



# DIGITAL FOR A SUSTAINABLE FUTURE

Achieving the Sustainable Development Goals by creating a “digital commons” for ESG data

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Véronique Blum and Maxime Mathon

THINK-TANK  
**DIGITAL  
NEW DEAL**

December 2023



SUSTAINABLE  
DEVELOPMENT HAS BEEN  
BUILT THROUGH THE  
INVOLVEMENT OF MULTIPLE  
STAKEHOLDERS, ESG DATA  
CANNOT BE CONFISCATED  
FROM THEM

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## PREFACE

### The role of digital technology in achieving the Sustainable Development Goals

Our think-tank had long wanted to investigate the issue of sustainable development, specifically the role of digital technology in achieving the Sustainable Development Goals (SDGs). We wanted to contribute by offering thoughtful insights and, more importantly, proposing concrete actions to ensure that digital technology is seen as a solution and that its innovative capacity is effectively utilised for the progress of humanity and its living ecosystem. We are convinced that a “Green-Digital New Deal” is possible if the European Union establishes universal Key Performance Indicators (KPIs) that uphold the humanistic values we advocate for.

### The role of digital technology in responsible finance

This report is a natural extension of the white paper “Trustworthy Data” that we published in 2022, as it once again aims to defend the issues of data sovereignty and competitiveness. Because those who lose control over data also lose their market position and expose themselves to strategic dependencies.

- Competitiveness comes first, as the importance of private investments in achieving the SDGs is colossal. For example, an annual investment of 4 trillion euros is needed in renewable energy sources (RES) to achieve carbon neutrality<sup>1</sup>. Therefore, it is crucial for the EU to rely on private investment to succeed in this financing plan.
- Sovereignty follows, as the capture of this information by a group of private actors, at the expense of other stakeholders and global efforts, is a phenomenon that our think-tank has been combating since its inception. In our view, this economic asymmetry can lead to an ecological dystopia. There is indeed an incompatibility between, on the one hand, the pursuit of the common good, and on the other hand, the economic interests of a handful of major rating agencies (referred to as “Big Rating” in this report) that monopolise and distort the data processing market, similar to how Big Tech companies do with data collection.

### The role of digital commons for a responsible liberal economy

The European Union must chart an alternative path that places the principle of responsibility at the core of its organisation. The experience of the General Data Protection Regulation (GDPR) demonstrates Europe’s ability to think about digital issues and have a global impact. To achieve this, we need to be imaginative, as authors Maxime Mathon and Véronique Blum suggest, by proposing that Environmental, Social, and Governance (ESG) data be managed and governed through a “digital commons” framework. We appreciate their

positive perspective on the role of digital technology and their unconventional approach to the commons (which are often seen as opposing the interests of free economic trade, valued by the EU). Such recognition could ensure free access for all stakeholders, improve information quality, and become an unprecedented catalyst for the SDGs. Let us hope that the international community seizes this proposal and exhibits the same momentum in addressing the climate emergency as it did in response to the health crisis. The “house is burning,” and we must not let the thermometer remain in a few hands.

**Olivier Sichel,**  
President

**Arno Pons,**  
General delegate

**Digital New Deal**

<sup>1</sup> “Investir pour nos valeurs : les 5 failles de la finance responsable”, Mickaël Berrebi, Editions Eyrolles, 2022

# INTRODUCTION

**The 1960s California was the birthplace of two innovative movements destined to change the world: the digital revolution and sustainable development,** advocating respectively for the free flow of knowledge and environmental protection. Following parallel trajectories, each movement has successively proposed innovative ideas based on awareness, and with the help of numerous institutions, these ideas have been disseminated. Finally, currently underway, the establishment of local or international regulations reflects the initial institutionalisation of these two movements.

**One particular international organisation, the United Nations (UN), houses a convergence centre for these two movements. It does so by deploying the 17 Sustainable Development Goals (SDGs) and leveraging big data.** According to the UN, accelerating the adoption of the SDGs relies on the accessibility and processing of data through the use of “big data.” The UN assigns the “digital” realm a mission of public interest aligned with the public interest missions associated with sustainable development.

Data, digital information, and specifically **Environmental, Social, and Governance (ESG) data have become essential for economic actors' actions in favour of the environment and society.** Companies and organisations that generate ESG information now require an information system that disseminates this information while preserving the reliability and the robustness of the data produced. This is a necessary condition to provide stakeholders with a fair and accurate representation of the actions undertaken by these entities.

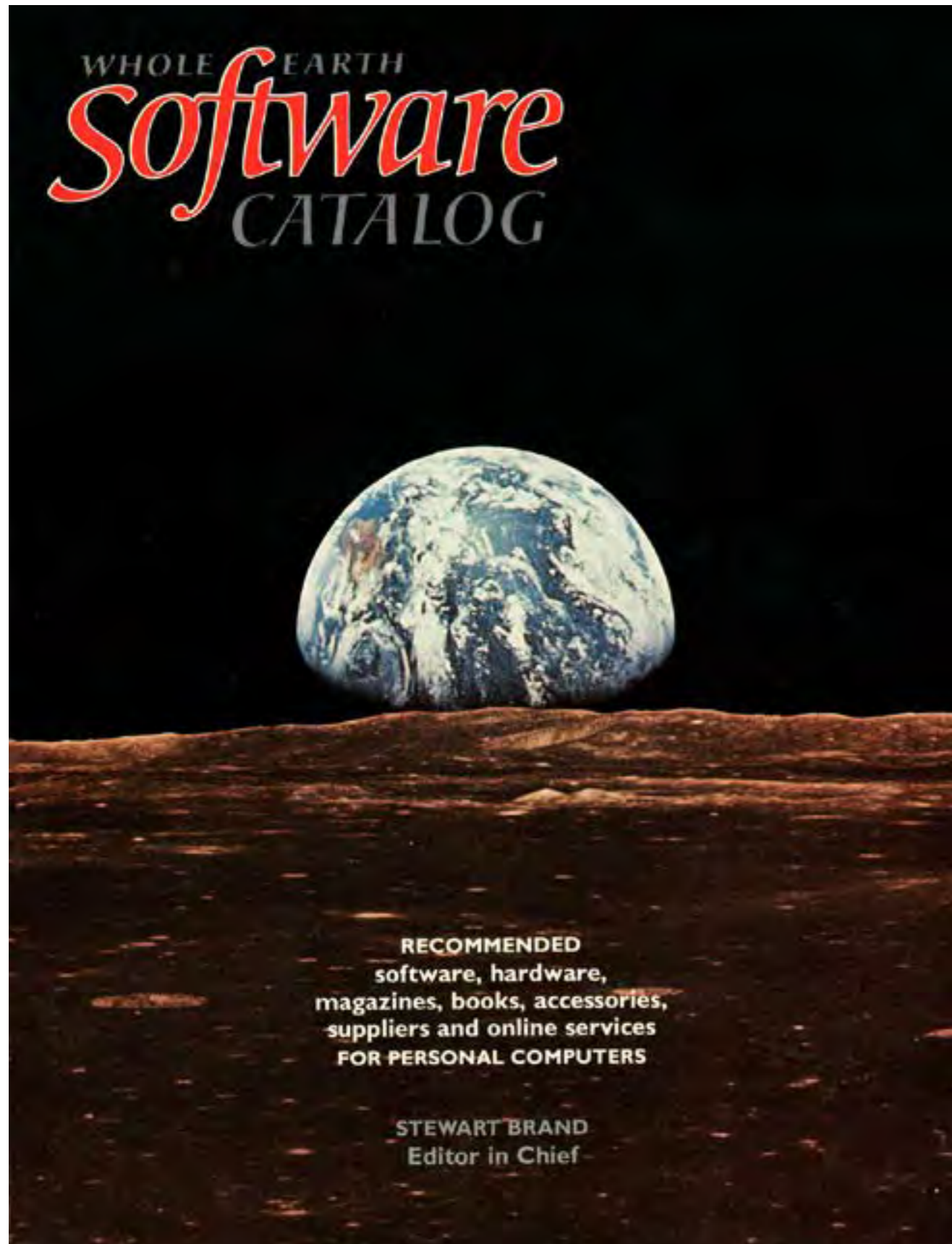
However, it appears that the conditions are not yet in place to achieve the United Nations' Sustainable Development Goals established in 2015. The ESG data market has self-organised since the availability of data, with the following configuration:

1. ESG data is primarily produced by companies.
2. ESG data is useful for all stakeholders.
3. Currently, ESG data is captured by data providers forming an oligopoly, offering divergent products that are sold as complementary.

This situation highlights the need for greater accessibility, standardisation, and transparency in the ESG data market. It is crucial to address the current concentration of data providers and promote competition, collaboration, and harmonisation of ESG data to ensure its quality, reliability, and usefulness for all stakeholders.

This market situation is unsatisfactory for both data producers and users. **How, then, can we evolve the use of ESG data to allow it to fulfill its role?** To answer this question, this note is divided into 5 parts.

Firstly, we propose a chronology of the evolution of the Sustainable Development and Digital movements since their emergence in the 1960s in California up to the present day. Secondly, we examine the current functioning mechanisms of the ESG data market, describing the actors involved, their influence, the nature of transactions, the needs of users, and their sources of dissatisfaction. To understand how this arena operates and to guide us in recommending transformations, we draw upon the theory of the commons proposed by Elinor Ostrom, the Nobel laureate in economics in 2009. The third part provides a concise presentation of the theory of the commons, including classifications of goods beyond just public and private goods. We then explain how an approach based on digital commons offers a credible solution. Finally, we provide recommendations for decision-makers.



# I. PARALLEL HISTORY: SUSTAINABLE DEVELOPMENT AND DIGITAL TECHNOLOGY

As we will see later, the two movements, digital technology and sustainable development, now converge to create new challenges, particularly in the realm of ESG data, which is the focus of this dossier. The following chronology unfolds in four stages: 1) the emergence of the movements with innovative thinking, 2) the dissemination of ideas by international institutions, 3) the proposal of implementation solutions with the provision of tools, and 4) the period of convergence.

## 1.1. THE BIRTH OF TWO MOVEMENTS

In 1962, Rachel Carson published *Silent Spring*<sup>2</sup>, a lyrical, poetic, and scientific study on the decline of biodiversity in industrial areas of Pennsylvania. For the first time, she highlighted the effects of the insecticide DDT (Dichlorodiphenyltrichloroethane). She revealed that the spring season had become silent due to the collapse of insect, bird, fish, and even livestock populations. Her work suggested the persistence of DDT in the environment, with its accumulation affecting the entire food chain, including human beings. Carson refuted the notion of individual immunity through the existence of a threshold effect. In doing so, she exposed the deceptive arguments put forth by chemical industry proponents to downplay the effects of their activities. Faced with what could be seen as an attempt to manipulate public opinion, Carson began an indictment that held governments and businesses accountable for the environmental impacts they cause.

In 1967, Stewart Brand became a singular figure embodying the incredible interplay between the ecological and digital revolutions. As the publisher of the iconic *Whole Earth Catalog*, a revered compendium for the geek and hippie communities, he posed a question that resonated widely: Why have we not yet seen a complete photograph of the Earth? When NASA responded to his request in 1967 and released the image, it triggered an immediate and global awakening, akin to the “overview effect” experienced by astronauts. The “overview effect” refers to the profound and transformative experience astronauts have when observing the Earth from space. They realize that the Earth is a cohesive and interconnected whole, and that the challenges humanity faces, such as environmental issues, require a collective and global approach. Brand’s efforts, along with the power of imagery and the broader environmental movement, helped foster a deeper understanding of our planet’s interconnectedness and the need for collective action to address its challenges.

This photograph profoundly altered the common perception of the inside and outside, particularly in regards to the Earth’s surface. The human environment now appeared much more limited amidst the vastness of space<sup>3</sup>. Just a few months later, in 1968, Stewart Brand filmed “The Mother of All Demos”. This groundbreaking demonstration, led by Douglas Engelbart<sup>4</sup>, introduced the public to concepts such as the computer mouse, hypertext, video conferencing, email, and the desktop environment. The potential and promises offered by civil computing, soon to be democratized and personal, outlined the contours of a new powerful tool for emancipation<sup>5</sup>.

<sup>2</sup> *Silent Spring*, Rachel L. Carson, Mariner Books Houghton Mifflin Harcourt, New York, 1962

<sup>3</sup> <https://medium.com/the-long-now-foundation/earth-and-civilization-in-the-macroscopic-82243cad20bd>

<sup>4</sup> <https://www.wired.com/story/how-doug-engelbart-pulled-off-the-mother-of-all-demos/>

<sup>5</sup> <https://www.wired.com/story/50-years-later-we-still-dont-grasp-the-mother-of-all-demos/>

Furthermore, in the same year, President Lyndon B. Johnson signed the Freedom of Information Act (FOIA), a U.S. law granting access to public information. This law provided the right to access public information, further enhancing the potential for transparency and open access to knowledge.

The idea, cherished by the Californian counterculture of that time, to find a way to transform the world without seizing power, may have found the means to take action with this law, the personal computer, and the overview effect.

## 1.2 THE DISSEMINATION OF IDEAS FACILITATED BY INTERNATIONAL INSTITUTIONS

### 1.2.1 Time for discussion

The year 1968 marked both the beginning of a computer boom and the first United Nations conference using the term “ecologically sustainable development”. It was the “Intergovernmental Conference for Rational Use and Conservation of the Biosphere”, organised by UNESCO. This conference signalled that institutions would address these phenomena and respond to the emerging pressures that were becoming evident.

In 1971, a new form of activism emerged. A group of pacifist and environmentalist activists boarded the ship Phyllis Cormack to protest against the US nuclear tests on Amchitka Island, off the coast of Alaska. Their goal was to prevent these tests by placing themselves directly in the test zone. This action garnered worldwide attention and achieved its objective, as the United States ceased atmospheric nuclear testing the following year. Led by Jilm Bohlen and Irving Stowe, the activists on the expedition sought a name that evoked the ideals they stood for, and thus Greenpeace was born.

The year 1972 was filled with significant events. On one hand, the OECD (Organization for Economic Cooperation and Development) established the Polluter Pays Principle (PPP)<sup>6</sup>, a fundamental principle of environmental law. This principle was adopted based on the recommendation of the Committee on Environmental Policies. The OECD recommended that member countries, when formulating environmental policies and control measures, adhere to the “Guiding Principles concerning the Economic Aspects of Environmental Policies at the International Level,” which are annexed to the recommendation. The Polluter Pays Principle emphasises the economic and commercial consequences of environmental policies and stems directly from the ethical concept of responsibility. It involves holding each economic actor accountable for the negative externalities resulting from their activities.

Furthermore, the first United Nations Conference on the Human Environment (UNCHE) took place in Stockholm in 1972. The objective was to assess the global state of the environment and identify global environmental problems. The hope was to establish the conditions for international cooperation. The final declaration explicitly acknowledged humankind’s responsibility towards the environment, including the duty to protect it and enhance it, while emphasising that this would serve both the present and future generations’ interests.

Finally, in 1972, the report The Limits to Growth, also known as the Meadows Report, was published. It served as a warning to the international community about the physical unsustainability of unlimited material and population growth on a finite planet. Commissioned by the Club of Rome, this alarmist report utilised mathematical modelling to predict the collapse of the global

system by 2100 if exponential growth continued at a constant rate. The report recommended, at a minimum, the stabilisation of both global population and production. The publication caused a shockwave in academic, economic, and political circles and triggered a reaction of denial towards what was perceived as “ecological catastrophism.” The report’s Malthusian undertones were a subject of controversy, and eventually, the Club of Rome distanced itself from the report’s conclusions. Moreover, the report did not provide any recommendations other than the notion of “zero growth.” As a response, alternative concepts such as “differentiated growth” or “organic growth” emerged to moderate the idea of zero growth.

Soon, the occurrence of environmental catastrophes started to support the possibility of ecological catastrophism. The late 1970s and early 1980s were marked by numerous industrial and environmental disasters: the toxic leak at the Seveso factory in Italy, the shipwrecks of the Olympic Bravery, the Amoco Cadiz tanker, and the Boehlen tanker off the coast of Brittany, the nuclear accident (reactor meltdown) at Three Mile Island in Pennsylvania, and the Chernobyl disaster. The increased media coverage of these recurring accidents influenced public opinion, prompting people to consider the link between economic development and environmental impacts. Citizens also realised that they were the ultimate creditors, paying the bills without any hope of being reimbursed.

As a direct consequence, the question of responsibility enters the public debate. In 1979, the German philosopher Hans Jonas published his work The Imperative of Responsibility as a response to Ernst Bloch’s “Principle of Hope” (1944-1959). Hans Jonas introduced the principle of responsibility of present generations towards future generations and proposed a new categorical imperative in the spirit of Immanuel Kant: “Act so that the effects of your action are compatible with the permanence of genuine human life”. This principle emphasised the ethical duty to consider the long-term consequences of human actions and the preservation of a sustainable and flourishing human existence on the planet.

### 1.2.2 Time for taking a stand

Another legal debate emerged at the same time regarding intellectual property rights and their recognition. In the early 1970s, software was not associated with property rights, and copyright law did not yet apply to computer creations. In a rapidly growing and lucrative market, a culture of sharing and collaboration among developers prevailed. However, the situation began to change in the 1980s with modifications to intellectual property law and the promises of financial gains. Some jurisdictions started applying intellectual property rights to computer creations, marking a shift in the landscape.

The differentiated adaptation of intellectual property law, along with the diversity of “inventors” and “authors” with varying motivations for financial gain, led to a schism. On the one hand, there was the microcomputer industry, built on proprietary software, embodied by Microsoft. On the other hand, there was the “Free Software” movement, represented by R. Stallman and the GNU project. At the same time, the Arpanet (Advanced Research Projects Agency Network), the first packet-switched network developed between 1961 and 1969 by researchers with military funding, also split into two: a military network and a university network that would become the current Internet. A decisive leap occurred in the 1980s when the originally restricted, sovereign, and publicly-owned network transformed into an evolving and open network for proponents of proprietary software. The “Free” movement then evolved through the Free Software Foundation, with the goal of establishing a new tool: the General Public License (GPL). This licence enables

<sup>6</sup> Recommendation of the Council on OECD Legal Instruments Guiding Principles concerning International Economic Aspects of Environmental Policies, OECD/LEGAL/0102, <https://legalinstruments.oecd.org/public/doc/4/4.en.pdf>

the collaborative construction and distribution of software that underlies the applications at the core of the Internet, such as HTTP, SMTP, FTP, and more.

In 1987, the United Nations' World Commission on Environment and Development published its final report entitled *Our Common Future*. It included the first occurrence of the term "sustainable development". This report, also known as the Brundtland Report, argued that future generations would suffer from uncontrolled industrial and economic development. It proposed a shift towards a mode of development that "meets the needs of the present without compromising the ability of future generations to meet their own needs". This concept has since become widely recognized and influential in discussions on global development and environmental sustainability.

In 1992, the United Nations Conference on Environment and Development (UNCED), also known as the Earth Summit, took place in Rio de Janeiro. It brought together political leaders, diplomats, scientists, media representatives, and non-governmental organisations (NGOs) from 179 countries in a massive effort to reconcile the impact of human socio-economic activities with the environment. UNCED proclaimed the concept of sustainable development as an achievable goal for everyone around the world, whether at the local, national, regional, or international level. It recognized that the integration and balance of economic, social, and environmental concerns in meeting our needs are vital for the preservation of human life on the planet. It emphasised that such an integrated approach is achievable when minds and hands work together. The conference also acknowledged the need to rethink our lifestyles in terms of production, consumption, coordination, and decision-making.

At this stage, public opinion is informed through consultations. Institutions, having gained insights from various representatives of civil society, can then proceed to take action.

### 1.2.3 Time for soft law regulation

#### The first regulatory steps in sustainable development

In 1994, the Caux Round Table produced a "simple, universal, and voluntary framework" based on the *Principles for Responsible Business*<sup>7</sup>. Developed from the framework of the Minnesota Center for Corporate Responsibility (MCCR), these principles aim to engage businesses in global cooperation for environmental preservation. They provide business leaders with an opportunity to demonstrate their commitment to not acting at the expense of stakeholders. The voluntary and non-binding nature of the initiative encourages the initiation of a virtuous cycle that emphasises exemplary practices rather than mere compliance.

**PRINCIPLES FOR RESPONSIBLE BUSINESS**

**Principle 1:** Respect stakeholders beyond shareholders. A responsible business has responsibilities beyond its investors and managers.

**Principle 2:** Contribute to economic and social development.

**Principle 3:** Build trust by going beyond the letter of the law.

**Principle 4:** Respect rules and conventions.

**Principle 5:** Support responsible globalization.

**Principle 6:** Respect the environment.

**Principle 7:** Avoid illicit activities.



<sup>7</sup> <https://www.cauxroundtable.org/principles/>

It would take until the year 2000 for the global agenda to take another step forward with the United Nations' *Global Compact initiative*<sup>8</sup>, inspired in particular by the pioneering work of the Caux Round Table. This initiative placed on the international agenda what would become known as Corporate Social Responsibility (CSR), specifically through Principle 8.

**UN GLOBAL COMPACT PRINCIPLES**

**HUMAN RIGHTS**

**Principle 1:** Businesses must support and respect the protection of internationally proclaimed human rights.

**Principle 2:** Businesses must ensure that they are not complicit in human rights abuses.

**LABOUR**

**Principle 3:** Businesses must uphold the freedom of association and the effective recognition of the right to collective bargaining.

**Principle 4:** Businesses must uphold the elimination of all forms of forced and compulsory labour.

**Principle 5:** Businesses must uphold the effective abolition of child labour.

**Principle 6:** Businesses must uphold the elimination of discrimination in respect of employment and occupation.

**ENVIRONMENT**

**Principle 7:** Businesses must support a precautionary approach to environmental challenges.

**Principle 8:** Businesses must undertake initiatives to promote greater environmental responsibility.

**Principle 9:** Businesses must encourage the development and diffusion of environmentally friendly technologies.

**ANTI-CORRUPTION**

**Principle 10:** Businesses must combat corruption in all its forms, including extortion and bribery.



In the year 2000, 193 member states of the United Nations, along with around twenty international organisations, gathered at the Millennium Summit at the UN Headquarters in New York. It was the largest gathering of heads of state and government in history. Among them, 189 signed the *Millennium Declaration*, which outlined the *Millennium Development Goals (MDGs)* for the period 2000-2015. These goals served as a framework for the development of the future *Sustainable Development Goals (SDGs)*.

The term ESG was first used in 2004 in the report *Who cares wins*<sup>9</sup>, which aimed to provide a set of recommendations for integrating Corporate Social Responsibility (CSR), as proposed by the UN Global Compact, into the fields of asset management, securities brokerage services, and associated research functions.

A few months later, the United Nations Principles for Responsible Investment (UN PRI) began to take shape. The aim is to hold shareholders of the world's largest companies accountable and accelerate the adoption of sustainable practices by businesses. The growing internationalisation of private ownership should act as a catalyst.

<sup>8</sup> <https://unglobalcompact.org/what-is-gc/mission/principles>  
<sup>9</sup> [https://www.ifc.org/wps/wcm/connect/de954acc-504f-4140-91dc-d46cf063b1ec/WhoCaresWins\\_2004.pdf?MOD=AJPERES&CVID=jqeF.mD](https://www.ifc.org/wps/wcm/connect/de954acc-504f-4140-91dc-d46cf063b1ec/WhoCaresWins_2004.pdf?MOD=AJPERES&CVID=jqeF.mD)  
[https://www.unepfi.org/fileadmin/events/2004/stocks/who\\_cares\\_wins\\_global\\_compact\\_2004.pdf](https://www.unepfi.org/fileadmin/events/2004/stocks/who_cares_wins_global_compact_2004.pdf)

The authors proclaim: "As institutional investors, we have a duty to act in the best long-term interests of our beneficiaries. In this fiduciary role, we believe that environmental, social, and corporate governance (ESG) issues can affect the performance of investment portfolios (to varying degrees across companies, sectors, regions, asset classes and through time). We also recognise that applying these Principles may better align investors with broader objectives of society".

The UN PRI was officially launched in April 2006 with 100 signatories and has now grown to over 3,000 signatories worldwide.

In 2010, the first formalisation of CSR (Corporate Social Responsibility) was the publication of ISO 26000 standard.

After 6 years of work and the involvement of experts from 99 countries, the standard provides guidelines to assist companies and organisations in implementing sustainable development principles. The text was approved by 93% of the participating countries, with the exception of India, Luxembourg, Turkey, Cuba, and the United States.

It is worth noting that ISO 26000 is not certifiable, which is a major obstacle to its adoption as companies do not derive any immediate benefits from its implementation. Other initiatives are also emerging. In California, for example, the B Corp label officially became a new form of company, achieving what the ISO 26000 certification aimed to do.

In 2011, Paula Caballero, Director of Economic, Social and Environmental Affairs at the Colombian Ministry of Foreign Affairs, decided to broaden the understanding of the notion of development to include other dimensions that were not covered by the expiring Millennium Development Goals in 2015.

The final stage of institutionalising the ESG concepts resulted in the transformation of these principles into the Sustainable Development Goals (SDGs). The SDGs consist of 17 goals (Figure 1) and operate at the macroeconomic level. Together, they form a "a universal call to action to end poverty, protect the planet and improve the lives and prospects of everyone, everywhere"<sup>10</sup>.



The long process of defining the SDGs is detailed in a precise and passionate book by Paula Caballer<sup>11</sup>. She recounts how she manages to convince her government colleagues and her overseeing minister, as well as the resistance and even derision that her proposal encounters at that time: "Many - both from developed as well as developing countries - saw the SDGs as an attempt to undermine the MDGs and to detract attention from the 'core' development issues."

Many questions and concerns remain unanswered: How to scale up from organisational and state-level measures? Is this approach universally applicable to all countries? Is the universalization of principles a guarantee of equity?

At the geopolitical level, the initiative surprises. It comes from the "Global South" and seems incongruous to the heavyweights of the "Global North" (especially Europe) or the major emerging countries: "Many questioned with a dose of exasperation why Colombia was even bothering to prepare for Rio+20 when 'it was still so far away'. And many asked 'Why Colombia? Why is Colombia leading on a global agenda?'" The criticism is diametrically opposed to the Colombian approach, which includes stakeholders and civil society in the negotiation process in a holistic and "Jonasian" approach: "Within nations, between nations, and between generations."

"There is an urgent need to rethink what growth, prosperity, and well-being mean. In a small and fragile planet, development consists of an array of parameters - including sustainability and equity - which form a spectrum along which all countries are to be found - both developing and developed. Shrinking planetary boundaries and the refugee crisis are bringing home the fact that our human and natural systems are profoundly interconnected and that not one nation or people can either develop or maintain high development standards separate from others"-

Paula Caballero

According to Paula Caballero, the MDGs reflected a minimalist agenda that was incapable of implementing profound, systemic change and the necessary structural transformations. The need for a program around which it was possible to converge outweighed the international compromise on the SDGs, including both public and private actors.

### 1.3 THEORETICAL AND PRACTICAL TOOLS FOR THE CONVERGENCE OF MOVEMENTS

The information society, the recognition of resource depletion, the interconnectedness of the world, and the understanding of the impacts of human activities beyond defined boundaries, all highlight the need for global governance. Human societies are compelled to reinvent themselves and seek new frameworks for understanding and decision-making.

The theories of modern finance that advocate for profit maximisation and risk minimization have become controversial. In 1984, E. Freeman proposed a *Stakeholder Theory*<sup>12</sup> as an alternative to shareholder theory. This theory provides a theoretical framework for social and environmental responsibility. It places the company at the centre of a system of relationships with its stakeholders (employees, customers, shareholders, environment, suppliers, etc.) and recognises that the company's long-term performance depends on fair and sustainable relationships with its stakeholders. However, this framework remains descriptive and normative, and struggles to provide actionable solutions.

<sup>10</sup> <https://www.undp.org/fr/sustainable-development-goals>

<sup>11</sup> [https://www.rienner.com/title/Redefining\\_Development\\_The\\_Extraordinary\\_Genesis\\_of\\_the\\_Sustainable\\_Development\\_Goals](https://www.rienner.com/title/Redefining_Development_The_Extraordinary_Genesis_of_the_Sustainable_Development_Goals)

<sup>12</sup> [https://www.rienner.com/title/Redefining\\_Development\\_The\\_Extraordinary\\_Genesis\\_of\\_the\\_Sustainable\\_Development\\_Goals](https://www.rienner.com/title/Redefining_Development_The_Extraordinary_Genesis_of_the_Sustainable_Development_Goals)



The value of this framework lies in its ability to describe the society in which we live rather than prescribing individual goals to strive for. It involves observing how various communities are structured in order to draw lessons from them. This is precisely the ambition of the work of Elinor Ostrom.

Elinor Ostrom revolutionised economic and political thinking with her book published in 1990: *Governing the Commons*<sup>13</sup>. The significance of her work lies in its universality, as it applies to both digital goods and natural resources. Starting in the mid-1990s, Ostrom's ideas on the management of "the commons" enabled the principle of responsibility put forth by Hans Jonas, published in Germany in 1979, to take shape. According to Ostrom's insights, common resources can be effectively governed by adhering to rules of organisation and governance (as discussed further below). Ostrom became the first woman to receive the Nobel Prize in 2009.

Since then, major international organisations such as the United Nations, OECD, and UNESCO have heavily relied on the concept of the environment as a "Global Commons" to be collectively and responsibly managed.

Starting from 2005, Big Data has been expanding, bringing with it new promises for understanding various phenomena, including sustainable development. With the availability of open-source software such as Hadoop, it is now possible to manage large amounts of structured and unstructured data.

In 2009, the United Nations launched an innovative laboratory called UN Global Pulse to better envision a world where responsible and inclusive digital innovation would advance sustainable development and protect the planet. The laboratory serves as a meeting point for digital innovation and social sciences. To anticipate, respond to, and adapt to future challenges, UN Global Pulse brings together multidisciplinary teams from data science, strategic foresight, behavioural sciences, and digital technologies.

In 2012, a first report titled Big Data for Development: Challenges & Opportunities, outlined how to fully integrate digital technology into the overall strategy of the United Nations<sup>14</sup>, which led to the establishment of an independent group by Ban Ki Moon in 2014. This group, called the Independent Expert Advisory Group on a Data Revolution for Sustainable Development (IEAG), was tasked with harnessing the power of Big Data for sustainable development. The IEAG played a crucial role in publishing the report A World That Counts, which preceded the publication of the Sustainable Development Goals (SDGs).

*We believe that the data revolution can be a revolution for equality. More, and more open, data can help ensure that knowledge is shared, creating a world of informed and empowered citizens, capable of holding decision-makers accountable for their actions*<sup>15</sup>.

The message is clear: the creation of a "Global Data Ecosystem" based on a "Global Consensus on Data" should enable each country to have the means to measure its progress towards sustainable development and create conditions for all stakeholders to be held accountable. This report conveys a crucial idea: **global efforts towards sustainable development can only be effective if they are measured and measurable**. This measurability is intended to provide the necessary transparency for stakeholders to align their actions. **The United Nations recognises early on that data lies at the core of the Sustainable Development Goals (SDGs)**.

This document also lists the categories of actors involved in contributing to the SDGs and clearly states that data produced by these different sources should be open in order to

be interconnected and measure global progress.

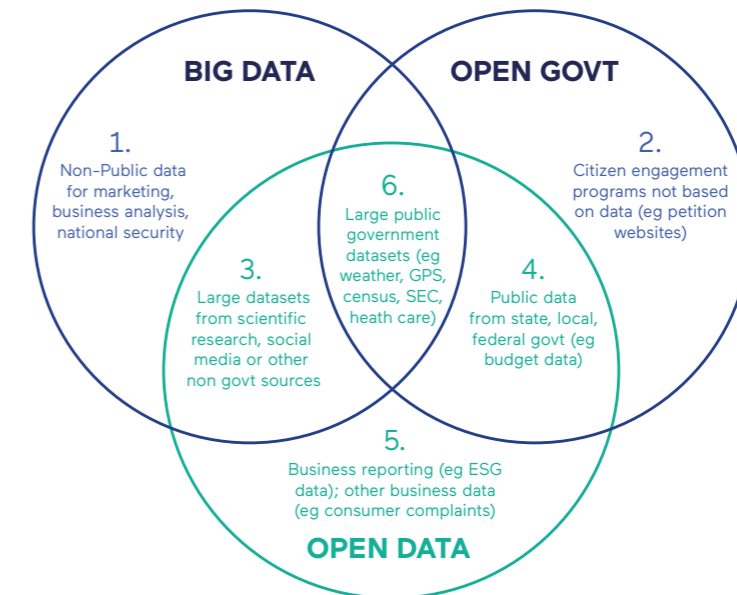
Three sources of data are identified: the public/civil sphere (international organisations, national statistical agencies, ministries, local governments and satellite programs, NGOs), the private sector (businesses), and the research community (scientists and academics).

When the MDGs (Millennium Development Goals) came to an end in 2015, the final report<sup>16</sup> concluded that there was a **lack of measurement for tracking the goals**. It lamented the absence of the promised leverage effect from the use of big data. This diagnosis was reiterated in a study by UNESCAP<sup>17</sup>, which called for leveraging Big Data for the 2030 agenda:

*Both big data and open data can transform business, government, and society – and a combination of the two is especially potent. Big data gives unprecedented power to understand, analyse, and ultimately change the world we live in. Open data ensures that power will be shared bearing huge potential to transform the way policies are made.*

The author also proposes an informative framework to demonstrate that beyond the nature of data sources, each ecosystem has a role to play within a broader synergy.

FIGURE 1: The interface of Big Data and Open Data (UNESCAP)



The emergence of environmental awareness and the development of computer technology have evolved in parallel despite their distinct trajectories. While the United Nations has played a role as a catalyst and a forum for exchange for over 75 years, it does not have direct legislative power, and these texts serve as guidelines rather than enforceable laws.

At the same time, the renewal of schools of thought and the description of social systems contribute to the **convergence of the Sustainable Development and Digital movements**:

- Firstly, neither of these movements can be satisfied with a binary view of property rights between private and public ownership. The works of Ostrom and her followers demonstrate this: **many communities have devised institutional arrangements that are intermediate**

<sup>13</sup> *Governing the Commons. The Evolution of Institutions for Collective Action, Elinor Ostrom, Political Economy of Institutions and Decisions, Cambridge University Press, Cambridge, 1990*

<sup>14</sup> <https://www.unglobalpulse.org/wp-content/uploads/2012/05/BigDataforDevelopment-UNGlobalPulseMay2012.pdf>

<sup>15</sup> <https://www.undatarevolution.org/wp-content/uploads/2014/12/A-World-That-Counts2.pdf>

<sup>16</sup> [https://www.un.org/millenniumgoals/2015\\_MDG\\_Report/pdf/MDG%202015%20rev%20\(July%201\).pdf](https://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20(July%201).pdf)

<sup>17</sup> [https://www.unescap.org/sites/default/files/1\\_Big%20Data%202030%20Agenda\\_stock-taking%20report\\_25.01.16.pdf](https://www.unescap.org/sites/default/files/1_Big%20Data%202030%20Agenda_stock-taking%20report_25.01.16.pdf)

and complex in order to manage access to natural resources or information.

- Secondly, **both movements question the dimension of Responsibility.** For the past thirty years, stakeholders at the global level have been questioning the allocation of responsibility and its associated obligations. The generational shift and the degradation of the climate situation create the conditions for the digital realm to fully participate in the creation of a sustainable future.
- Thirdly, the colossal amount of data now being produced by human societies constitutes a **valuable resource that promises the transition of our civilization towards sustainable growth.**

The establishment of a global agenda oriented towards the Sustainable Development Goals (SDGs) since 2015, in which digital technologies play a crucial role, represents nothing less than a balance between a set of indicators for which data is the raw material.

The success of the SDGs now relies on the ability of the private sector, including businesses, to take them into account. In 2021, out of a sample of 1,018 European listed companies, 48% of them mentioned the SDGs in their annual reporting. The narratives related to the SDGs are included in the "non-financial" (or ESG) information that describes how companies are implementing a model based on Corporate Social Responsibility (CSR).

According to the Global Reporting Initiative (GRI), the global sustainability reporting standard, 83%<sup>18</sup> of the analysed companies state that they support the SDGs, and 69% of them align their activities with the SDGs. In terms of the Principles for Responsible Investment (PRI), with nearly 5,000 signatories (4,100 asset managers and over 700 institutional investors), the interest of investors in using the SDGs<sup>19</sup> is continuously increasing.

In 2019, the UN published a progress report on the implementation of the SDGs titled *The Future is Now*<sup>20</sup>. The report suggests that despite the efforts made in the past four years, the SDGs will not be achieved by 2030. It warns that we are approaching a tipping point, the threshold of irreversibility of damages caused by human and industrial activities. The report emphasises the role of science in providing solutions to the cross-cutting issues addressed in the SDGs and urges public and private actors to increase funding for scientific activities, with a focus on a multidisciplinary approach.

For the past sixty years, we have been warned about the risks, and since 1990, we have no excuse for inaction. That year was a turning point as it laid the groundwork for the reflections we will elaborate on in the rest of this note: the IPCC report that precisely describes the challenges, the advent of the Internet that ushered in the era of big data, and the publication of *Governing the Commons* that provided the political means to address this dual transition.

<sup>18</sup> <https://www.globalreporting.org/media/ab51un0h/stg-gri-report-final.pdf>

<sup>19</sup> <https://www.unpri.org/download?ac=10795> (p.10)

<sup>20</sup> [https://sustainabledevelopment.un.org/content/documents/24797GSDR\\_report\\_2019.pdf](https://sustainabledevelopment.un.org/content/documents/24797GSDR_report_2019.pdf)

Table 1: Timeline of the sustainable development and digital movements

## EMERGENCE OF MOVEMENTS

### SUSTAINABLE DEVELOPMENT

1961-1969

**1962** Rachel Carson publishes Silent Spring (decline of biodiversity in industrial areas)

**1967** NASA: Dissemination of the "overview effect" Earth photograph

**1968** UNESCO: Intergovernmental Conference for Rational Use and Conservation of the Biosphere  
Publication of "The Tragedy of the Commons" by Garrett Hardin

1970

**1971** Phyllis Cormack, Jilm Bohlen and Irving Stowe launch Greenpeace.

**1972** Publication of the Meadows Report, Limits to Growth  
OECD: Establishment of the polluter-pays principle  
Stockholm: United Nations Conference on the Human Environment (UNCHE)

**1976** Italy: Seveso disaster

France / Brittany: Shipwrecks of the Olympic Bravery and the tanker Boehlen off the coast of Brittany

**1978** France / Brittany: sinking of the Amoco Cadiz tanker

**1979** USA: Three Mile Island nuclear accident (reactor meltdown) in Pennsylvania

**1980** Hans Jonas' Principle of Responsibility

**1984** Freeman: Stakeholder Theory

**1985** Italy: Stava Valley dam disaster.

### DIGITAL

Creation of Arpanet (Advanced Research Projects Agency Network)

**1965** Creation of Electronic Mail (MIT, Boston)

**1966** Promulgation of the Freedom of Information Act

Douglas Engelbart and Stewart Brand "Mother of all demos"  
"The Computer as a Communication Device", J.C.R.

1970

**1980** USA: Application of intellectual property rights to software, emergence of the microcomputer industry, and the "Free Software" movement.

Graphic user interface (GUI) creation

Creation of the Free Software Foundation.

### SUSTAINABLE DEVELOPMENT

**1986** Nuclear accident at Chernobyl.

**1987** UN: Publication of the Brundtland Report (first occurrence of the term "sustainable development").

**1990** Elinor Ostrom, Governing the Commons  
1st assessment report of the Intergovernmental Panel on Climate Change (IPCC)

**1992** United Nations Conference on Environment and Development (UNCED), in Rio de Janeiro, sustainable development becomes a goal for all

**1994** First "Principles for Responsible Business", Minnesota Center for Corporate Responsibility (MCCR)

**1997** Kyoto Protocol

**1998** Aarhus Convention

**2000** UN: Global Compact Initiative: Principles for Responsible Business  
UN: Millennium Declaration, Millennium Development Goals

**2004** UN: first use of the term ESG in the "Who cares wins" report

**2005** UN: Principles for Responsible Investments

**2010** Publication of ISO 26000

**2011** Proposal for the creation of Sustainable Development Goals (SDGs)

**2014** NFRD Directive - in effect as of 2018

**2015** Deadline of the Millennium Development Goals (MDGs)  
Creation of the Sustainable Development Goals (SDGs), immediately in effect

**2019** Alarming progress report on the SDGs "The future is now"

**2023** Entry into force of the Corporate Sustainability Reporting Directive  
6th Assessment Report of the Intergovernmental Panel on Climate Change (IPCC)

### DIGITAL

**1989** Release of version 1 of the General Public License (GPL)

**1993** World Wide Web protocols in the public domain

**1995** Free software movement is formally organised through the "Free Software Foundation."

Lawrence Lessig creates the Creative Commons Foundation

Emergence of Big Data

**2009** Creation of UN Global Pulse

**2012** Publication of the report "Big Data for Development: Challenges & Opportunities"

# PROTECTING THE ENVIRONMENT INVOLVES PROTECTING ESG DATA

## II. THE ASYMMETRIC MARKET OF ESG DATA

### 2.1 BETTER INVESTING FOR A MORE RESPONSIBLE SOCIETY

In 60 years, sustainable development has become a global priority on the international agenda. It places the future of humanity at the forefront. This movement is based on a simple yet strong idea: the principle of Responsibility. On one hand, responsibility refers to something being the cause or origin of harm; on the other hand, responsibility denotes the moral obligation or necessity to be accountable for one's own actions or those of others (Larousse).

This common definition resonates with the distinction proposed by Hans Jonas in 1979:

- **Natural responsibility** is an unspoken law inherent in all individuals, which imposes itself on the conscience. When a parent sees their child in distress, they instinctively come to their aid.
- **Contractual responsibility** is the rationalisation of the raw sentiment of natural responsibility. It is segmented around the choice of prior consent, specific delimitation, a horizontal party-to-party relationship. It is occasional, sometimes unconditional, retractable, and does not have any restrictions on its scope (it can apply to individuals, property, intangible or non-existent objects, such as future generations). In short, it is translatable into law.

According to Jonas, the exercise of responsibility is of utmost importance as it can contribute to building trust. The same reasoning applied to sustainable development aims to restore trust in the possibility of coexisting on Earth.

Natural responsibility is exercised when we care about the habitat of future generations and the living world. In contrast, contractual responsibility takes the form of obligations, such as the Real Environmental Obligation (ORE)<sup>21</sup> or environmental clauses in contracts<sup>22</sup>. However, the effectiveness of this legal framework is widely debated as other clauses can exempt the contracting parties from their responsibilities.

How are these two responsibilities related to becoming a driving force for change? Through what means and along what trajectory is the business world engaging in a partially voluntary sense of responsibility?

The chronology presented at the beginning of this document lists some events that have contributed to the emergence of ESG information:

- 1 - *The Principles for Responsible Business* of 1994, which cover the Environment through principles 7 to 9, Social aspects through principles 1 to 6, and Governance through principle 10.
- 3 - The 2004 report *Who cares wins*<sup>23</sup>, which introduced the term ESG, specifically targets analysts, financial institutions, companies, investors, pension fund managers, financial consultants, regulators, stock markets, and NGOs. The fundamental idea is that better investment leads to a more sustainable society. The ESG dimensions are expanded compared to the 1994 documents and are presented in Box 2.
- 3 - The United Nations Principles for Responsible Investment (UN PRI) in 2005.

<sup>21</sup> <https://www.ecologie.gouv.fr/obligation-reelle-environnementale>

<sup>22</sup> <https://www.actu-juridique.fr/civil/la-prevention-contractuelle-des-prejudices-environnementaux/>

<sup>23</sup> [https://www.ifc.org/wps/wcm/connect/de954acc-504f-4140-91dc-d46cf063b1ec/WhoCaresWins\\_2004.pdf?MOD=AJPERES&CID=jqeF.mD](https://www.ifc.org/wps/wcm/connect/de954acc-504f-4140-91dc-d46cf063b1ec/WhoCaresWins_2004.pdf?MOD=AJPERES&CID=jqeF.mD)

**ENVIRONMENTAL ISSUES**

- Climate change and associated risks
- Need to reduce toxic emissions and waste
- New regulations expanding the boundaries of environmental responsibility regarding products and services
- Increasing pressure from civil society to improve performance, transparency, and accountability, leading to reputation risks if not managed properly
- Emerging markets for environmental services and environmentally friendly products

**SOCIAL ISSUES**

- Occupational health and safety
- Community relations
- Human rights issues within the company and in the premises of suppliers/contractors
- Government and community relations in operations in developing countries
- Increasing pressure from civil society to improve performance, transparency, and accountability, leading to reputation risks if not managed properly

**CORPORATE GOVERNANCE ISSUES**

- Board structure and accountability
- Accounting and disclosure practices
- Audit committee structure and auditor independence
- Executive compensation
- Management of corruption and bribery issues



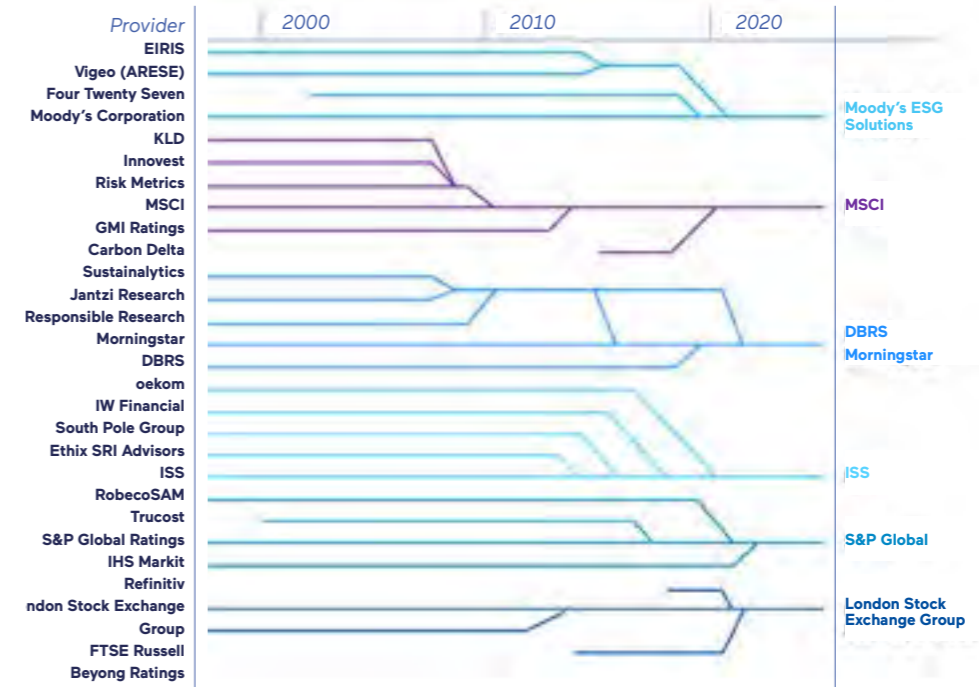
**2.2 THE CREATION OF AN ESG INFORMATION MARKET**

These initiatives represent a major turning point in corporate communication. As a result, companies are producing an increasing number of reports, including social, environmental, non-financial, sustainable development, integrated, and other types of reports. These reports contain non-financial information that has the potential to be utilised. Similar to financial information, CSR information becomes “investable” through ESG, and numerous studies have shown that ESG communication is positively correlated with stock prices, meaning that its presence contributes to an increase in stock prices. However, unlike the financial information market, this information is neither standardised, nor “certifiable,” nor even “verifiable.” Each user remains free to transform and interpret it according to their own sensitivity and priorities.

This is a boon for specialists in financial information dissemination who already produce a range of informational elements, including ratings, scores, analyses, indices, and so on.

We then witness, in the aftermath of the 2008 crisis, the emergence of a new competitive sector around ESG (Figure 2 on the left). It doesn’t take long for this sector to consolidate, and over fifteen years of consolidation, the race for critical mass leads to the formation of an oligopoly consisting of 6 groups that have absorbed all specialised players.

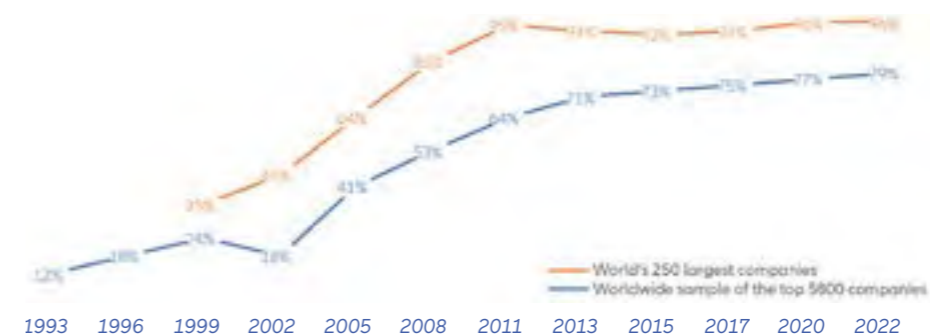
**FIGURE 2: The concentration of the ESG information sector between 2000 and 2020**



<https://www.unpri.org/credit-risk-and-ratings/esg-in-credit-ratings-and-esg-ratings/11071.article>

Unsurprisingly, the acquiring groups are all major players in financial data and already have offerings primarily targeting investors. The ESG data market is attractive, with EY estimating its value at \$1.3 billion in 2022<sup>24</sup>, while a UBS study<sup>25</sup> values it at \$5 billion in 2025. The market continues to grow (Figure 3), fueled by company disclosures. The availability of ESG data from companies is at an all-time high.

**FIGURE 3: Communication rate on sustainable development, by the top 250 and 5,800 largest companies in the world**



Source: KPMG<sup>26</sup>

<sup>24</sup> [https://www.ey.com/en\\_gl/financial-services-emeia/how-esg-data-markets-have-evolved-for-financial-services](https://www.ey.com/en_gl/financial-services-emeia/how-esg-data-markets-have-evolved-for-financial-services)

<sup>25</sup> <https://www.ubs.com/global/en/investment-bank/in-focus/covid-19/2020/esg-data-and-services.html>

<sup>26</sup> <https://assets.kpmg.com/content/dam/kpmg/se/pdf/komm/2022/Global-Survey-of-Sustainability-Reporting-2022.pdf>

The consolidation of the ESG data sector allows data providers to industrialise the process of handling ESG information. This transition is characterised by a shift from an artisanal and qualitative approach in the early 2000s, where the value of services relied on analytical expertise and the ability to exchange and understand companies' business models, to a largely quantitative approach aimed at producing replicable and distributable data for a wide range of users. Thus, analysis has given way to decision support tools.

However, unlike financial information that follows a standardised production process regardless of the producer, ESG information is collected and transformed by aggregators and information providers. As a result, the products offered by these different information providers struggle to produce a consistent picture of the companies being studied.

**TABLE 2: CORRELATION BETWEEN RATINGS PRODUCED BY DIFFERENT PROVIDERS**

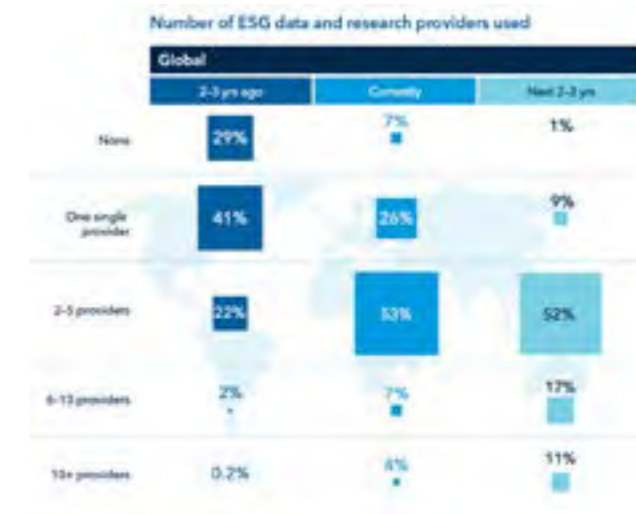
	MSCI	S&P	Sustainalytics	CDP	ISS	Bloomberg
MSCI		35.7%	35.1%	16.3%	33.0%	37.4%
S&P	35.7%		64.5%	35%	13.9%	74.4%
Sustainalytics	35.1%	64.5%		29.3%	21.7%	58.4%
CDP	35.1%	35%	29.3%		7%	44.1%
ISS	33%	13.9%	21.7%	7%		21.3%
Bloomberg	37.4%	74.4%	58.4%	44.1%	21.3%	

Source: <https://blogs.cfainstitute.org/investor/2021/08/10/esg-ratings-navigating-through-the-haze/>

This table shows the correlations between the ratings provided by the indicators of different data providers. The lowest correlation is observed between the ratings of Carbon Disclosure Project (CDP) and Institutional Shareholder Services (ISS). The rating tools showing the highest correlation, and therefore the highest convergence, are the ratings of S&P and Bloomberg. Numerous studies have reached the same conclusion<sup>27</sup>. In conclusion, data and rating providers create a significant level of asymmetry, meaning they develop differentiated and non-converging products and results that suggest their complementarity.

Also, to access the data, investors purchase a package that includes multiple offerings because they have no other choice but to increase the number of providers to ensure the robustness of their analysis. While most data users relied on a single provider two or three years ago, today more than half of them source from two to five providers, and they plan to continue this trend in the coming years (Figure 4). This constraint requires deploying resources to internalise the management and comparison of data between different providers. As a result, investors work and reason based on different representations of truth and compete around data processing capabilities.

**FIGURE 4: Evolution of the number of ESG data providers**



**2.2.1 What are the needs of data users?**

It is therefore legitimate to question the level of satisfaction of ESG data users. A 2021 study<sup>28</sup> (Figure 5) identifies the needs of investors in terms of data or ratings. Among the challenges, we find the difficulty of accessing data, the challenge of managing ESG performance, the low consistency between different scores and approaches employed, and the lack of transparency.

**FIGURE 5: ESG data challenges**



Source: Capitalgroup

In an alternative study conducted by EY<sup>29</sup>, the primary challenge identified by users is the quality of data and its inconsistencies. Following in descending order of importance are: the growing costs, conflicts between ratings and scores, limited coverage of environmental, social, and governance (ESG) dimensions, lack of data consistency across sectors, lack of sector-specific data, and lack of transparency.

<sup>27</sup> Berg, F., Koelbel, J. F., & Rigobon, R. (2019). Aggregate confusion: The divergence of ESG ratings. Chatterji, A. K., Durand, R., Levine, D. I., & Touboul, S. (2016). Do Ratings of Firms Converge? Implications for Managers, Investors and Strategy Researchers. *Strategic Management Journal*, 37(8), 1597–1614.

<sup>28</sup> [https://www.capitalgroup.com/content/dam/cgc/tenants/eacg/esg/global-study/esg-global-study-full-report\(en\).pdf](https://www.capitalgroup.com/content/dam/cgc/tenants/eacg/esg/global-study/esg-global-study-full-report(en).pdf)  
<sup>29</sup> [https://www.ey.com/en\\_gl/financial-services-emeia/how-esg-data-markets-have-evolved-for-financial-services](https://www.ey.com/en_gl/financial-services-emeia/how-esg-data-markets-have-evolved-for-financial-services)

**2.2.2 Are ESG data users satisfied with market conditions?**

Rate the raters is a highly anticipated annual study that helps understand how companies and investors perceive ESG data and indicators produced by providers. In its 2020 edition, it was found that there is a preference for raw data rather than transformed data:

*“Most investors described using ESG ratings more for the underlying data and not the scores. Those that have their own internal scoring methodologies and KPIs do not need the scores. What they do need is a way to efficiently gather ESG data to feed these internal scoring and analysis mechanisms. This data feed is ultimately where ESG ratings are useful and why coverage is an important attribute when selecting which ratings an investor will buy.”*

The same observation is mentioned in the 2023 edition as well:

*“The underlying data is the most valuable information ESG ratings provide. We check on the ratings and the scores to get a general idea of overall performance, but often they are unclear and are not a useful data point by themselves”.*

The lack of data quality has a direct impact on the services produced by data users. Asset management companies must fulfil their commitments based on underlying data without being able to ensure that they are aligned with their promises.

*More broadly, the lack of consistency, standardisation and independent assurance undermines the credibility of ESG data markets as a whole. This is a growing concern, given the increasing costs of compliance failures and the threat from damaging allegations of greenwashing – as illustrated by a number of recent regulatory fines and high-profile resignations at major financial institutions.<sup>30</sup>*

**2.2.3 The cost of data**

Asset management companies are unable to meet this requirement for data quality alignment because data/rating providers refuse to provide more details about their methodologies. By erecting informational barriers, they deprive their clients of the opportunity to benefit from them:

*“While the underlying data is key, the proprietary methodologies used to create ratings are where the rubber really meets the road. For the most part, raters are reluctant to reveal the inner workings of their ESG ratings, in part because doing so could encourage corporates to try to game the system. However, some methodological openness ensures trust in the process, leaving investors confident the ratings are useful for investment decisions and helping corporates accept that the ratings they receive truly reflect performance. Perhaps as a response to recent regulatory scrutiny and increasing criticism over their role in the market, major ESG raters today are embracing greater methodological transparency”<sup>31</sup>.*

*“We purchase a lot of data and suffer both from data quantity and data quality issues. Therefore, we do a lot of work to clean and improve the data. We work on some of our own estimations and we use all of our own scoring – we generate more than 12,000, proprietary ESG scores that we can continually refine.”*

Jane Ambachtsheer, BNP Paribas Asset Management<sup>32</sup>

<sup>30</sup> [https://www.ey.com/en\\_gl/financial-services-emeia/how-esg-data-markets-have-evolved-for-financial-services](https://www.ey.com/en_gl/financial-services-emeia/how-esg-data-markets-have-evolved-for-financial-services)  
<sup>31</sup> <https://www.sustainability.com/thinking/rating-the-raters-yet-again-increasing-esg-scrutiny-makes-current-rate-the-raters-study-even-more-crucial/>  
<sup>32</sup> <https://www.theia.org/sites/default/files/2021-09/The%20ESG%20Global%20Survey%202021.pdf>

**Due to the disparity of data, data users also incur costs for data verification.** When the data is incomplete, they make amendments to it.

*“ESG ratings providers need to ensure that the data they are using is accurate. We have found instances where ESG ratings providers publish ESG scores and reports with incorrect or incomplete metrics, or don’t take into consideration relevant corporate disclosures. Stakeholders utilise these ESG rating, so it’s crucial they contain decision-useful and accurate information”.*

Regulatory Manager at U.S. Consumer Product Company

*“The data captured from our company is often incorrect, and we have to comb through ratings reports to find and fix errors. In one analysis of an ESG Data Provider, we found that over 50 percent of the information required adjustments”.*

Sustainability Coordinator at South American Pulp and Pepper Company

Regarding data, the challenges expressed by asset managers, regardless of their size, are the same. It is evident that using multiple data sources requires users to make an effort to converge or compare the data, resulting in inevitable variations from one investor to another.

**ADDRESSING THE DATA CHALLENGE<sup>33</sup>**

The ESG Global Survey 2021

**FIGURE 6: Needs vary according to player size**

	Global	Less than USD1bn	Between USD1bn and USD9.99bn	Between USD10bn and USD49.99bn	USD50bn and USD99.99bn	USD100bn or more
Use and compare multiple sources of data	74%	100%	67%	74%	73%	75%
Ensure transparency of the source of raw data	43%	40%	33%	41%	41%	53%
Conduct our own research methodologies, like creating benchmarks or in-house ESG scores, instead of relying solely on external providers	41%	0%	33%	44%	41%	43%
Implement advanced data quality controls	28%	20%	21%	27%	29%	35%
We do not think there are challenges related to ESG data	3%	0%	4%	2%	5%	3%

<sup>33</sup> <https://www.theia.org/sites/default/files/2021-09/The%20ESG%20Global%20Survey%202021.pdf>

# THIS ASYMMETRY CAN LEAD TO A SOCIO-ENVIRONMENTAL DISTOPYA

## 2.2.4 Who benefits from the asymmetry? ?

Asset management companies face a dual risk: on one hand, the risk of low-quality data supplied to them, and on the other hand, the risk of service quality due to the uncertainty of the quality of the raw material that could impact (or not) the quality of the final service. However, asset management companies are not the only organisations exposed to risks.

Data-producing companies face the risk of signal distortion. Their efforts in ESG could be altered or poorly reflected during the data collection process carried out by data providers. If the selection and transformation of data do not reflect the actual actions of the organisation described, end-users, investors, and stakeholders would become victims of information asymmetry attributable to a deterioration in the quality of information along the transmission channel. Instead of adding value to the initially collected data, a degradation in quality is possible. The consequences would then be borne by the companies, investors, and stakeholders to whom the company seeks to communicate its ESG initiatives. This vulnerability in the ESG data value chain was already identified in 2018 in an analysis<sup>34</sup> that raised concerns about the subjectivity of ESG ratings and the reliance on data availability.

In May 2019, an academic study titled *Aggregate confusion: the divergence of ESG ratings*<sup>35</sup> detailed these dysfunctions and highlighted the lack of harmonisation of underlying data among providers.

*"Our findings demonstrate that ESG rating divergence is not merely driven by differences in opinions, but also by disagreements about underlying data".*

A new version of the same study<sup>36</sup> in 2022 will once again confirm this point.

*"Our findings demonstrate that ESG rating divergence is not merely a matter of varying definitions but a fundamental disagreement about the underlying data".*

Many studies have addressed the issue of ESG rating divergence and highlighted the need to harmonise the underlying data used by rating agencies. Some notable studies include:

- ESG Ratings: Navigating through the Haze<sup>37</sup>
- Optimal ESG Portfolios: Which ESG Ratings to Use?<sup>38</sup>
- Optimal ESG Portfolios: Which ESG Ratings to Use?<sup>39</sup>
- The Challenge of Disparities in ESG Ratings<sup>40</sup>
- The divergence of ESG Ratings: an analysis of Italian listed companies<sup>41</sup>
- Sustainable investing with ESG rating uncertainty<sup>42</sup>
- ESG Ratings: an industry in need of a major overhaul<sup>43</sup>
- ESG Ratings: A Call for Greater Transparency and Precision<sup>44</sup>
- The ESG Mirage: the True Colors of MSCI's ESG Ratings<sup>45</sup>
- Four Things No One Will Tell You About ESG Data<sup>46</sup>

<sup>34</sup> [https://accfcorp.gov/wp-content/uploads/2018/07/ACCF\\_RatingsESGReport.pdf](https://accfcorp.gov/wp-content/uploads/2018/07/ACCF_RatingsESGReport.pdf)

<sup>35</sup> [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3438533](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3438533)

<sup>36</sup> <https://academic.oup.com/rof/article/26/6/1315/6590670>

<sup>37</sup> <https://blogs.cfainstitute.org/investor/2021/08/10/esg-ratings-navigating-through-the-haze/>

<sup>38</sup> [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3859674](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3859674)

<sup>39</sup> [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3859674](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3859674)

<sup>40</sup> <https://jesg.pm-research.com/content/2/3/107>

<sup>41</sup> <https://www.worldscientific.com/doi/10.1142/S2282717X21500067>

<sup>42</sup> <https://www.sciencedirect.com/science/article/abs/pii/S0304405X21003974?via%3Dihub>

<sup>43</sup> [https://www.researchgate.net/publication/362808592\\_ESG\\_ratings\\_an\\_industry\\_in\\_need\\_of\\_a\\_major\\_overhaul](https://www.researchgate.net/publication/362808592_ESG_ratings_an_industry_in_need_of_a_major_overhaul)

<sup>44</sup> <https://corpgov.law.harvard.edu/2022/11/10/esg-ratings-a-call-for-greater-transparency-and-precision/>

<sup>45</sup> <https://www.bloomberg.com/graphics/2021-what-is-esg-investing-msci-ratings-focus-on-corporate-bottom-line/>

<sup>46</sup> [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3420297](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3420297)



Indeed, beyond the lack of common underlying data, the methodologies used by different ESG rating agencies also contribute to the divergence of ratings. For example, MSCI primarily compares companies within the same industry sector, while Sustainalytics (Morningstar) evaluates companies based on their exposure to ESG risks within a sector or region, taking into account measures taken to mitigate those risks. Additionally, the weighting given to each ESG issue and the importance assigned to different past controversies can vary from one provider to another. These differences in methodologies can lead to divergent assessments and ratings for the same company, further contributing to the overall lack of consistency in ESG ratings.

In addition to these observations, the potential convergence of ESG ratings is divisive<sup>47</sup>. For many observers, the reliability of ESG ratings will improve over time as they mature. However, according to another study, the more ESG information published, the wider the gap between the ratings.

A few months after the publication of *Aggregate Confusion* in January 2020, ESG data stakeholders established the Future of Sustainable Data Alliance<sup>48</sup> (FOSDA). The aim is to explain that in order to be better managed, data needs to be standardised, while acknowledging that “gaps & holes” exist in all categories of ESG data<sup>49</sup>. However, this hasn’t prevented these providers from consciously marketing “ratings” based on these incomplete datasets, which is what will draw the attention of regulators.

FOSDA provides several recommendations to regulators, let’s look at the first one<sup>50</sup>:

Initial recommendations for the market are:

/ STEP 01 /

#### Regulators should consider alternatives to a public database for forward-looking data that includes a “tagging system” for data used in financial analysis

- Setting up an easily accessible database with quality forward-looking data will take time. By standardising the definition and categorisation of forward-looking data, the goal of transparency is achieved. This can assist financial system sustainable data consumers to make data truly “usable”, “comparable” and “decision-useful”.
- A tagging system whose core purpose is an unambiguous definition of the dataset will also allow data from any source to be incorporated into existing complex financial market systems. Harmonising the definition of the forward-looking data will allow ease of use – it is no longer enough to have “good quality” data. The data needs to be in a defined format that can be incorporated and compared across different use cases and functions.
- Confidentiality of data providers in the value chain will extend the complexity of including all data in a data repository. A “tagging system” that defines datasets deeply and accurately for forward looking data would allow data to be identified as raw data (in forward looking data terms this is a defined extrapolation from verified past and contemporary data in its simplest form), or modelled data (this includes a company’s own assessment of its future risk exposure and impacts).

FOSDA therefore explains to public authorities that it is preferable to abandon the idea of a public (and free) database that would provide structured and usable data for financial analysis. The reason being that such a tool requires time to build, and it is preferable for regulators to focus on data categorization. This would allow providers to simply organise the data, as well as distinguish between raw (published, verified) data and estimated data.

In summary, data actors suggest to regulators to limit themselves to the role of label makers and rely on them to meet the needs of financial actors in achieving the SDGs. The response from regulators will not be long in coming.

<sup>47</sup> <https://www.capitalgroup.com/europe/capitalideas/fr/articles/monitoring-corporates-against-third-party-ESG-data-providers.html>

<sup>48</sup> <https://futureofsustainabledata.com/>

<sup>49</sup> <https://futureofsustainabledata.com/wp-content/uploads/2021/10/FoSDA-Data-Council-ESG-Data-Gaps-Holes-1.pdf>

<sup>50</sup> <https://futureofsustainabledata.com/wp-content/uploads/2021/10/FoSDA-Forward-Looking-Data-report-1.pdf>

## 2.3 RESPONSES TO MARKET FAILURES

### 2.3.1 Towards regulation of ESG data players and rating providers

In December 2020, the financial regulators of the Netherlands and France jointly published a position paper titled *Call for a European Regulation for the provision of ESG data, ratings, and related services*<sup>51</sup>, summarising the following points:

- The demand for ESG data and services is increasing among investors and asset managers seeking sustainable investments.
- Investors and asset managers need reliable ESG data and related services to support the transition to greener economies and comply with the European regulatory framework on sustainable finance.
- Sustainability Service Providers (SSPs) remain largely unregulated.
- The lack of transparency regarding the methodologies used by SSPs and the risk of conflicts of interest lead to risks of misallocation and missed opportunities.

Together, they advocate for:

- A mandatory ad hoc European regulatory framework for SSPs.
- A framework that requires the establishment of SSPs in the EU and their supervision, including:
  - Regulatory focus on transparency of methodologies, potential conflicts of interest, and requirements for governance and internal control.
  - Allowing for proportionality and ongoing innovation in the market.
- A step-by-step approach: a set of basic requirements for SSPs that serve as a starting point for periodic review, taking into account market developments, and, if necessary, supplemented with additional measures.

In the same vein, one year later, IOSCO (International Organization of Securities Commissions), the body that brings together international financial supervisors, produced a set of recommendations<sup>52</sup> for national regulators regarding ESG data and rating providers.

The first improvement to be made according to the study is direct access to raw data.

*“Reliability of raw ESG data: Raw data is a key factor to determine the quality of ESG ratings and data products. Given that the quality of raw ESG data relies to a large degree on the quality of corporate disclosure, most users expect that improvements in the quality of corporate disclosures would contribute to enhancing the consistency of ESG ratings and data products. This could also contribute to improving the availability of raw data, which would allow users to directly access data points to access raw data.”*

IOSCO also aims to reduce the lack of transparency in methodologies and commercialised data flows.

*“Lack of transparency around ESG ratings methodology and ESG data products: In addition to having good quality underlying raw data, the quality of ESG ratings depends on the robustness of ESG ratings methodologies. Likewise, for ESG data products, data collection, frequency and verification will impact data quality. Lack of transparency on the process of developing ESG ratings and ESG data products could make it difficult for users to understand and interpret providers’ outputs.”*

<sup>51</sup> <https://www.amf-france.org/sites/institutionnel/files/private/2020-12/amf-afm-position-paper-call-for-a-european-regulation-for-providers-of-esg-data-ratings-and-related-services.pdf>

<sup>52</sup> <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD690.pdf>

Since then, European<sup>53</sup>, British<sup>54</sup>, Japanese<sup>55</sup>, and Indian<sup>56</sup> regulators have also initiated work in this direction.

The situation in the United States is also evolving. In September 2022, a senator wrote to 12 ESG rating agencies to inquire about their practices<sup>57</sup>. Among the 17 questions, clarifications are requested on methodological elements, as well as details on the data used:

- *In general, how do you determine the credibility of the data sources you use? How do you determine that data sources are free from political or other bias?*
- *Have you ever used as data sources state-controlled foreign media, such as Russia Today or Xinhua News Agency?*
- *Do you use data provided by external organisations, including nonprofit groups, in your ESG ratings products? If so, please identify the names of the organisations.*

Half of the respondents did not respond, so Senator Toomey will follow up<sup>58</sup> ...

In April 2022, the European Commission launched a consultation<sup>59</sup> to gather professionals' views on the functioning of the ESG rating market and the integration of ESG factors into credit rating. The consultation received 168 responses.

When asked "How do you consider that the market of ESG ratings is functioning today?", 84% of respondents indicated that the market is dysfunctional:

- 91% believe there are significant biases in the methodologies of the providers.
- 83% consider the lack of transparency on methodologies to be a problem.

However, the diversity of ratings is considered useful by 74% of respondents. It can be seen here that the plurality of methodologies is generally accepted, but it is transparency that is seen as a hindrance.

The intervention of regulators will therefore aim to increase transparency in the methodologies used, with the idea of better understanding biases or specificities. Ultimately, this will allow users to better identify the different approaches, albeit limited by the proprietary nature of the methodologies.

It is worth noting that the effects of the implementation of the European CRA<sup>60</sup> (Credit Rating Agencies) directive in 2009 remain debatable. The directive aimed to open up the credit rating market in Europe through the establishment of a registration mechanism and improved transparency of methodologies, leading to the registration of 29 agencies to date. However, the market share of dominant players currently stands at around 93%<sup>61</sup>, compared to 87%<sup>62</sup> in 2013. It is evident that the regulation of such actors not only reinforces their dominant position but also creates barriers to entry.

Applied to ESG, while regulation is desirable for control purposes, it is crucial to ensure that these actors deploy methodologies that can be challenged. This means that the data used in their calculations should be equally accessible to users of these ratings.

<sup>53</sup> [https://www.esma.europa.eu/sites/default/files/library/esma80-416-347\\_letter\\_on\\_esg\\_ratings\\_call\\_for\\_evidence\\_june\\_2022.pdf](https://www.esma.europa.eu/sites/default/files/library/esma80-416-347_letter_on_esg_ratings_call_for_evidence_june_2022.pdf)

<sup>54</sup> <https://www.fca.org.uk/news/news-stories/code-conduct-esg-data-and-ratings-providers>

<sup>55</sup> <https://www.fsa.go.jp/en/news/2022/20221215/20221215.html>

<sup>56</sup> [https://www.sebi.gov.in/reports-and-statistics/reports/feb-2023/consultation-paper-on-regulatory-framework-for-esg-rating-providers-erps-in-securities-market\\_68337.html](https://www.sebi.gov.in/reports-and-statistics/reports/feb-2023/consultation-paper-on-regulatory-framework-for-esg-rating-providers-erps-in-securities-market_68337.html)

<sup>57</sup> <https://www.banking.senate.gov/newsroom/minority/toomey-asks-esg-ratings-firms-for-info-on-scores-data-collection-practices>

<sup>58</sup> <https://www.banking.senate.gov/newsroom/minority/toomey-blasts-esg-ratings-firms-for-stonewalling-inquiry>

<sup>59</sup> [https://finance.ec.europa.eu/regulation-and-supervision/consultations/finance-2022-esg-ratings\\_en](https://finance.ec.europa.eu/regulation-and-supervision/consultations/finance-2022-esg-ratings_en)

<sup>60</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32009R1060>

<sup>61</sup> [https://www.esma.europa.eu/sites/default/files/library/esma80-416-1564\\_report\\_on\\_cra\\_market\\_share\\_calculation\\_2022.pdf](https://www.esma.europa.eu/sites/default/files/library/esma80-416-1564_report_on_cra_market_share_calculation_2022.pdf)

<sup>62</sup> [https://www.esma.europa.eu/sites/default/files/library/2015/11/esma\\_cra\\_market\\_share\\_calculation.pdf](https://www.esma.europa.eu/sites/default/files/library/2015/11/esma_cra_market_share_calculation.pdf)

In conclusion, the issue of ESG data and rating providers has become a global concern, and regulators have recognised it and started implementing separate standards and regulations. While currently confined to national rules, these rules and standards will eventually need to move towards harmonisation.

### 2.3.2 Fully incorporating the global dimension of the subject

As part of the Green Deal and the Capital Markets Union project, the European Commission launched a consultation in January 2021 to establish a "European Single Access Point" (ESAP). The objective is for Europe to provide, in a single centralised platform, all regulated financial information from member countries, including ESG data.

This ambitious project has received broad support from various stakeholders, who see it as a means to finally access raw ESG data published by companies easily and free of charge. The ESAP platform is expected to be launched by 2027-2028.

However, several questions still need to be addressed. Will the data, which is supposed to be "machine-readable", be directly usable and downloadable by investors, researchers, or NGOs without the need for specific tools or software?

This European project is more advanced compared to other jurisdictions and will likely serve as an example to follow. However, given that investors' portfolios and issues are truly global, ESAP will create a significant information differential between regions. Moreover, the sovereign nature of such a project will make it difficult for other states to connect without integrating its governance.

Even though ESAP is a pioneering project, it remains crucial to consider a similar mechanism that can be deployed on a global scale, taking into account both technical and governance issues.

These initiatives, such as regulating data providers and establishing a single access point, will strengthen the production and availability of ESG data, as well as provide better oversight of data providers and rating agencies. However, the initial need expressed by investors, namely, access to raw data issued by companies on a global level, remains unresolved to this day.

Allianz Global Investors, one of the leading global asset managers, expressed this need in simple terms in a response to an SEC consultation<sup>63</sup>:

*"A globally harmonized approach to sustainability reporting is in our view essential to ensure that climate and other disclosures are consistent and comparable. Ideally, such disclosures should be made through a central regulatory data repository, ensuring a high quality and consistency and reducing costs and as a result democratizing access to reporting data to all investors. As long as a harmonized approach to reporting is lacking, consistency, reliability and access to data is heavily impaired and cost consuming.*

*(...) A central data repository, created and maintained by a (financial markets) regulator, could democratize the ESG data market. It would allow issuers to use the repository for the many disclosure purposes and obligations that they have, thus minimizing the strain of such requirements. This would likely put a halt to the current situation in which issuers need to provide data to numerous ESG data providers, which in turn sell this information to investors at a high cost. The more data is mandatorily submitted to the regulatory database, the more efficient ESG data usage by investment firms*

<sup>63</sup> <https://www.sec.gov/comments/climate-disclosure/cll12-8905921-244112.pdf>

can become. With the additional transparency from such a database, there will be less of an excess surcharge on the data itself and more of a focus on value-added services such as its analysis, which will reduce ESG data costs overall and make it more widely available. Data is expected to also be of better quality as companies will not risk misreporting to a regulator."

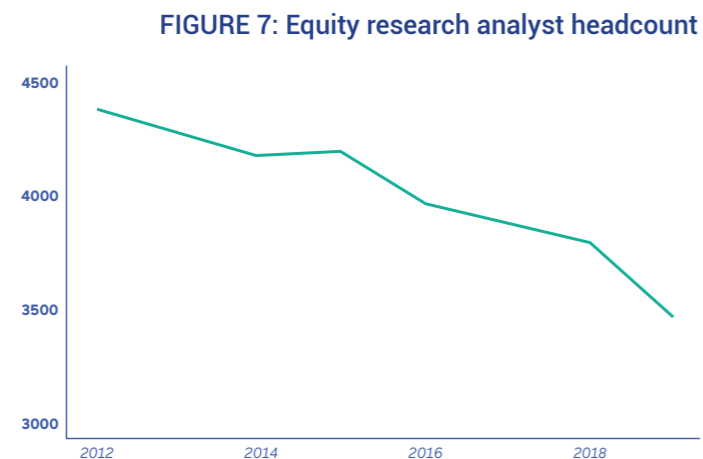
## 2.4 CHARACTERISING THE ENCLOSURE SITUATION

After describing and analysing the ESG data market, we can extract a set of characteristics that should allow us to approach it from a fresh perspective, distinct from the traditional regulatory approach.

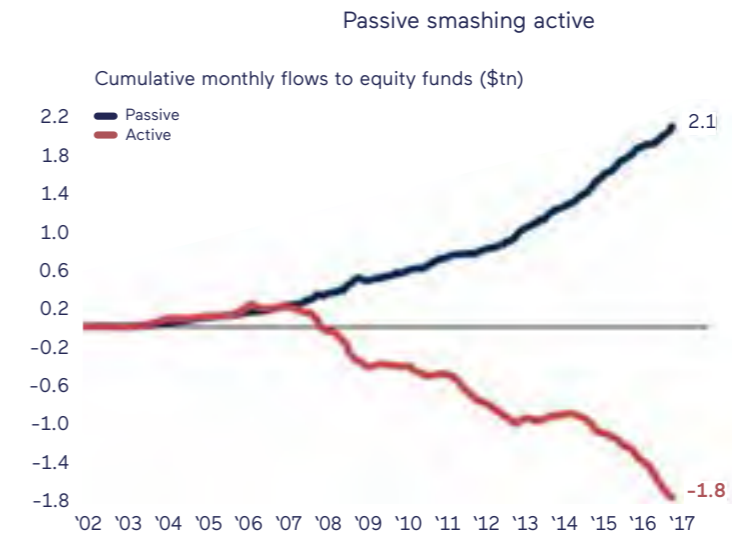
### An activity considered as an extension of a pre-existing market.

The profile of dominant players reflects the fact that ESG data has been perceived from the outset as an extension of financial data (non-financial data). The market has thus been structured around the same commercial logic (selling paid information to financial institutions).

### An approach dominated by quantitative analysis thanks to Big Data



Source: <https://openaccess.nhh.no/nhh-xmlui/bitstream/handle/11250/2767284/masterthesis.pdf?sequence=1> (page 8)



The advent of the Internet has led to an explosion in the volume of available data. The deployment of Big Data from 2005 onwards made it possible to manipulate these large volumes of data, intensifying competition among dominant players. The emergence of ESG in the 2008 period and the consolidation of the sector occurred at the same time as the rise of Big Data. As a result, market players fully embraced the quantitative dimension and heavily invested in data to expand its uses. The growth of passive management and the decrease in the number of financial analysts illustrate this phenomenon.

### A model based on selling information asymmetry

The strong divergences among data/rating providers, whether in the interpretations of ESG performance or the inability to know the underlying data used, are powerful incentives to consume as much data as possible, even if it means buying the same information multiple times.

As a result, the formation of the ESG data market has primarily been organised based on the commercial foundations of the market and the business model of selling financial data. ESG data is currently structured to be sold to financial actors. The consequence is that the interpretation or translation of companies' CSR has been structured primarily for consumption by financial actors. The ESG data market has not been built as a means of measuring the real progress of companies from the perspective of stakeholders. The demand from stakeholders (civil society, employees, public authorities, academia, etc.), who are supposed to be the beneficiaries and of which financial actors represent only a part, is growing as the environmental situation deteriorates.

Other consequences arise directly from a lack of trust in the private sector's ability to address the socio-environmental challenges of our time. This includes the difficulty for companies to attract talent<sup>64</sup>, as evidenced by the "Great Resignation" phenomenon. It also includes regulations related to due diligence on human rights or the environment, which are being strengthened and require companies to become more involved in managing the negative externalities of their activities.

<sup>64</sup> <https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/great-attrition-or-great-attraction-the-choice-is-yours>

Indeed, the ESG data market, which is based on information asymmetry among providers, raises questions about its alignment with the global roadmap of the Sustainable Development Goals (SDGs), which calls for all actors to “move in the same direction.”

**A diagnosis: The ESG data market represents a characteristic form of enclosure**

The theory of the commons describes the observed phenomenon. It refers to a process of enclosure, which can be defined as follows:

*“An element of information or knowledge whose free documentary circulation is hindered and/or cannot be documented, which can only enter a closed circuit documentary process or under conditions of appropriation defined by the hosting site and not by the producer or creator of the resource”<sup>65</sup>.*

A situation of enclosure occurs when a public informational resource, typically of general interest, is only accessible or usable through providers who monetize it. Therefore, if data providers have invested in integrating ESG data into their offerings, they naturally expect to benefit from it.

**GENERAL SCHEME OF CREATING INFORMATION ASYMMETRY IN ESG DATA.**

FIGURE 8: Structuration of the ESG data market in 2023

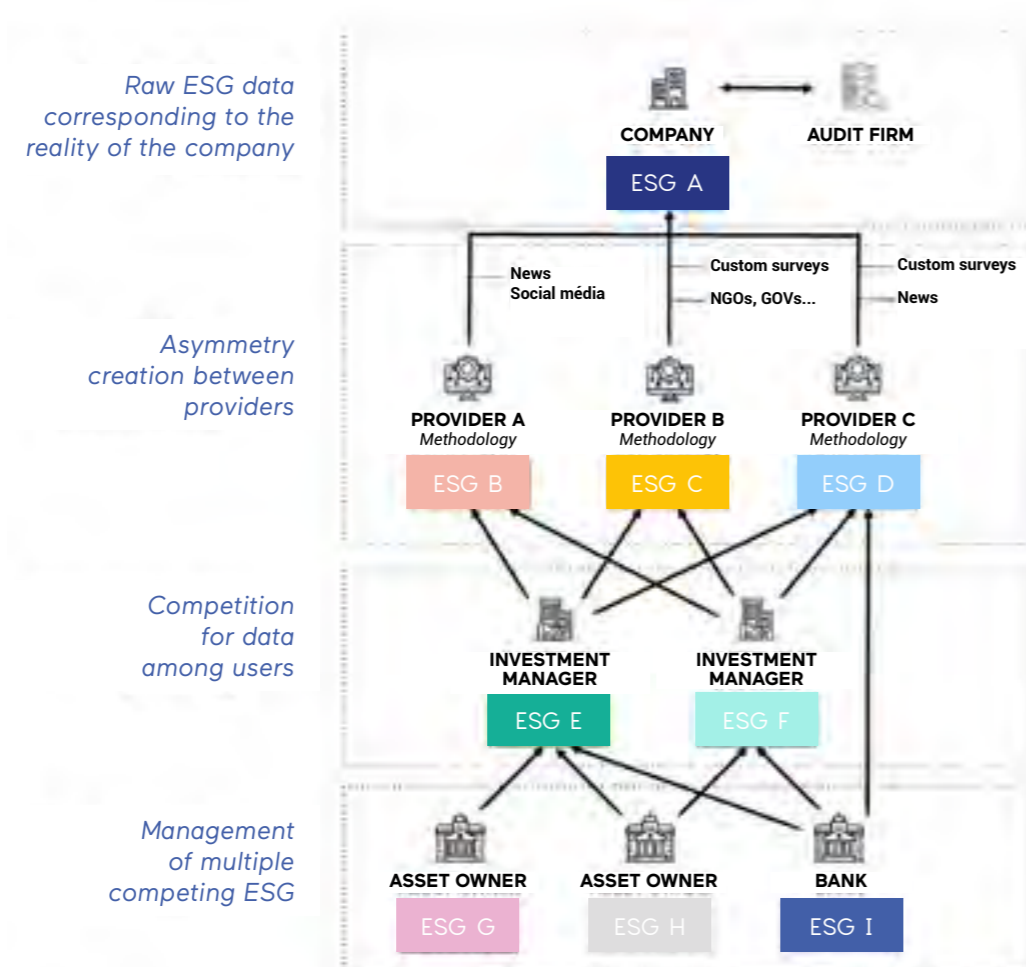


Figure 8 illustrates the process of structuring the ESG data market. It is read from top to bottom. At the top, companies produce ESG data through their website or official documents, which is not audited like financial data. In addition to regulatory and voluntary reporting, companies respond to lengthy and tedious questionnaires from data providers (A, B, C). These questionnaires are not shared among providers but are often redundant. Using these data, along with information from NGOs, institutions, and various other sources, data providers generate ESG indicators such as ratings, scores, and indices. Only the resulting data outputs are sold to clients. As discussed earlier, the lack of consistency between these data sources leads to the perception of complementarity, forcing clients to purchase multiple datasets. This lack of coherence incurs additional costs. At the bottom of the figure, analysts play a role in unravelling the acquired data to present an accurate picture of the underlying reality of the company. Their task is to consolidate the disparate data and create a cohesive understanding of the company's ESG performance.

**The question of responsibility**

By considering investors as a community of users rather than a “Community of common destiny”<sup>66</sup>, little consideration is given to their fiduciary obligations.

When the United Nations launched the PRI in 2005, the activation of investors' fiduciary responsibility aimed to achieve two objectives: preserve future returns and create conditions for sustainable growth. By maintaining an industrial model of information asymmetry, neither of these two objectives is directly addressed.

Furthermore, it places the fiduciary responsibility of investors on actors who are not subject to it and who have self-proclaimed themselves as the official international manufacturers of ESG. Their primary focus is strictly commercial in nature.

The assessment conducted reveals a mismatch between the market structure and the needs expressed by various actors in the ESG arena. The diagnosed issue of enclosure in ESG data can be interpreted as a problem of common governance. The notion of enclosure arises from the theoretical and empirical work of Elinor Ostrom. Therefore, to better understand the current situation and have tools for a potential restructuring of the ESG data market, we turn to the theory of the commons.

<sup>65</sup> [https://affordance.typepad.com/mon\\_weblog/2014/04/lutter-contre-les-enclosures-de-demain.html](https://affordance.typepad.com/mon_weblog/2014/04/lutter-contre-les-enclosures-de-demain.html)

<sup>66</sup> [http://www.litt-and-co.org/citations\\_SH/a-f\\_SH/societe\\_modiale\\_du\\_risque\\_ulrik\\_beck.pdf](http://www.litt-and-co.org/citations_SH/a-f_SH/societe_modiale_du_risque_ulrik_beck.pdf)

## THE ENCLOSURE OF ESG DATA BENEFITS NONE OF THE STAKEHOLDERS

## III. THE THEORY OF THE COMMONS, WHEN APPLIED TO DIGITAL

### 3.1 THE ORGANISATION OF HUMAN SOCIETIES, BEYOND THE OPPOSITION BETWEEN PUBLIC AND PRIVATE PROPERTY

The issue of the ESG data market can be likened to *the Tragedy of the Commons*<sup>67</sup>, as described by Garrett Hardin in his 1968 article. According to Hardin, the problem of resource access can only be solved by reducing population growth or finding a scientific solution because individuals are incapable of managing common resources. Thus, the common use of resources will inevitably lead to ruin if not regulated by the state or, better yet, a private enterprise.

Elinor Ostrom, on the other hand, offers a different interpretation. She endeavours to demonstrate that the simplistic opposition between public and private ownership is a dead end. The fundamental insight that emerges is that public (or collective) ownership and private ownership do not form two mutually exclusive states, but rather represent the boundaries of a continuous set of possible states that combine public and private mechanisms. It is therefore possible to position an arrangement along this continuum by examining the rights associated with an object and precisely defining them.

Between these boundaries, Elinor Ostrom and Edella Schlager (1992) identify rights of access, exclusion, management, and extraction, producing their famous matrix of rights and rights holders relating to exhaustible natural resources (Table 3 - panel A). The list of rights is not exhaustive; for example, Ostrom herself supports it when Hess and Ostrom (2006) examine the biological commons (Table 3 - panel B).

TABLE 3: Bundles of rights

Panel A: Rights associated with a common natural resource				
	Owner	Proprietor without the right of alienation	Claimants of usage and management rights	Authorised user
Access and withdrawal	x	x	x	x
Management	x	x	x	
Exclusion	x	x		
Alienation	x			

<sup>67</sup> <https://www.hendrix.edu/uploadedFiles/Admission/GarrettHardinArticle.pdf>

Panel B: Rights associated with a microbiological commons	
Access	Rights to enter a defined space and enjoy non-subtractive benefits
Contribution	Right to contribute to the content
Extraction	Right to obtain resource units or products from a resource system
Collection	Right to collect artefacts from the resource
Participation	Right to regulate internal use and make improvements to the resource
Exclusion	Right to determine who will have access rights, contribution rights, extraction rights, and withdrawal rights, as well as the mode of transfer of these rights
Alienation	Right to sell or grant management and exclusion rights

In the field of data, there is also a wide range of rights observed: the right to duplicate, the right to transfer, the right to single use, the right to multiple uses, the right to transform, the right to resell, the right to produce derivative works, the right to sell derivative products, the right to retain, the right to destroy, etc.

The publication of *Governing the Commons*<sup>68</sup> (Ostrom, 1990), which earned Ostrom the Nobel Prize in Economics in 2009, demonstrates that in real-life situations, actors make appropriate and reasonable choices, thus challenging the theory of rational actors. The motives behind these arrangements are not solely driven by profit-seeking, but rather by the sharing of knowledge that enables mutual commitment, innovation, and the evolution of rules.

According to Ostrom, the systematic privatisation of the commons in favour of a restricted group (enclosure) leads to rent-seeking behaviour, resulting in economic inefficiency and social inequality. In the theory of the commons, humans are seen as more responsible agents rather than mere wealth maximizers, thanks to their emotions. Instead of focusing solely on property rights, Elinor Ostrom emphasises the concepts of access and common ownership. In doing so, she highlights the crucial role that governance plays in the sustainable management of shared resources (both in terms of utilisation and preservation) and identifies four types of goods (Ostrom and Ostrom<sup>69</sup>).

### 3.2 THE TYPES OF GOODS ACCORDING TO THE THEORY OF THE COMMONS

The first category includes private goods, which are highly excludable and rivalrous. These are proprietary goods for which demand may exceed supply. Everyday consumer goods fall into this category.

The second category is that of club goods, which are highly excludable but considered to have low rivalry because these goods can be reproduced infinitely. The idea of a club does not necessarily imply shared ownership, but rather shared rights, such as the right of exclusive or non-exclusive access. For example, licences confer exclusive or non-exclusive usage rights. The delineation of these rights, whether they belong to the owner or the producer, determines the scope and lifespan of the club.

The third category includes common goods. These are goods for which access is difficult to restrict, but the use by one individual deprives others. Borrowing a book from a library falls into this category. The Commons refers to a set of resources shared by a more or less extended group of individuals, with management occurring at various scales (household, community,

national, international).

The Commons can have clear boundaries (a library) or be transboundary (the internet, a river), or they can be boundaryless (knowledge, air). Common goods include both collective resources devoid of property rights and communal properties. Consequently, knowledge commons can be characterised by a wide variety of legal regimes and manifest as diverse goods. Digital goods are not mentioned in the seminal works of Ostrom and Ostrom<sup>70</sup> from 1977. However, in 2007, Hess and Ostrom<sup>71</sup> address knowledge commons, opening a path and alternately referring to them as information commons or knowledge commons. They note that, in terms of access, material goods and knowledge goods differ.

Indeed, the right of extraction of a material good is associated with strong subtractability, while in the case of knowledge commons, rivalry is low. Subtractability refers to the ability to subtract a good or its use from another individual. For example, borrowing a book deprives other individuals of that book, whereas the use of information or knowledge does not make them unavailable to others. In the latter case, there is no depletion phenomenon, as understood in the English sense of resource depletion. However, in all cases, a common good is characterised by its vulnerability to social dilemmas. Thus, a good is no longer considered common when it undergoes a process of commodification or delimitation. It is also vulnerable to various forms of degradation, such as pollution. Benjamin Coriat in 2011<sup>72</sup> highlights three characteristics specific to common goods:

They result from certain attributes of goods and/or resource systems, including high subtractability and difficulty in excluding potential beneficiaries from the good. They are characterised by unique and original property regimes. Their existence requires the establishment of appropriate "governance structures" to ensure their sustainability.

Finally, the last category encompasses public goods, for which it is not possible to exclude individuals, and the consumption by one agent does not deprive another agent. For example, a sunset can be admired without altering the experience of a neighbouring person. According to Hess and Ostrom (2007), knowledge in its immaterial form belongs to this category. This knowledge represents the experience of appropriating and using intelligible knowledge for oneself.

TABLE 4: Categorization of goods according to the theory of the commons, based on Ostrom and Ostrom, 1977, and Hess and Ostrom, 2011

	Strong excludability Easy exclusion	Weak excludability Difficult exclusion
<b>Strong rivalry</b> High subtractability	<b>PRIVATE GOODS</b> Example: Real estate, vehicles, clothing, Personal computer (PC), Residential garden (private access, owned by individuals or legal entities)	<b>COMMON GOODS</b> Example: Natural resources (fisheries, mines), libraries, irrigation systems, Free software (Linux), Community garden (access for a community, no ownership, resource management by a collective)
<b>Low rivalry</b> Low subtractability	<b>CLUB GOODS</b> Example: Intellectual property (patents, licences), Software licence (Office), Private golf course (access for members only, owned by a private company)	<b>PUBLIC GOODS</b> Example: air, coastal strip, free public services, sunset, Public internet (WiFi), Public garden (access for all, owned by a public entity such as a city or state)

<sup>68</sup> <https://www.amazon.fr/Governing-Commons-Evolution-Institutions-Collective/dp/0521405998>

<sup>69</sup> Ostrom, V., & Ostrom, E. (1977). Public goods and public choices. In: ES Savas (Ed.): *Alternatives for Delivering Public Services: Towards Improved Performance*. Boul-der: West view Press, pp. 7-49.

<sup>70</sup> Vincent Ostrom et Elinor Ostrom, « Public Goods and Public choices », dans *Alternatives for Delivering Public Services: Toward Improved Performance*, Boulder, co: Westview Press, 1977, 7-49 p.

<sup>72</sup> Understanding Knowledge as a Commons: From Theory to Practice, Charlotte Hess and Elinor Ostrom, 2007, The MIT Press

<sup>73</sup> <https://www.cairn.info/revue-internationale-de-droit-economique-2015-3-page-265.htm>

### 3.3 THE COMMONS OF KNOWLEDGE, THE CASE OF DATA

Hess and Ostrom (2007, p. 8 and onwards) define knowledge as “all ideas, information, and intelligible data, regardless of their form of expression or acquisition.” The authors alternatively refer to it as shared knowledge or shared information.

Knowledge includes “any type of understanding gained through experience or study, whether cultural, scientific, academic, or non-academic. It also encompasses creative works such as music, visual arts, and theatre.” It serves both as a commodity and as a constitutive force in society. Its acquisition is a social process as well as a personal commitment.

In accordance with Davenport and Prusak (1998), knowledge is derived from information, and information is derived from data. Following Machlup (1983), data represents raw bits of information, information consists of organised and contextualised data, and knowledge involves assimilating information and understanding how to use it effectively.

Hess and Ostrom (2007) have already identified categories of commons of knowledge. We will mention them here, but it is important to note that these examples do not specifically pertain to data.

**TABLE 5: Categorisation of knowledge commons, Hess and Ostrom, 2007**

	Strong excludability Easy exclusion	Weak excludability Difficult exclusion
<b>Strong rivalry</b> High subtractability	<b>PRIVATE GOODS</b> Example: Personal computer	<b>COMMON GOODS</b> Example: Library
<b>Low rivalry</b> Low subtractability	<b>CLUB GOODS</b> Example: Newspapers	<b>PUBLIC GOODS</b> Example: All useful and available knowledge for all

From this analysis, we have derived a categorization that could be applied to data.

**TABLE 6: Blum's (2021) proposed categorization of data based on the theory of the commons,<sup>73</sup>**

	Strong excludability Easy exclusion	Weak excludability Difficult exclusion
<b>Strong rivalry</b> High subtractability	<b>PRIVATE GOODS</b> Industrial data used internally, a source of comparative advantage, unique production, multiple conditional access rights. Example: real-time non-stored data or a recipe.	<b>COMMON GOODS</b> Hard-to-acquire or replace research data, unique production, multiple access rights. Example: data captured by a space station.
<b>Low rivalry</b> Low subtractability	<b>CLUB GOODS</b> Non-source of comparative advantage industrial data, multiple production, limited (defined) multiple access rights. Example: geolocation data of no significance to the producer's activity.	<b>PUBLIC GOODS</b> Industrial data related to a standard, produced multiple times, with unlimited (undefined) multiple access rights. Example: Patent for electric vehicle power supply, cultural data (artworks, literature, etc.).

<sup>73</sup> Blum V. (2021) A socio-organizational and cognitive approach of corporate accounting: risk and uncertainty representation supporting decisions, Habilitation to Direct Research

### 3.4 ARE ESG DATA CONSIDERED AS CLUB DATA?

Equipped with Ostrom's analytical framework, it is possible to characterise ESG data described in the previous chapter based on two key dimensions: subtractability and excludability.

Regarding excludability, the lack of transparency in data collection and aggregation methods carried out by each ESG data provider ensures the exclusion of any other agent. Therefore, we are dealing with a strong excludability.

As for subtractability, the use of ESG data by one client does not restrict its use by another, indicating low subtractability. The sector experienced a period of strong subtractability during its emergence phase when providers sold more qualitative than quantitative analyses to their clients. However, the concentration of the sector put an end to this.

In conclusion, we are dealing with club goods. **ESG data can be considered as a club good, as it is controlled by data providers who have the right to exclude other actors in the ESG data arena.**

According to Ostrom's framework, implementing recommendations from regulators involves a transfer towards higher subtractability, aiming to transform the available data (the raw material) into a public good and ensuring that individualised usage of the data by investors and other users aligns with a common good.

Each classification (Tables 4, 5, and 6) corresponds to specific institutional arrangements, and it is necessary to transition from one category to another to meet the expectations of the parties involved. This is referred to as modifying institutional arrangements. To do so, it is necessary to redefine the governance of the goods under consideration, in this case, ESG data. How should we proceed?

To undertake this task, Ostrom developed a method for constructing and analysing institutional arrangements based on various empirical observations.

- The first step in Ostrom's work focuses on identifying the attributes of goods (excludability and subtractability), which leads us to classify ESG data as club goods in their current state.
- The second step involves identifying vulnerabilities and dilemmas related to resources. The action takes place within an “arena” composed of actors that need to be identified. We have observed that the lack of transparency in data collection and transformation methods transmitted to fund managers can deteriorate the flow of information between data producers and end-users. Consequently, it hampers the effective work of downstream actors. The dilemma related to the common resource of “ESG data” is a dilemma regarding access rights to this data.
- The third step is to clarify the boundaries of the community. These boundaries remain unclear, and the level of intervention by regulators is primarily at the national level, whereas the community of producers and users of ESG data should be analysed and regulated at the global level.
- The fourth step involves identifying existing operational rules. These operational rules are the ones currently employed to address the selected dilemma.

Ostrom identifies three categories of rules necessary for the effective management of the commons: constitutional choice rules, collective choice rules, and operational rules. These categories include secondary rules:

- 1 - Rules regarding the positioning of different actors in the arena. In the case of the ESG data market, this positioning is represented in Figure 8.
- 2 - Rules defining the entry and exit modalities of the arena. In the ESG data market, these rules are non-explicit due to the sector's transformation into an oligopoly.
- 3 - Rules governing specific choices related to possible or mandatory actions. In the ESG data market, the barriers created by the oligopoly restrict the range of choices and force diversification of supply.
- 4 - Rules defining control mechanisms and their allocation. In the ESG data market, there is a legal void as control is defined by a limited number of actors.
- 5 - Rules regarding information.
- 6 - Rules regarding payment, contribution, remuneration. In the ESG data market, these rules are defined by the actors benefiting the most from the situation, namely the members of the oligopoly.
- 7 - Rules framing the use of resources. In the ESG data market, this rule appears to be nonexistent.

We have summarised Ostrom's analysis framework in Table 7.

**TABLE 7: The governance conditions of the commons**

<b>GOODS</b>	<p><b>Attributes of goods:</b> Low excludability, high rivalry (strong subtractability)</p> <ul style="list-style-type: none"> <li>• particular and original property regimes</li> <li>• appropriate governance structures ensuring sustainability</li> </ul>	<p><b>Vulnerability to:</b></p> <ul style="list-style-type: none"> <li>• Tax dilemmas</li> <li>• Operational dilemmas</li> <li>• Dilemmas regarding the sharing of the benefits of their exploitation</li> </ul>
<b>COMMUNITY</b>	<p style="text-align: center;"><b>Existence of a community</b></p> <p>Arena, as a place for co-constructing social ties and structures Building trust through learning Existence of a sense of community Incentives within larger groups, justice, and protection against system abuses in other groups</p>	
<b>RULES</b>	<p style="text-align: center;"><b>Preexistence of a set of rules</b></p> <p>Capable of resolving dilemmas without the intervention of a higher authority and without privatising the resources</p>	
	<p>Constitutional choice rules: These rules define the foundational principles of an organization or a country. They outline the rules for collective decision-making, including who can participate and the conditions for constructing and modifying collective choice rules and rights that can impact the resource management system.</p>	
	<p>Collective choice rules: These rules determine who participates in operational activities and how operational rules can be modified. They govern the decision-making process within the community and shape the allocation of resources and responsibilities.</p>	
	<p>Operational rules: These rules are applied to day-to-day actions and operations. They define the rights and obligations of the parties involved</p>	
<p><b>1. Position rules</b> define various positions within a system and the corresponding actions assigned to each position</p> <p><b>2. Boundary rules</b> define who is eligible for different positions and the conditions under which an individual can access or exit (by choice or obligation) a position</p> <p><b>3. Choice rules</b> specify the possible or required (or prohibited) actions associated with each position at different stages of a decision-making process.</p> <p><b>4. Aggregation rules</b> define the level of control individuals have over actions or the implementation of an activity.</p> <p><b>5. Information rules</b> impact the level of information available on the actions of various actors and the link between actions and outcomes (they define rights and obligations regarding information)</p> <p><b>6. Payoff rules</b> affect the costs and benefits based on the actions of agents and outcomes.</p> <p><b>7. Scope rules</b> define the consequences and their extent that can or cannot be accepted in a given situation (such as a pollution level)</p>		



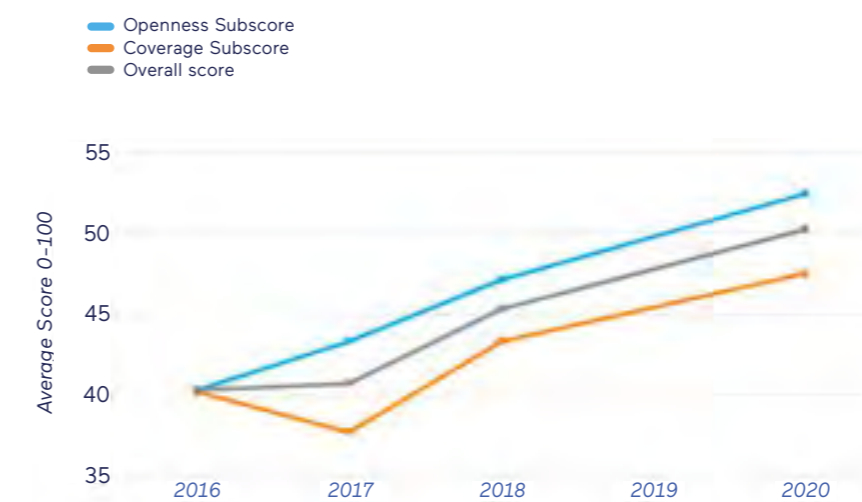
EVERY INSTITUTIONAL  
INVESTOR WORKS FROM  
A DIFFERENT VERSIONS  
OF THE TRUTH

## IV. DIGITAL COMMONS, A POSSIBLE RESPONSE TO CRISES

### 4.1 ESG DATA IS PUBLIC, BUT NOT ACCESSIBLE

The public sphere has long embraced Open Data as a means of disseminating public information. Supported by taxpayer funding, the availability of information produced by public institutions has naturally evolved. International efforts continue intensively to enhance the generation and direction of data towards the Sustainable Development Goals (SDGs). The ODIN<sup>74</sup> program by Opendatawatch, which assesses the quality of open data worldwide, demonstrates a clear positive trend in all countries over the past five years.

FIGURE 9: coverage, openness, and overall average score



The world of research (scientific and academic) has also become an advocate of open data, albeit after 20 years of efforts in the face of private publishers. The benefits of opening research works were evident: encouraging collaboration and interdisciplinary research, avoiding duplication of work, increasing transparency in methodologies used, and promoting data reuse<sup>75</sup>. Additionally, UNESCO highlights that 10 out of the 17 SDGs require ongoing research efforts.

Data from Earth observation programs, which are inherently funded by taxpayers, also actively contribute to the SDGs both directly and through national statistical agencies<sup>76</sup>. Many datasets are freely available, and space agencies are heavily involved in measuring the SDGs through the IAEG-SDGs Working Group on Geospatial Information (WGGI).

Lastly, data produced by the economic sphere, namely ESG data, currently remain inaccessible to stakeholders and are restricted to investors.

<sup>74</sup> <https://unstats.un.org/sdgs/iaeg-sdgs/>

<sup>75</sup> <https://www.ouvrirlascience.fr/un-historique-du-libre-acces-aux-publications-scientifiques-et-aux-donnees/>

<sup>76</sup> [https://eo4society.esa.int/wp-content/uploads/2021/01/EO\\_Compndium-for-SDGs.pdf](https://eo4society.esa.int/wp-content/uploads/2021/01/EO_Compndium-for-SDGs.pdf)

#### 4.2 AN INSPIRING INTERNATIONAL INSTITUTIONAL ARRANGEMENT: GLEIF

The 2008 financial crisis created the conditions for the establishment of the Legal Entity Identifier (LEI), a global unique identifier for legal entities involved in financial transactions.

This identifier facilitates the achievement of several global objectives:

- Better risk management in companies,
- Improved assessment of micro and macro-prudential risks,
- Facilitation of coordinated resolution,
- Limitation of market abuse,
- Fight against financial fraud,
- Improvement of the quality and accuracy of financial data.

Although the need for such a tool has long been recognised among economic and financial actors, it was challenging to implement until now because a crisis situation had not provided the necessary arguments for global financial authorities to enforce it.

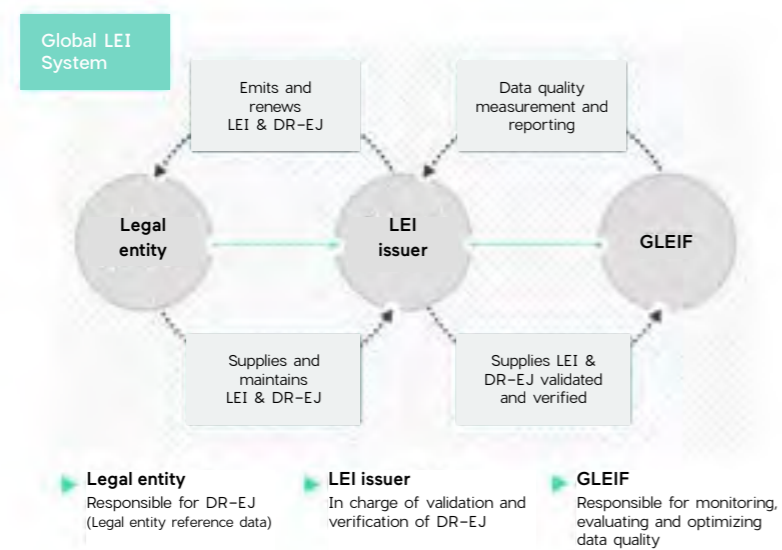
The Financial Stability Board (FSB), which developed the framework for implementing the LEI on the mandate of the G-20, explained in a preparatory note from 2012<sup>77</sup> that the absence of the LEI, despite the demonstrated need from all stakeholders, was due to a lack of interest in collective and coordinated action. The implementation of the LEI was perceived as complex to operationalize and deploy.

Launched in June 2014 and operated by the Global Legal Entity Identifier Foundation (GLEIF), the GLEIF website provides a straightforward explanation of the problem<sup>78</sup>:

*"In the aftermath of the 2008 financial crisis, regulators worldwide recognized their inability to identify the parties to transactions across markets, products, and regions."*

Until now, company identifiers were managed in two ways: one issued by national organisations and another issued by multiple global private operators (such as ISIN code, Bloomberg Ticker, Reuters Identification Code, SEDOL, DUNS Number, etc.). The fragmentation among these private identifiers and their inability to interconnect (due to obvious commercial reasons) revealed that the privatisation of such information is, in fact, a mistake.

FIGURE 10: The LEI system



<sup>77</sup> [https://www.fsb.org/wp-content/uploads/r\\_120608.pdf](https://www.fsb.org/wp-content/uploads/r_120608.pdf)

<sup>78</sup> <https://www.gleif.org/fr/about/history>

By allowing actors to create their own worldview for commercial purposes, global institutions have indeed preferred to promote competition and innovation, sometimes overlooking the objective of global financial stability.

Conceptually, the LEI system is based on a "federal" model that allows local registration authorities to offer legal entities in each jurisdiction the opportunity to acquire an LEI and be included in a globally accessible register. This register is becoming increasingly utilised due to its free availability, comprehensive coverage, and regular updates.

The LEI provides two pieces of information: "who is who" and "who owns whom". In a concise manner, the GLEIF operates in an extremely simple manner. A legal entity submits an application to a certified LEI issuer, which verifies the data with the local registration authority and then transmits the information to the GLEIF, which publishes it openly on its website.

The consideration of the public interest prevailed in the construction of the LEI system to establish the appropriate governance model. The definition of the public interest adopted by the FSB is based on five pillars:

- Ensuring free and open access for all.
- Ensuring a modest cost for acquiring an LEI.
- Preventing any entity involved in the system from gaining a competitive advantage.
- Aligning the LEI with public sector requirements.
- Empowering governance bodies to preserve the public interest, evolve the rules, audit participants, and manage disputes.

The LEI is now widely used globally<sup>79</sup>, with 250 adopting jurisdictions and nearly 2 million active LEIs. The average cost of an LEI is less than \$100 per year.

By creating the LEI, the G-20 and the FSB have effectively constructed a "digital commons." This example demonstrates magnificently that global challenges can be addressed efficiently by leveraging the power of digital commons.

#### 4.3 INSIGHTS FOR THE ESG DATA MARKET

Based on this initiative, we can derive several recommendations for reconfiguring the ESG data market, considering Ostrom's analytical framework:

Firstly, successfully building a global solution where data quality is lacking and fragmentation and information asymmetry are detrimental to the public interest is feasible and even necessary. It is important to better define the boundaries of the arena dedicated to ESG data and, if necessary, facilitate the transition from a national level to an international level. The United Nations' recommendations, as they do not have the force of law, play only an advisory role in the ESG data arena.

Secondly, it is by predefining how the system aims to operate in the public interest that it becomes possible to construct an appropriate governance framework capable of creating sustainable transparency, trust, and adoption. Currently, the situation is characterised by the absence of a high-level hierarchical law, so it is necessary to provide the arena (the ESG data ecosystem) with explicit constitutional rules.

<sup>79</sup> <https://www.gleif.org/fr/lei-solutions/regulatory-use-of-the-lei?cachepath=en%2Flei-solutions%2Fregulatory-use-of-the-lei>

Thirdly, digital technology, with its powerful mechanisms of sharing, can be highly effective if it is fully controlled from end to end. From the generation and collection of data to their validation and dissemination conditions, the rules of sharing and transactions could be redefined.

Fourthly, data openness is a fundamental element of alignment with the public interest. By placing all data under a CC0 (Public Domain Dedication) licence, the LEI system has chosen not to make any distinctions among stakeholders. Contractual arrangements seeking to address similar dilemmas exist and can inspire recommendations related to the ESG data arena. It is also important to define rules for access to resources.

Fifthly, the establishment of a global system should be based on a networked approach in which actors have specific roles and where monopolistic situations are inherently prevented. We have observed that many risks stem from the intermediary position of data providers. This self-assigned role could be clarified within a legislative framework, applying the rule of role assignment.

The success of the LEI, which validates the relevance of the “digital commons” model, warrants drawing inspiration from it to envision a similar solution applied to ESG data. This is the subject of the final part, in which we outline how it is possible to transition ESG data into the realm of the “digital commons.”

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<sup>81</sup> <https://creativecommons.org/publicdomain/zero/1.0/>

## ESG NEEDS MECHANISMS IMAGINED BY AND FOR THE COMMONS

## V. MAKING ESG DATA A DIGITAL COMMONS TO ACHIEVE THE SDGS

### 5.1 A SOLUTION TO UNLOCK ESG DATA

We strongly believe that a similar initiative to GLEIF can be established without waiting for a major ecological crisis to take action. This is even more vital as it is not currently possible to achieve the Sustainable Development Goals without reliable data and without mobilising all efforts.

Based on the elements discussed in the previous chapter, we propose transitioning ESG data into the realm of digital commons and describing its operation in terms of governance, management, and pursuit of the public interest.

The aim is to shift the value, not just within the ESG data itself, but within the ESG data production system. By establishing a governance framework similar to that of a digital commons for this resource, it becomes possible to achieve long-term open and free access to the commons.

As highlighted by Benjamin Coriat in 2015, *"The governance structure ensures the long-term reproduction of the resource and the community that governs it."* The goal is to regulate individual interests based on intrinsic motivations, making them accept the obligations and rules of the collective project.

According to Coriat<sup>81</sup>, *"a commons exists under three conditions: a shared resource, rights and obligations assigned to commoners regarding that resource, and a governance structure that ensures the long-term reproduction of the resource and the governing community. This, of course, requires a community of actors committed to the flourishing and defence of the commons against the ever-present threat of enclosures."*

Going into detail, based on the "bundles of rights" framework proposed by Ostrom and Schlager, it is the entire set of institutional arrangements that will determine the viability and sustainability of the commons. Building upon the classification of bundles of rights, we will outline the framework for a global digital commons for ESG data.

To remain consistent with the case of GLEIF mentioned earlier, we propose an analysis of the GLEIF's structure using the bundles of rights approach by Ostrom and Schlager.

<sup>81</sup> <https://www.contretemps.eu/ne-lisons-pas-les-communs-avec-les-cles-du-passe-entretien-avecbenjamin-coriat/>

**TABLE 8: Bundles of rights: the case of GLEIF**

	Owner	Administrator	Manager	Consumer	User
Consultation access	X	X	X	accX	X
Producer access	X	X	X	X	
Contribution management	X	X	X		
Contribution exclusion	X	X			
Management exclusion	X				
Alienation	X				
Motivation	Sustainably mastering the identification of companies	Facilitating the economic activity of local businesses	Providing businesses with an element of international transparency	Being reliably identified worldwide	Accessing common and reliable "source" data
Actor	GLEIF	Business registre)	LEI issuers	x	x
(Local Operating Units)	Companies	Stakeholders, investors, insurers,...			

We can see that the system largely follows the institutional arrangement proposed by the bundles of rights approach.

The only exception is that the administrator does not have exclusion rights over the managers but only exclusion rights over contributions (verification of the accuracy of the company's identity with the local entity). Exclusion rights are managed at the owner level through the accreditation mechanism<sup>82</sup>.

The desired objective, which is to sustainably keep a system open where interests are aligned through a division of tasks among participants, is achieved. GLEIF has addressed enclosure and provides a sustainable and painless solution for stakeholders.

Based on this, we propose applying it to ESG data to obtain identification of actors and their respective roles in the management of the commons. The following distribution is intended to address the intrinsic motivations of each participant and align interests, all without costs for stakeholders.

## 5.2 DESCRIPTION OF ROLES AND INTERESTS FOR EACH PARTICIPANT

### Operational management entrusted to WIPO

WIPO, the World Intellectual Property Organization, was established in 1976 and encompasses 193 member states. This organisation joined the United Nations system in 1974 as a specialised agency.

The mission of WIPO is "to promote the development of a balanced and effective international

intellectual property system that enables innovation and creativity for the benefit of all." Its activities aim to assist governments, businesses, and civil society in leveraging intellectual property for their benefit.

WIPO offers<sup>83</sup>:

- A platform for policy discussions to establish balanced international rules in the evolving field of intellectual property.
- Global services for protecting intellectual property in all countries and resolving disputes.
- Technical infrastructure for linking intellectual property systems and sharing knowledge.
- Cooperation and capacity-building programs to enable all countries to utilise intellectual property for economic, social, and cultural development.
- A global reference source for information on intellectual property.

**TABLE 9: Bundles of rights: the case of datas**

	Owner	Administrator	Manager	Consumer	User
Consultation access	X	X	X	X	X
Producer access	X	X	X	X	
Contribution management	X	X	X		
Contribution exclusion	X	X			
Alienation	X				
Motivation	Strengthen its role in the SDG roadmap	Carry out the local mission of promoting innovation	Promote expertise and ensure data integrity	Control over data quality, benchmarking, disseminate performance	Access uninterpreted "source" data
Actor	WIPO	National IP offices	ESG insurance provider	Companies	Stakeholders, investors, insurers,...

WIPO governance consists of three bodies<sup>84</sup>:

- The General Assembly consists of the WIPO member states.
- The WIPO Conference consists of the states that are parties to the WIPO Convention. It is the competent body to adopt amendments to the convention.
- The WIPO Coordination Committee is composed of members elected from the Executive Committees of the Paris Union and the Berne Union. Its main role is to provide advice to the union bodies, the General Assembly, the Conference, and the Director General on all administrative and financial matters concerning these bodies. It prepares the draft agendas for the General Assembly and the Conference.

<sup>82</sup> <https://www.gleif.org/en/about-lei/the-lifecycle-of-a-lei-issuer/gleif-accreditation-of-lei-issuers#>

<sup>83</sup> <https://www.wipo.int/about-wipo>

<sup>84</sup> [https://www.wipo.int/treaties/en/convention/summary\\_wipo\\_convention.html](https://www.wipo.int/treaties/en/convention/summary_wipo_convention.html)

WIPO, as a United Nations organisation, is also engaged in the Sustainable Development Goals (SDGs) through various initiatives<sup>85</sup>:

**TABLE 10: WIPO's initiatives in relation to the SDGs**

NAME	DESCRIPTION	LINK TO SDG
WIPO GREEN	Supports global efforts to address climate change by connecting providers and seekers of environmentallyfriendly technologies. Includes WIPO GREEN Acceleration Projects to help green technologies deployed in the field and other activities	Various (6, 7, 9, 10, 11, 12, 13, 14, 15 and 17)
Technology Innovation & Support Centres (TISCs)	Contribute to SDGs by providing on-the-ground IP information and support to innovators helping to unlock innovation, creativity and competitiveness. TISCs are hosted in institutions such as patent offices, universities, research centres, or science and technology parks, providing training and access to rich technology information in patent documents, as well as scientific and technical publications	4
Inventor Assistance Program (IAP)	Matches developing-country inventors with patent attorneys who give them free legal advice on patenting	4
The Innovation Gender Gap Initiative	A project studying ways in which the IP system could foster a more inclusive innovation landscape	5
IP & Tourism	A project demonstrating how IP tools and strategies can support the promotion of sustainable tourism, as well as economic, social and cultural development	8
Accessible Books Consortium (ABC)	Contributes to SDGs by helping increase the number of books worldwide in accessible formats and making them available to the visually impaired	10

Table 1 – Example WIPO programs that seek to support achievement of SDGs through education, sharing of technical information and collaboration for green innovations

WIPO's status as a global database manager gives the organisation a significant role in operating at the global level. Its "federal" functioning, similar to the GLEIF, which is defined as a federated service system by bringing together national business registers, allows WIPO to rely on a network of local intellectual property offices. The network approach enables the inclusion and participation of countries in the construction of the whole system.

The work carried out over more than 50 years to establish this network is a valuable asset both internationally and technically.

**Role in the digital commons: the owner.**

**WIPO is responsible for operating and making the resource available to users. It hosts the data**

**An administration managed by the member states of WIPOO**

The mission of the administrator can be entrusted to national intellectual property offices. These offices, operational and connected to WIPO, allow for a local role close to the managers responsible for contributing on behalf of the consumers of the commons (public and private entities).

In coordination with WIPO, the administrators would be entrusted with the task of supervising the "managers" to ensure that they fulfil their role effectively (available service, active participation, and low error rates in submissions).

The submission and its validation result in the issuance of a "token" as proof that the data has been submitted. This token ("WIPO ESG PROOF") provides a timestamp of the submission corresponding to the version (hash) of the deposited data. It may be based on WIPO's previously

<sup>85</sup> <https://wipogreen.wipo.int/wipogreen-database/api/v1/articles/148096/attachments/148096%3AOTHER%3A11e828c6-509a-496f-b5cf-cd2679/download>

offered WIPO Proof technology<sup>86</sup>, which was discontinued in 2021.

**Role in the digital commons: the administrators.**

**They serve as entry points for the managers who transmit information to them based on the domicile of the entity wishing to contribute. Administrators have the power to exclude managers.**

**Data feed provided by ESG Insurance Providers.G**

One of the key challenges in the development of providing ESG data is to instil a certain level of trust among stakeholders, including investors. Similar to financial data, a third-party organisation should audit and provide assurance on the data.

An international framework<sup>87</sup> called the "Global Assurance Framework for Sustainability-related Corporate Reporting" is currently being developed, in response to the call from IOSCO, which emphasised in March 2023<sup>88</sup>:

*IOSCO encourages timely and high-quality profession-agnostic standard-setting outcomes responsive to the public interest; calls for early engagement with preparers, investors and providers; and supports capacity building across the entire sustainability reporting ecosystem.*

**ESG data will ultimately pass through the hands of "Insurance Providers" responsible for independently certifying this data.** These actors can be auditors or non-auditors, as indicated by IOSCO:

*Independent assurance may be provided by either audit firm or non-audit firm assurance providers. This report refers to 'audit firms' as the Global Public Policy Committee (GPPC) member accounting firms (Deloitte, EY, PwC, KPMG, Grant Thornton and BDO) and other professional accountants; and refers to 'non-audit firm assurance providers' as others such as ISO Certified providers, specialist firms, consultancy firms etc. that do not provide audit services over financial statements, and other non-professional accountants. Non-audit firm assurance providers are often engaged to assure more specialised information, such as sustainability-related metrics. Different standards are also used. For example, the International Standard on Assurance Engagements (ISAE) 3000 (Revised) is typically used for assurance engagements on general purpose sustainability-related reporting, while others, such as International Organization of Standardization (ISO) 14064-3, are used by some non-audit firm assurance providers for assurance over more targeted information.*

Audit firms are therefore expected to play a broader role compared to non-audit actors who will try to carve out a place in this market.

It is worth noting that audit firms have an organisation responsible for ensuring their independence and integrity in the service of the public interest. Established in 2005, the PIOB<sup>89</sup> operates under the supervision of a monitoring group composed of international organisations<sup>90</sup>, including the FSB (responsible for establishing the GLEIF) and IOSCO. The proposed digital commons would therefore benefit from involving audit firms in a role.

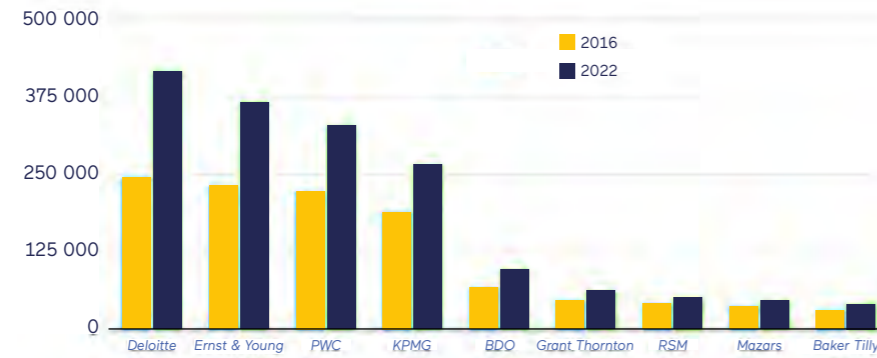
<sup>86</sup> [https://www.wipo.int/pressroom/en/articles/2020/article\\_0012.html](https://www.wipo.int/pressroom/en/articles/2020/article_0012.html)

<sup>87</sup> <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD729.pdf>

<sup>88</sup> <https://www.iosco.org/news/pdf/IOSCONEW5686.pdf>

<sup>89</sup> <https://pijob.org/>

<sup>90</sup> <https://pijob.org/how/>

**FIGURE 10: Evolution of the number of employees in major audit firms**

Source: companies

Audit firms have developed an international network over the past 20 years that is directly connected to companies, enabling them to instantly retrieve ESG data globally and across all sectors. These non-sovereign actors are present in 150 countries and have significant resources, as evidenced by the growth in the number of employees over the past 6 years.

These actors could be mandated by their clients to deposit their data in a common repository, whether reporting is mandatory or voluntary, and in the reporting format of their choice.

The cost of deposition can be passed on by the manager to their client. The manager receives a token (WIPO ESG Proof) which they must provide to their client, serving as evidence of their contribution to the digital commons and as a credibility guarantee for the manager who is thus participating in the global effort as an extension of the service they provide to their client.

#### Role in the digital commons: the managers

They are responsible for submitting the data to the administrators on behalf of their clients.

#### Consumers of the digital commons: businesses

As mentioned earlier, businesses would have a natural interest in ensuring that their information is accessible to a wide audience in an uninterpreted version. By entrusting the deposit of this information to auditors, they would not need to allocate additional resources to participate in the digital commons.

The financial contribution associated with data deposition could be similar to that of the GLEIF (approximately \$100 per year). This amount would be divided between the "Owner" and the "Administrator" to finance the commons.

Regarding the choice of data to be deposited, in order to maintain the openness and usability of the information, it could be requested that organisations offering reporting standards make their reporting templates available in an open-source format on a software Forge<sup>91</sup>.

To draw a parallel with GLEIF, the open-source dimension, which guarantees transparency and trust, is fully embraced and materialised by making a number of modules<sup>92</sup> available on a software Forge (Github). These libraries are released under the Creative Commons Zero licence, which allows for reuse and adaptation as needed.

The various reporting standards would be made usable by the "Managers" according to their preferences in terms of publication (mandatory or voluntary). Among the most widely used standards, the GRI (Global Reporting Initiative) reporting is the most commonly used, with over 11,000 companies worldwide voluntarily using it. Other frameworks include TCFD (Task Force on Climate-related Financial Disclosures), UNGC (United Nations Global Compact), CDP (formerly Carbon Disclosure Project), SASB (Sustainability Accounting Standards Board), as well as the framework developed by auditors themselves<sup>93</sup> in collaboration with the World Economic Forum (WEF), known as Stakeholder Capitalism Metrics.

The IFRS Foundation is also working on establishing a reporting framework through its entity created after COP26 in 2021: the International Sustainability Standards Board (ISSB). This initiative aims to define a mandatory sustainability reporting format for listed companies in jurisdictions that adopt it (potentially 168 jurisdictions). Recently, the ISSB and the WEF announced<sup>94</sup> a convergence of their reporting formats.

#### Role in the digital commons: Consumers

Companies wishing to contribute to the digital commons appoint the managers to whom they already entrust their ESG data to submit them to the commons managed by the owner. The managers compile the data according to the format(s) requested by the client, which are available in a software repository.

#### Stakeholders have free access to audited ESG data on a global scale.

As mentioned earlier, ESG data is not only intended for financial actors but for all stakeholders. By establishing a digital commons system, it becomes possible to remove these information from the asymmetry market and free up their use, in line with their original purpose of enabling companies to report on their CSR efforts.

In order to adhere to the principles of the Open Data Charter<sup>95</sup>, the data should be made available free of charge without authentication and in a format that is easily readable by individuals without specific technical skills. The model implemented by GLEIF can also serve as a model<sup>96</sup> in this regard.

Although the open data movement primarily focuses on data produced by public entities, the natural purpose of ESG data, which aims to reflect the CSR strategy and performance of companies, is to be disseminated and accessible to a wide audience. This is evident from the number of companies voluntarily providing this information worldwide, whether or not there is a regulatory obligation to do so, as well as the number of signatories to the Global Compact.

<sup>93</sup> [https://www3.weforum.org/docs/WEF\\_IBC\\_Measuring\\_Stakeholder\\_Capitalism\\_Report\\_2020.pdf](https://www3.weforum.org/docs/WEF_IBC_Measuring_Stakeholder_Capitalism_Report_2020.pdf)

<sup>94</sup> <https://www.weforum.org/press/2023/06/world-economic-forum-and-issb-partner-to-compile-learnings-on-early-sustainability-reporting-efforts>

<sup>95</sup> [https://opendatacharter.net/wp-content/uploads/2015/10/opendatacharter-charter\\_F.pdf](https://opendatacharter.net/wp-content/uploads/2015/10/opendatacharter-charter_F.pdf)

<sup>96</sup> <https://www.gleif.org/fr/lei-data/gleif-concatenated-file/download-the-concatenated-file>

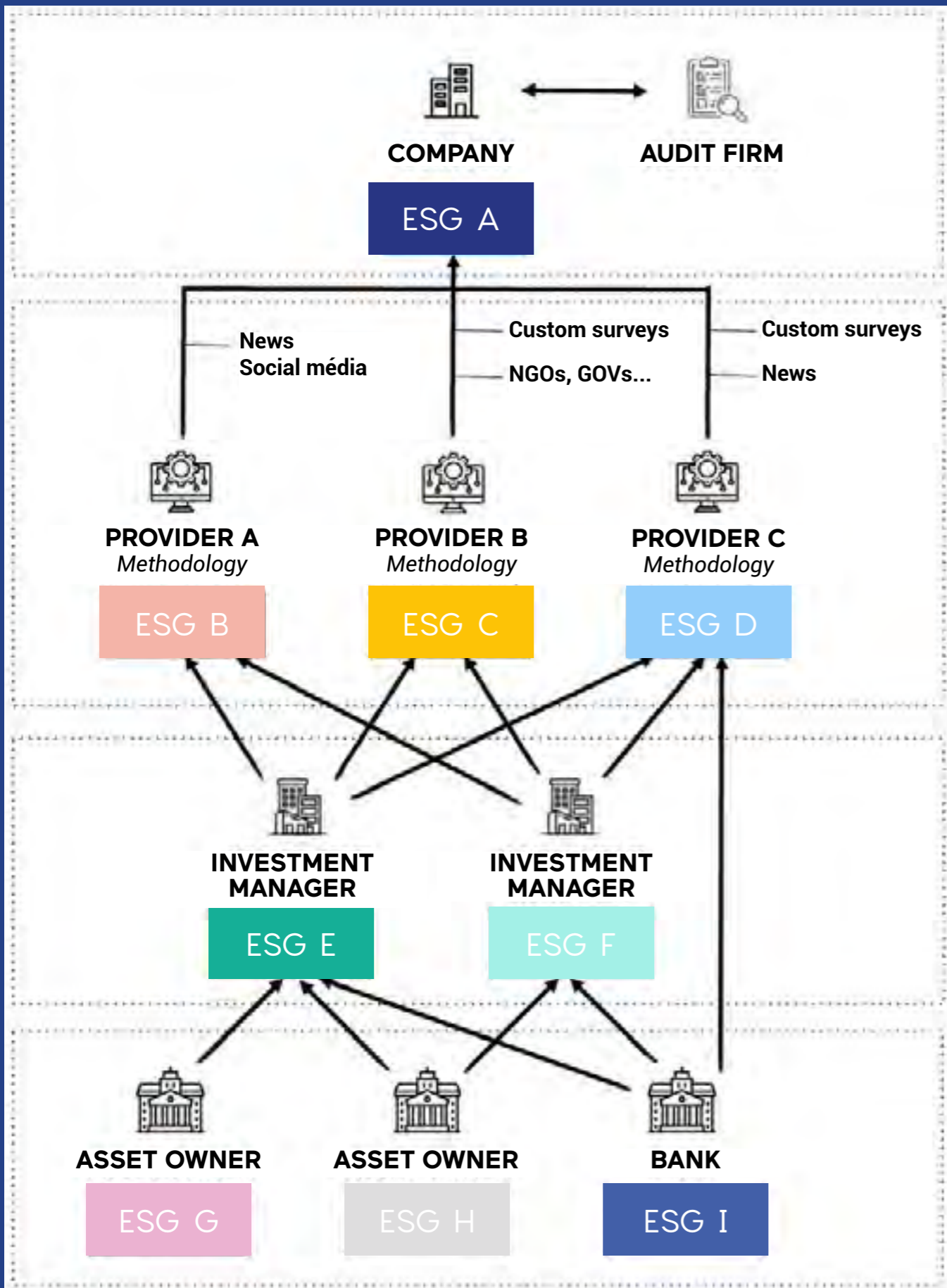
<sup>91</sup> Collaborative management and maintenance system created for development purposes (examples: GitLab or GitHub).

<sup>92</sup> <https://www.gleif.org/en/about/open-source>

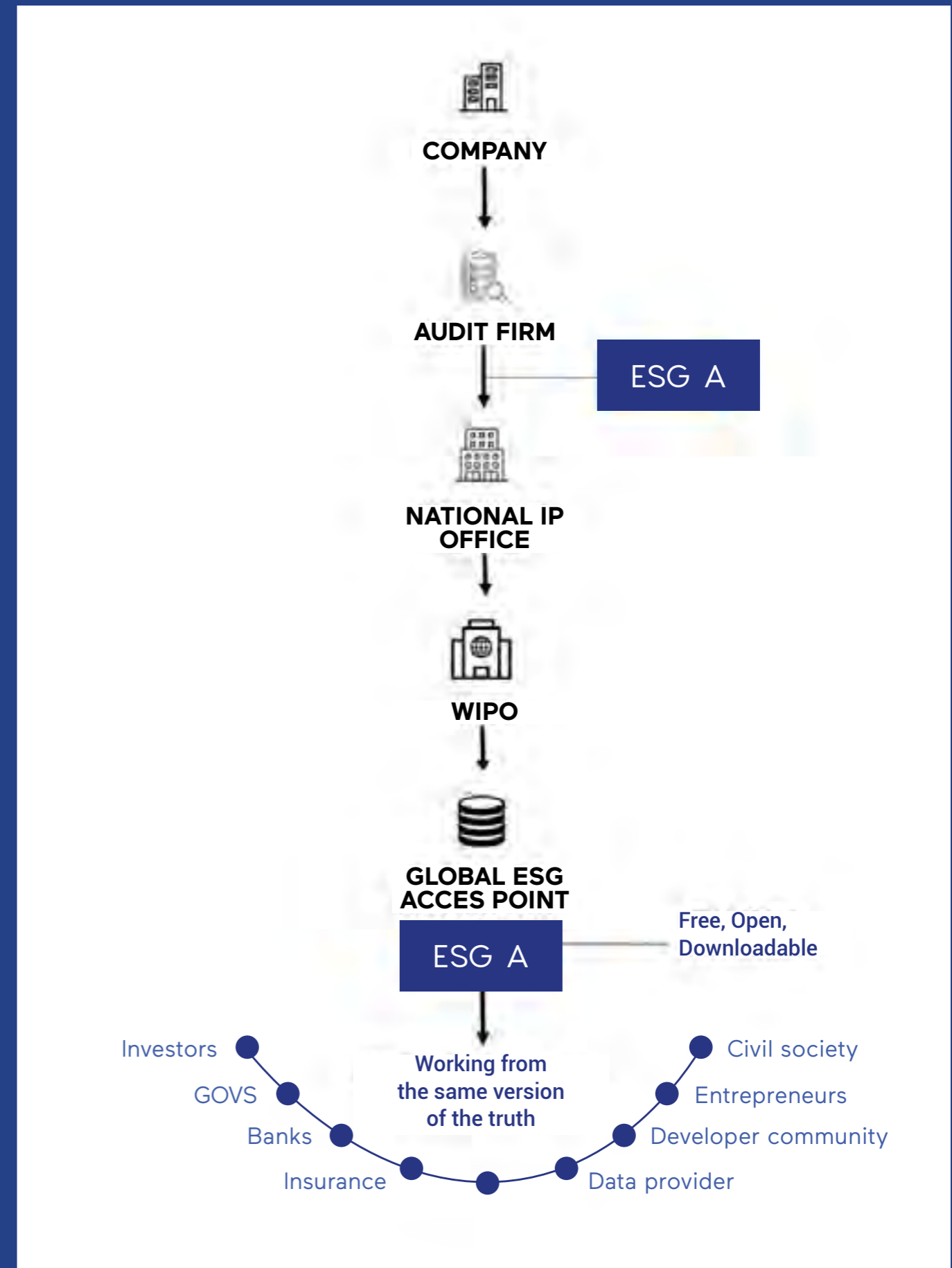
Summary of the primary interest of each stakeholder	
Enterprises (of all sizes and sectors)	Ensure that ESG data is made available to all stakeholders in a raw format and have the ability to compare
Institutional investors (pension funds, sovereign wealth funds, insurance companies, etc.):	Being able to measure a positive contribution to Sustainable Development
Asset Managers	Working from the same version of the truth
Audit	Strengthening the role of trusted agent at the global level
Banks and insurer	Sharing a common vision of companies' non-financial performance and risks
Rating agencies and index providers	Shifting the focus towards analysis by relying on a global, virtuous, and free system for managing ESG data
UN	Extending global collaboration in the footsteps of the Global Compact and the PRI, leveraging a close and globally established partner
International organisations	Ensuring that Sustainable Development is operationally and effectively supported by the economic and financial sphere
Research & academia	Saving public resources (free access, audited data, global coverage) in order to focus on research work
Civil society	Verifying that one's savings are invested sustainably in the economy, highlighting companies that are effectively contributing to Sustainable Development



**BEFORE**



**AFTER**



### 5.3 PROPOSED METHODOLOGY: ENGAGING STAKEHOLDERS

#### 1. Utilising the Principles for Responsible Investment (PRI) for building consensus

The first step is to verify whether the diagnosis presented here is indeed shared by the relevant stakeholders, particularly the primary consumers of ESG data: asset managers. These asset managers are collectively represented at the global level under the United Nations Principles for Responsible Investment (UN PRI), with 4,098 signatory entities.

To ensure efficiency and historical consistency, it would be appropriate to initiate a consultation with the members to gather their opinions on the ESG data market on a large scale. They could be asked about their understanding of ESG data, their interactions with data providers, the issue of ESG ratings, the cost of data, the evolution of data quality, and the level of transparency between estimated and reported data, among other topics.

The UN PRI addresses several topics, including data, through the “Driving Meaningful Data”<sup>97</sup> program, which lends itself well to this exercise.

#### 2. Capitalising on the UN Global Compact as a catalyst

The signatories of the Global Compact (20,000 companies worldwide) commit to adhering to its 10 principles<sup>98</sup> and working towards the achievement of the SDGs<sup>99</sup>. The UN Global Compact serves as a global network that brings together businesses aiming to align their CSR practices with the SDGs.

In a similar vein to the PRI approach, it could be relevant to consult the signatories, leveraging the insights from the suggested survey in the previous point, to determine if they would like to easily make the data provided to the UN Global Compact available through a digital commons. Furthermore, the consultation could explore whether the data could be submitted on their behalf by auditors or “Assurance Providers”.

#### 3. Engaging with audit firms

Engaging with audit firms to explore their position and willingness to collaborate on a global ESG data repository is a crucial step in advancing the goals of sustainable development. By leveraging their global reach and access to ESG data, audit firms can play a pivotal role in facilitating the collection, verification, and sharing of ESG information.

Engagement efforts can involve consultations, discussions, and partnerships with audit firms<sup>100</sup> to understand their perspectives, capabilities, and potential challenges in contributing to a global ESG data repository. It is important to emphasise the benefits of such collaboration, including the promotion of transparency, comparability, and trust in ESG reporting, as well as the alignment with the broader sustainable development agenda.

#### 4. Creating a multi-disciplinary task force

To initiate a global discussion, we recommend inviting the relevant stakeholders to engage in dialogue about the proposed solution.

These stakeholders, all explicitly involved in achieving the SDGs, could include:

- Regulatory Oversight Committee<sup>101</sup> (ROC)
- Financial Stability Board (FSB)
- UN Environment Programme Finance Initiative (UNEP FI)
- UN Global Compact (UNGC)
- OMPI/WIPO
- Creative Commons (CC)

This task force could be convened under the umbrella of the UN Global Compact, which, as the sponsor of the “Who Cares Wins” report in 2004, popularised the term “ESG”.

<sup>97</sup> <https://www.unpri.org/download?ac=11641>

<sup>98</sup> <https://unglobalcompact.org/what-is-gc/mission/principles>

<sup>99</sup> <https://unglobalcompact.org/sdgs/sdg-toolbox>

<sup>100</sup> Deloitte, PWC, Ernst&Young, KPMG, Grant Thornton, RSM, BDO, Baker Tilly, Mazars...

<sup>101</sup> The ROC (Regulatory Oversight Committee) oversees the GLEIF (Global Legal Entity Identifier Foundation). It is an international organisation that works in the public interest to improve the quality of data used in financial reporting, enhance risk analysis capabilities, and reduce reporting costs through the harmonisation of standards at the global level.



THE HOUSE IS BURNING,  
LET'S NOT LEAVE  
THE THERMOMETER  
IN A FEW HANDS

## CONCLUSION

In light of the origins of digital technology and sustainable development, we have demonstrated that the pursuit of pooling efforts for the protection of material and immaterial commons unites them.

We have seen that the principle of Responsibility (H. Jonas, 1979) has become, as globalisation has unfolded, the historical driving force behind the change in the international roadmap. This principle, which asserts that the preservation of the planet for future generations is an imperative that unites our species, finds decisive reinforcement in the digital realm through knowledge sharing.

It was the global and systemic nature of the 2008 financial crisis that prompted the G20 to mandate the Financial Stability Board (FSB) to urgently put an end to the enclosure of company identifiers, as regulatory authorities and banks were unable to identify the companies and their holdings. The global financial system emerged stronger and more transparent. Without a doubt, the climate crisis and its social consequences are equally global and systemic in nature. Therefore, it is legitimate to hope that the enclosure currently in place on ESG data will be addressed before a socio-environmental and, consequently, financial crisis occurs.

Should we wait until climate change becomes so unbearable that companies have to cease their activities or be nationalised? What levels of losses would be acceptable for financiers and investors?

Or is it better for companies to be able to transform themselves in line with their stakeholders, based on shared information?

Should we also wait until certain sectors become uninsurable or unfundable due to controversies?

Or should we create the conditions for insurers and bankers to align on a common understanding of risks?

Should 50 years of relentless efforts by countless actors from around the world to make the global economy more responsible end with the use of the resulting data solely benefiting actors whose business relies on information asymmetry?

Indeed, the data industry has become highly competitive. It struggles to make this ecosystem a lever for deploying innovative actions and strategies in service of sustainable transformation. Conversely, the monetization of ESG data described in the report represents a significant barrier to achieving the SDGs as it leads to sterile competition among investors and financiers for data.

In the face of these questions, we have put forward proposals in this publication that constitute an outreach to stakeholders, and we hope it marks the beginning of collective action.

## SUMMARY OF OUR RECOMMENDATION

Concretely, we propose the creation of a global digital commons for ESG data, managed by the United Nations, to fully leverage the potential of big data and open data.

This ambition aims to create the necessary conditions of trust to achieve the Sustainable Development Goals (SDGs) through the following three pillars:

1.

### SHARED INFRASTRUCTURE:

Replacing the asymmetry of information between data providers with a non-proprietary, reasoned, and painless technological solution for all actors involved (coordinated by the World Intellectual Property Organization - WIPO).

2.

### COLLECTIVE GOVERNANCE:

Building on a governance framework that involves a community of trusted stakeholders operating at a global level (ensuring the engagement of stakeholders in this mission of public interest).

3.

### TRUSTED DATA:

Ensuring access to a global registry of "raw" non-intermediated/ biased extra-financial data (data that is not biased or manipulated, accessible through an Open Source software repository).

By establishing this digital commons, we aim to foster transparency, reliability, and comparability of ESG data, enabling stakeholders to make informed decisions, promote sustainable practices, and contribute to the achievement of the SDGs.



## MAXIME MATHON

Maxime Mathon began his career in 1998 by participating in the creation of E-Value, the first online information agency specialised for financial professionals. In 2002, he co-founded NewsManagers, an information system used by over 180 asset management companies, acquired by l'Agefi in 2009. He joined AlphaValue in 2010, the leading independent financial analysis firm in Europe, where he was responsible for external relations. He has been involved in various industry initiatives in Europe, collaborating with regulators and professional associations, particularly in the area of Data Governance within the financial and extra-financial regulatory framework. He now focuses on providing expertise to companies and institutional investors.



## VÉRONIQUE BLUM

Véronique BLUM is an Associate Professor (HDR) at the University of Grenoble Alpes. Her research, published in international journals, focuses on decision-making under uncertainty, evaluation methods, intangible assets, and accounting standardisation (denormalization processes, effects of standards, communication related to intangibles, etc.). She serves as a section editor for the South African Journal of Economic

and Management Sciences and the MIAI Quarterly. She is also a member of the Ecological Accounting Chair and the Multidisciplinary Institute of Artificial Intelligence. She co-directs a research group dedicated to intangible assets supported by the Francophone Accounting Association. Véronique is a member of the academic panel of EFRAG, which advises the European Commission on the adoption of international accounting standards. She is also an expert in valuation for the World Intellectual Property Organization and a board member of the Observatoire de l'Immatériel and the Licensing Executives Society France, where she co-chairs the Intellectual Property Evaluation Committee.

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# CONTRIBUTORS & ACKNOWLEDGEMENTS

### ANIMATION AND EDITORIALIZATION

**Arno Pons** – Editorial management, Digital New Deal

**Prune Zammarchi** – Mission head, Digital New Deal

### INTERVIEWS

**Carol Adams** – Professor of Accounting at DUBS ; Chair, GRI's Global Sustainability Standards Board

**Aida Bennini** – Maitre de conférences, IAE Angers

**Riadh Ben Salem** – emlyon business school, implid chair

**Sandra Bernard-Colinet** – Adviser to the President IRCANTEC

**Keith Bortoluzzi** – CEO Impactfull

**Christophe Bourdillon** – Chief executive CDC Croissance

**Paula Caballero** – Regional Managing Director, The Nature Conservancy

**Leah Dahmani** – Policy Officer - Sustainable Finance - DG INTPA - European Commission

**Olivier Dion** – CEO Onecub, co-founder aNewGovernance, CTO Digital New Deal

**Charlotte Gardes** – Climate Change, Energy & Financial Stability at International Monetary Fund

**André Gorius** – IPV Committee Licensing Executives Society

**Eric Gaussier** – Université Grenoble Alpes, Multidisciplinary Institute in Artificial Intelligence

**Patrice Hiddinga** – Advisor, partner at Ascend

**Vincent Ingham** – Director, Regulatory Policy at EFAMA

**Jérôme Julia** – Président de l'Observatoire de l'Immatériel

**Nicolas Jullien** – Professor IMT Atlantique, Scientific Director at Marsouin

**Laurent Lafaye et Fabrice Tocco** – co-CEOs de Dawex

**Axelle Lemaire** – Croix Rouge, former Minister of digital, Digital New Deal board member

**Clément Levallois** – emlyon business school, implid chair

**Nathalie Lhayani** – President of FIR, Director sustainable policy at Groupe Caisse des Dépôts

**Caroline de Mareuil** – President ICOSA

**Jean-Luc Parouty** – Université Grenoble Alpes, Multidisciplinary Institute in Artificial Intelligence

**Sophie Pasquier** – President at Licensing Executives Society France

**Alexandre Rambaud** – Maître de conférence at AgroParisTech-Cired

**Judith Rochfeld** – professeur agrégée Panthéon Sorbonne, Digital New Deal board member

**Laetitia Tankwe** – Board Member PRI

# DIGITAL NEW DEAL

## THE THINK-TANK OF THE NEW DEAL

Digital New Deal accompanies private and public decision-makers in the creation of an Internet of the Enlightenment, European and humanistic. We are convinced that we can offer a 3rd digital way by aiming at a double objective: to defend our values by proposing a new regulation against the centralization of powers; and to defend our interests by creating the conditions of cooperation against the capture of value by the "Big Tech".

The purpose of our publication activity is to shed as much light as possible on the developments at work within the issues of "digital sovereignty", in the broadest sense of the term, and to develop concrete courses of action, even operative via the Do Tank, for economic and political organizations.

### THE BOARD OF DIRECTORS

Olivier Sichel (founding president) and Arno Pons (general delegate), steer the strategic orientations of the think-tank under the supervision of the board of directors.

Strengthened by their common interest in digital issues, the members of the Board of Directors have decided to deepen their debates by formalizing a framework for production and publication within which the complementarity of their experiences can be put at the service of public and political debate. They are personally involved in the life of Digital New Deal, especially in the choice of reports and their editors. They are the guarantors of our academic and economic independence.



**SÉBASTIEN BAZIN**  
PDG AccorHotels

**NATHALIE COLLIN**  
General Manager,  
Consumer and Digital  
Division La Poste Group

**NICOLAS DUFOURCQ**  
DG of Bpifrance

**AXELLE LEMAIRE**  
Former Secretary of State  
for Digital Technology and  
Innovation

**ALAIN MINC**  
President AM Conseil

**DENIS OLIVENNES**  
DG Libération



**YVES POILANE**  
DG Ionis Education Group

**ARNO PONS**  
General Delegate of the  
Digital New Deal think tank

**JUDITH ROCHFELD**  
Associate Professor of Law,  
Panthéon Sorbonne

**OLIVIER SICHEL**  
President Digital New Deal  
DGA Caisse des Dépôts

**BRUNO SPORTISSE**  
PDG Inria

**ROBERT ZARADER**  
PDG Bona fidé

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*December 2023*

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