they have performed a set of tests and that these tests have produced acceptable results. Moreover, taken literally, the idea of harmlessness is to make zero harm a general social norm, this is obviously impossible in a world of scarce resources where the benefits of action can generally only be obtained if economic agents agree to bear certain costs.[114] A misguided conception of precaution as an abstention rule and the block refusal of

[108] Michele Naudé, 'Governance through Corporate Social Responsibility as a Key Organizational Principle' (2008) 6(2) Corporate Ownership and Control 393.
[109] Ian Kerr, 'Leadership Strategies for Sustainable SME Operation' (2006) 15(1) Business Strategy and the Environment 30.
[110] Alan Boyle, *International Law and Sustainable Development: Past Achievements and Future Challenges* (Oxford University Press 1999).
[111] Oliver Salzmann, Aileen Ionescu-Somers and Ulrich Steger, 'The Business Case for Corporate Sustainability: Literature Review and Research Options' (2005) 23(1) European Management Journal 27, 36.
[112] Steven Kelman, *Regulating America, Regulating Sweden: A Comparative Study of Occupational Safety and Health Policy* (MIT Press 1981).
[113] Ivan Montiel, 'Corporate Social Responsibility: Separate Pasts, Common Futures' (2008) 21 Organization & Environment 245.
[114] Warren Strugatch, 'Turning Values into Valuation: Can Corporate Social Responsibility Survive Hard Times and Emerge Intact?' (2011) 30(1) Journal of Management Development 44.

precaution are the two most assured ways to achieve the same result. That result is the systematic rejection of new collective risks associated with scientific and technical innovation.[115]

8.4 Monitoring, Surveillance And Evaluation of Current Policies

The application of the precautionary principle in the context of the Sustainable Development Goals (SDGs) has recently evolved, owing to an increasing understanding of the linkages between these goals and environmental and health concerns.[116] The notion of taking preventative steps in the face of potential threats, especially in the absence of full scientific certainty, is increasingly included in sustainable development policies, with a focus on the risks of irreparable damage.[117]

8.4.1 Recent Developments In The Application Of The Precautionary Principle With Regard To The SDGs

- The precautionary principle is increasingly being integrated into public policies related to the SDGs, including natural resource management, climate change mitigation, and biodiversity conservation.[118]

- Implementing the precautionary principle requires coordinated effort to address global concerns like climate change and biodiversity loss.[119]

- The precautionary principle now encompasses social and economic factors, in addition to environmental concerns. It entails evaluating the potential consequences of activities on vulnerable populations and ensuring that the measures implemented do not jeopardise their well-being.[120]

- Efforts are underway to improve risk assessment methodologies for scientific uncertainty, particularly through modelling and simulation.[121]

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[115] Andrew D F Price and K Chahal, 'A Strategic Framework for Change Management' (2006) 24(3) Construction Management and Economics 237.

[116] Rafael Almeida Magris and Leandra R Gonçalves, 'Overcoming Challenges and Identifying Opportunities for Marine Protected Area Planning: Lessons from Brazil' (2025) 180 Marine Policy 106798.

[117] Ndidzulafhi Innocent Sinthumule, 'Sacred Natural Sites as Other Effective Area-Based Conservation Measures (OECMs) for Biodiversity Conservation in South Africa: Key Opportunities and Challenges for Policy and Practice' (2025) 86 Journal for Nature Conservation 130.

[118] Ndidzulafhi Innocent Sinthumule, 'Conservation Effects of Governance and Management of Sacred Natural Sites: Lessons from Vhutanda in the Vhembe Region, Limpopo Province of South Africa' (2022) 19(3) International Journal of Environmental Research and Public Health 1067.

[119] Enric Sala and Kristin Rechberger, 'Protecting Half the Ocean' in Raj M Desai, *From Summits to Solutions – Innovations in Raj MImplementing the Sustainable Development Goals* (Brookings Institute Press 2018).

[120] John Studley, *Indigenous Sacred Natural Sites and Spiritual Governance: The Legal Case for Juristic Personhood* (1edn, Routledge 2018).

[121] James A Fitzsimons and others, 'Clarifying "Long-Term" for Protected Areas and Other Effective Area-Based Conservation Measures (OECMs): Why Only 25 Years of "Intent" Does Not Qualify' (2024) 30 Parks 89.

- Civil society has a crucial role in developing and implementing precautionary principles. Non-governmental organisations, citizen movements, and independent experts work to promote public awareness, influence policies, and monitor the principle's implementation.[122]

8.4.2 Examples Of How The Precautionary Principle Is Applied In The Context Of The Sdgs

- SDG 6 (Clean Water and Sanitation) emphasises sustainable water management and pollution control to protect aquatic ecosystems and human health.[123]

- SDG 12 (Responsible Consumption and Production) focuses on reducing environmental impact through waste prevention, extending product lifespans, and promoting reuse.[124]

- SDG 13 (Climate Action) emphasises reducing greenhouse gas emissions and responding to climate change using the precautionary principle to prevent irreversible consequences of global warming.[125]

- SDG 14 and 15 focus on protecting marine and terrestrial biodiversity to prevent species extinction and ecosystem degradation.[126]

8.4.3 Difficulties And Challenges:

- The precautionary principle can result in considerable economic costs and limits for firms and states.[127]

- Scientific restrictions can make assessing risks and implementing precautionary measures challenging due to their complexity and unpredictability.[128]

[122] Edward O Wilson, 'Half-Earth,' in *Our Planet's Fight for Life* (Liferight Publishing 2016).
[123] Timothy Searchinger and others, *World Resources Report: Creating a Sustainable Food Future* (World Resources Institute 2018).
[124] Courtney E Cooper-Vince and others, 'Household water insecurity, missed schooling, and the mediating role of caregiver depression in rural Uganda' (2017) 15 Glob Ment Health (Cambridge).
[125] Jan Buizer, Katharine Jacobs and David Cash, 'Making short-term climate forecasts useful: Linking science and action' (2016) 113(17) Proceedings of the National Academy of Sciences of the United States of America 4597.
[126] Daniela Diz and others, 'Mainstreaming marine biodiversity into the SDGs: The role of other effective area-based conservation measures (SDG 14.5)' (2018) 93 Marine Policy 251.
[127] Mariana Mazzucato, *Mission-Oriented Research & Innovation in the European Union: A Problem-Solving Approach to Fuel Innovation-Led Growth* (Publications Office of the European Union 2018) <https://data.europa.eu/doi/10.2777/360325> accessed 8 August 2025.
[128] David Lusseau and Francesca Mancini, 'Income-based variation in Sustainable Development Goal interaction networks' (2019) 2 Nature Sustainability 242 <https://doi.org/10.1038/s41893-019-0231-4> accessed 8 August 2025.

- Some argue that the precautionary principle may hinder innovation and economic development, particularly in new technologies.[129]

Finally, implementing the precautionary principle in the context of the SDGs is a complex problem that necessitates a delicate balance among environmental conservation, human health, and economic growth. To guarantee that this principle is effectively implemented, international collaboration must be strengthened, risk assessment improved, and all-important parties engaged.[130]

The SDGs ask for a big push to mobilise data and monitor frameworks in order to track transformations and exchange best practices. Data on the SDGs' intended outcomes are still in short supply.[131] To fill these gaps, official and non-official data, especially remote sensing and big data, will need to be integrated through platforms like the Group on Earth Observations or the Global Partnership for Sustainable Development Data. These and other activities must be accelerated with the help of the scientific community.[132]

IX. Conclusion

The uncertainties over the quality of certain sensitive products will lead to a new vigilance regarding entire production chains, including when they cross borders. The Bovine spongiform encephalopathy crisis and the British beef embargo have led to a growing awareness of this new requirement, which is nevertheless more general in scope.[133]

A new international trade situation is playing out on this risk/quality couple. Products that may be at risk will be allowed to circulate as far as the guarantees can be given on the environmental and health quality of production and distribution chains, from the extraction of natural resources, first and second processing, transport and storage operations, with their implications for the mixing of products from different origins, up to distribution to the general public.[134] Producers who cannot provide sufficient guarantees on the quality of the upstream sector and are not prepared to assume the crisis episodes that could occur risk seeing their products' circulation limited to territories and circuits. These are typically places that either control the

[129] Francesco Fuso Nerini and others, 'Mapping synergies and trade-offs between energy and the Sustainable Development Goals' (2017) 3 Nature Energy 10.

[130] Gabrielle G Singh and others, 'A rapid assessment of co-benefits and trade-offs among Sustainable Development Goals' (2018) 93 Marine Policy 223.

[131] Robert Scholes and others, *Summary for policymakers of the assessment report on land degradation and restoration of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services* (1edn, Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services 2018).

[132] Helena Alves-Pinto and others, 'Opportunities and challenges of other effective area-based conservation measures (OECMs) for biodiversity conservation' (2021) 19(2) Perspectives in Ecology and Conservation 115.

[133] Andrew K Wallis, Alecia R Kelly and Michelle LM Graymore, 'Assessing sustainability: a technical fix or a means of social learning?' (2010) 17(1) International Journal of Sustainable Development & World Ecology 67.

[134] Adrian H Wilkinson, Malcolm Hill and Paul Gallon, 'The sustainability debate' (2001) 21(12) *International Journal of Operations & Production Management* 1492.

flow of information or are willing to accept a higher level of risk in other parts of the world.[135] Despite the back-guard battles of some countries, the probable impact of the precautionary principle on international trade will be to differentiate the regimes for the movement of goods according to the classes of risks involved and the quality of traceability that will be offered.[136]
Businesses do not function in emptiness. As to the "business-as-society" model of the twenty-first century, contemporary company executives are expected to use their expertise, experience, and lessons gained from the past to address new and unique issues. Aside from the incessant daily struggles to stay competitive in a dynamic and ever-evolving economic environment, society's expectations of businesses are also evolving throughout time, moving towards greater social and environmental responsibility.[137]

[135] Reinhard L Steurer and others, 'Corporations, Stakeholders and Sustainable Development 1: A theoretical exploration of business-society relations' (2005) 61(3) Journal of Business Ethics 263.
[136] Walt Strugatch, 'Turning values into valuation. Can corporate social responsibility survive hard times and emerge intact?' (2011) 30(1) Journal of Management Development 44.
[137] Caroline Daub and Yves-Marie Sherrer, 'Doing the right thing right:i The role of social research and consulting for corporate engagement in development cooperation' (2009) 85 Journal of Business Ethics 573.

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