

# SUSTAINABILITY REPORTING AND MONITORING IN THE FOOD SECTOR: ACTORS, PRINCIPLES AND TOOLS

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## 1. INTRODUCTION

### 1.1 RATIONALE AND ACTORS

With the development of the UN's 2030 Agenda, it has become very clear that public opinion and policy makers expect business organizations to take it very seriously (Scheyren et al., 2016; Bebbington and Unerman, 2017).

Companies are increasingly required to move from a "Business as usual" to new ways of doing and managing business that align corporate purpose with sustainable strategy, and show long-term commitment and responsible behavior towards multiple and diverse stakeholders.

In this sense, organizations can contribute to achieving sustainable development through their core activities and, at the same time, they are invited to assess their impact, set ambitious goals, and communicate their results in a transparent way.

The concept of sustainability suggests, *"not just an efficient allocation of resources over time, but also an equal distribution of resources and opportunities between the current and future generations, and a scale of economic activity relative to its ecological life support systems"* (Milne and Gray, 2007, p. 195).

Calls have come for cumulative effects assessments of economic activities, for ecological footprint analysis, for precautionary decision-making principles, and for more just, democratic, and participatory decision forums.

All of these approaches represent a profound rethinking of existing business systems, corporate behaviour, and accounting and reporting systems (Gray and Milne, 2002).

This is particularly true for the agri-food systems, since they have a great social and environmental impact on our planet and communities (Leon-Bravo et al., 2017; Dania et al., 2016), but at the same time, environmental and social changes strongly influence agri-food systems. Consequently, the nexus between water, energy, and food

is clear, due to the agri-food sector's use of natural resources (i.e. land, water and raw materials) (Leon-Bravo et al., 2017; Maloni & Brown, 2006). Despite numerous promises to achieve financial and non-financial sustainability in globally and massively connected agri-food supply chain operations (Datnow et al., 2014; Tan et al., 2015), there have not been enough efforts to improve performance along all the different activities that characterize the supply chain: from the inventory management, to logistic and distribution of material and products. In this context, businesses are both part of the problem and part of the solution to the current challenges within the whole food system.

There is increased recognition that the private sector can do more in order to achieve sustainable development and shift towards more sustainable food systems, through the shaping of food production and consumption, as well as an increase in access to healthier, affordable and good quality food.

In this context, sustainability reporting instruments seem to answer to growing stakeholders' attention on a company's ethical, social, and environmental performance. So much so that numerous surveys (KPMG, 2017; IFAC, 2006; FEE, 2006) have demonstrated an increase in the number of firms that produce voluntary sustainability reporting, often called Triple Bottom Line report (TBL), "a publicly released document that provides information about the social, environmental and economic performance on the reporting organization" (Elkington, 1997).

In fact, during the last ten years, sustainability reporting has become a practice implemented by a growing number of firms worldwide (Boiral, Heras-Saizarbitoria, & Brotherton, 2017), with the aim of meeting the new information needs of managers, investors, and other stakeholders, to be used in their decision-making processes (Eccles et al., 2001).

As a result, a recent survey (KPMG, 2017) shows that around 78% of the biggest global companies report non-financial information, such as environmental, social and governance (ESG) performance, in their annual financial statement.

The sustainability reporting activity produces some important positive externalities as it is able to:

- (i)** reinforce corporate social legitimacy (Lokuwaduge & Heenetigala, 2017)
- (ii)** better manage reputational and normative risks (Gray, 2010; Bebbington et al., 2008)
- (iii)** refine the internal auditing processes (Merkl-Davies & Brennan, 2011)
- (iv)** increase corporate transparency (Dubbink et al., 2008) and stakeholder engagement
- (v)** provide extra information useful to meet the new evaluation needs of both market and stakeholders (Leuz, 2003; Healy & Palepu, 2001; Botosan & Harris, 2000)
- (vi)** attract social responsible investments (Riedl & Smeets, 2017).

For the reasons mentioned above, sustainability reporting activities have increasingly become a mainstream business practice in recent years. Indeed, according to KPMG (2017) for the 75% of large and mid-cap companies the sustainability reporting has become a standard managerial activity.

As the assessment and reporting of sustainability performances are substantially based on voluntary self-analysis processes, firms can adopt a homemade sustainability reporting format or a well-recognized international framework to increase credibility, reliability, and legitimacy of their nonfinancial information disclosures.

The reporting standards for sustainability disclosure define a set of guidelines and key performance indicators (KPIs) to support firms in nonfinancial issues measurement and reporting process (Sutantoputra, 2009).

Among the existing sustainability reporting instruments, GRI guidelines represent the set of ESG reporting standards most adopted internationally (Yang et al., 2019; Romero, Ruiz, & FernandezFeijoo, 2019; KPMG, 2017; de Villiers & Marques, 2016; King & Bartels, 2015; Nikolaeva & Bicho, 2011; Christofi, Christofi, & Sisaye, 2012; Manetti & Becatti, 2009; Brown, Jong, & Levy, 2009; Ballou et al.; 2006, Woods, 2003).

In this regard, GRI Sustainability Reporting Standards are still currently the most adopted by companies to define their nonfinancial disclosure format. This is so also because an alignment of the self-report to the GRI framework is considered by managers as a driver to acquire or steady social legitimacy.

Such managerial view persists even if SASB and IIRC initiatives are recently gaining prominence, since their integrated and material reporting standards are more focused on the investors' engagement side (Hedberg & Von Malmborg, 2003).

As a matter of fact, nowadays, also other noteworthy international and national initiatives are proposing useful principles, guidelines and KPIs assisting organizations to better design their sustainability report understanding the global value created.

Furthermore, in many industrial sectors reference is made also to monitoring tools which are specific of that sector. Some of them are issued by international financial or sector institutions, some are backed by business organizations, some are promoted by single companies.

Notwithstanding the efforts made by companies, we will see in this Report that reporting systems remain highly idiosyncratic and incomplete. Furthermore, the practices, monitoring and reporting standards are still not adequately aligned with the SDGs and are indeed in flux.

## 1.2 CLASSIFICATION OF INSTRUMENTS

As it happens in other industry sectors, the main sources for the assessment and reporting of sustainability performances are instruments shaped by a normative and regulatory impulse.

When food companies define, plan, measure, assess and report their sustainability performance, they can make reference to principles, indicators and tools issued by numerous actors.

Ideally, it is possible to draw a classification of such rules and institutions, distinguishing among:

1. “Frameworks and Standards”, which support companies’ reporting procedures;
2. More narrow “Monitoring Mechanisms and Tools”, focused on food-related activities and issues.

“Frameworks and Standards” have a general value and they are often based on some degree of normative and regulatory impulse. They include principles, assessment rules and procedures and formats, potentially applicable by any type of company to prepare their reports addressed to the general public, the market and investors. Even if useful for many or all industry sectors (as in the case of GRI, WBCSD, UN GC Principles, Integrated Reporting Principles), the same actors might issue sector-specific rules, as in the case of GRI.

“Monitoring Mechanisms and Tools” are accountability and measurement tools more narrow in their scope. They are focused on a specific sector or on a well targeted relevant issue, such as in the case of Fair Trade, Carbon Disclosure Projects (CDP), Rainforest Alliance. Usually they don’t include formats for external reporting. They are issued by third party institutions (as in the case of CDP), business-led organizations (as in the case of WBCSD), or by a single company.

## 2. FRAMEWORKS AND STANDARDS

### 2.1 FRAMEWORKS

Despite that the number of firms that produce Sustainability Reports is rather high, this activity is still in an embryonic stage compared to financial reporting (Tschopp and Huefner, 2015). For example, although there has been a notable improvement in recent years worldwide in terms of the quality of the information disclosed in these reports (KPMG, 2013, 2015), an extended number of studies in this research field (Archel, Fernández and Larrinaga, 2008; Bebbington, Larrinaga and Moneva-Abadía, 2008; Boiral, 2013; Gray, 2010; Gray and Milne, 2002; Milne and Gray, 2007, 2013) have observed that there is still substantial room for improvement in terms of content and extent.

This has led to suggest that some kind of governmental regulation in non-financial information is needed to improve the quality of sustainability disclosure (Albareda, Lozano and Ysa, 2007; Deegan, 2002; Gallhofer and Haslam, 1997; Mobus, 2005; Moon, 2004; Owen, Gray and Bebbington, 1997). In this regard, during the latest years, some national normative frameworks changed due to the introduction of new laws – such as Sarbanes-Oxley Act in the US, the

Companies Act in UK, the Grenelle II Act in France, the King III Code of Governance Principles in South Africa and the EU Directives 2013/34/EU and 2014/95/EU – which oblige firms (particularly the largest ones) to account for financial and nonfinancial corporate value created, improving corporate transparency, accountability and the stakeholders engagement.

An additional mechanism suggested to improve the reliability of non-financial information is independent external assurance (Hodge, Subramaniam and Stewart, 2009; Kolk and Perego, 2010; Park and Bronson, 2005). Sustainability assurance, through independent and qualified external revision of the reports, has been construed as an indication of sustainability reporting credibility, assessing and judging non-financial reporting (Gray, Adams and Owen, 2014). Nowadays, 63% of the top 250 global companies producing SR are providing an assurance statement as part of it (KPMG, 2015).

In this normative scenario, the European Union is a notable case in fostering corporate transparency and the stakeholder engagement. In this regard, in October 2014 the European Union approved Directive 2014/95/EU on non-financial disclosure. This new regulation, which amends Directive 2013/34/EU, obliges the largest European listed companies and Public Interest Entities (PIEs) to disclose nonfinancial information and data regarding the company's activities to stakeholders, starting from January 1, 2018. Furthermore, in different countries such as Denmark, France or Spain, national laws were developed to regulate non-financial reporting, even before the approval of the EU Directive. The stated aim of such legislation is to rise the corporate social and environmental reporting to a similar level across all EU member countries. This Directive is part of the 'Renewed EU strategy 2011–2014 for Corporate Social Responsibility' (European Commission, 2013), which stressed the need to encourage companies to work on the path of sustainable growth, responsible business behaviour and sustainable employment generation to, among other things, restore the investor and consumer needed trust, lost in the economic and social crises. According to Directive 2014/95/EU, companies of a certain size are asked to make a minimum of social and environmental disclosures, including a description of the business, the policies related to those issues, the outcome of those policies, the main risks involved in those issues and key non-financial performance indicators.

The Directive is intended to lead to the identification and reporting of impacts and risks, and to increase the trust of investors and consumers in public-interest entities. In particular, Article 2 sets out that “the Commission shall prepare non-binding guidelines on methodology for reporting non-financial information, including non-financial key performance indicators [...] with a view to facilitating relevant, useful and comparable disclosure of non-financial information”. The non-binding guidelines will aim to facilitate the disclosure of non-financial information (recital 17).

As well as enabling organizations to meet the requirements of the Directive, reporting with the GRI Standards allows them to be more transparent and accountable to stakeholders, thereby increasing trust

### ***Agenda 2030 and Sustainable Development Goals (SDGs)***

In September 2015, the United Nations 193 Heads of State and Government agreed in adopting the Agenda 2030 and the 17 Sustainable Development Goals (SDGs). The Agenda 2030 highlights that sustainable development can only be achieved through the active involvement of the private sector working alongside Governments, the UN system and other relevant international institutions with the view that all businesses have to apply their creativity and innovation to solving sustainable development challenges.

The 17 SDGs and 169 associated targets integrate and balance the three dimensions of sustainable development: the economic, social and environmental. The obligations therein included are society-wide, including citizens, businesses, and civil-society organizations.

### ***The International Integrated Reporting Framework***

Though organizations seem to familiarising with the Agenda 2030 and SDGs' discourse, it must be acknowledged that they are currently operating in a complex world with a numerous of internal and external drivers, trade-offs and connections that influence the process of decision making, the promises that these decisions entail, and the expectations of a variety of stakeholders (Busco et al., 2018). Among other approaches to accounting and reporting, Integrated Reporting (IR) seems to represent a promising approach to disclose corporates journey towards the SDGs (Adams, 2017).

IR focuses on the ability of an organization to create value in the short, medium and long term, and in so doing it:

- Has a combined emphasis on conciseness, strategic focus and future orientation, the connectivity of information and the capitals and their interdependencies;
- Emphasizes the importance of integrated thinking within the organization. Integrated thinking takes into account the connectivity and interdependencies between the range of factors that affect an organization's ability to create value over time, including:
  - The capitals (financial, manufactured, intellectual, human, social and relationship, and natural capital) that the organization uses or affects, and the critical interdependencies, including trade-offs, between them;
  - The capacity of the organization to respond to key stakeholders' legitimate needs and interests;
  - How the organization tailors its business model and strategy to respond to its external environment and the risks and opportunities it faces;
  - The organization's activities, performance (financial and other) and outcomes in terms of the capitals – past, present and future.

Attempting to achieve SDGs is a strategy increasingly made by proactive, sustainable organizations. Making SDG alignment part of their strategies and business models can help companies generate new revenue, increase supply chain resilience, recruit and retain talent, spawn investors interest and assure their legitimation to operate.

The Framework proposed by the International Integrated Reporting Council (IIRC) – which is a global coalition of regulators, investors, companies, standard setters, the accounting profession and NGOs aiming to promote communication about value creation as the next step in the evolution of corporate reporting – is principles-based rather than being founded on a more rigid, standards-based approach like in the case of GRI. The ratio is to allow to a variety of organizations that operate in different sectors, independently of their industry and, at the same time, provide guidance on the production of a worldwide-accepted integrated report that inevitably requires a sufficient degree of comparability across organizations to meet relevant information needs. For this reason, the IR Framework does not provide standards for the disclosure of certain matters or even the identification of specific key performance indicators. Rather, it provides a set of seven guiding principles (see table below) to stimulate organizations' active consideration of the relationships between their various operating and functional units and the kinds of capital that they use and affect.

IIRC Principles	Content
<b>Strategic focus and future orientation</b>	It refers to the selection and presentation of a series of aspects that are related to an organization's strategy. It may include opportunities, risks and dependencies flowing from the organization's market position and business model; past and future performances; the balance among short-, medium- and long- term interests and perspectives, as well as the evaluation of past performance that may influence future strategies (IIRC, 2013, p. 16).
<b>Connectivity of information</b>	It provides a holistic picture of the combination, interrelatedness and dependencies between the factors that affect the organization's ability to create value over time. It involves recognizing and managing all the capitals that the business owns and influences, considering the relationships between its various operating and functional units and the capitals that the organization uses or affects.
<b>Stakeholder responsiveness</b>	It reflects the relevance of creating valuable relationships among the organizations' key stakeholders. According to the framework, building reliable relationships with stakeholders may assist organizations in better understanding how stakeholders perceive value; identify future trends that may not yet have come to general attention, but which are rising in significance; identify material opportunities and risks; develop and evaluate strategy; manage risks; enhance organization's accountability and transparency.

## IIRC Principles

## Content

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### Materiality

The framework defines matter as being material if it has “or may have, an effect on the organization’s ability to create value. This is determined by considering effects on the organization’s strategy, governance, performance or prospects” (IIRC, 2013, p. 18). The determination of materiality involves: identifying relevant matters based on their ability to affect value creation; evaluating the importance of such matters in terms of their known or potential effect on value creation; prioritizing the matters and determining the information to disclose about material matters. The framework explains that the materiality determination process is applicable to both positive and negative matters, as well as to financial and non-financial information that has direct implications for the organization itself or that may affect the capitals owned by or available to others.

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### Conciseness

It requires that an integrated report provides enough information on the organization’s strategy, governance, performance and prospects without being burdened with less relevant information. However, this is not synonymous with incomplete information.

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### Reliability and completeness of information

The framework refers to reliability as the characteristic of a report that can be enhanced by mechanisms such as strong internal control and reporting systems, appropriate stakeholder engagement and independent, internal audit or similar functions, as well as external assurance (IIRC, 2013, p. 21). As for completeness, the framework suggests that a complete integrated report should include all material information, both positive and negative, that could affect the organization’s ability to create value.

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### Consistency and comparability

The information presented in an integrated report should be consistent over time and enable comparison with other organizations to the extent that the aspects reported are material to the organization’s own ability to create value over time (IIRC, 2013, p. 23).

### ***United Nations Global Compact – Guiding Principles Reporting Framework and FAB principles***

The United Nations Global Compact (UNGC) is a non-binding pact to encourage businesses worldwide to adopt sustainable and socially responsible policies, and to report on their implementation, by stating ten principles in the areas of human rights, labour, environment and anti-corruption. It represents the world’s largest corporate sustainability initiative with more than 13,000 corporate participants and other stakeholders over 170 countries with two main objectives: mainstreaming the ten principles (see below) in business activities around the world and driving business awareness and action in support of achieving the Sustainable Development Goals by 2030.



The UNGC was announced by the then UN Secretary-General Kofi Annan in an address to the World Economic Forum on 31 January 1999, and was officially launched on 26 July 2000. The UNGC is a founding member of the United Nations Sustainable Stock Exchanges (SSE) initiative along with the Principles for Responsible Investment (PRI), the United Nations Environment Programme Finance Initiative (UNEP-FI), and the United Nations Conference on Trade and Development (UNCTAD).

### **Human Rights**

*Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights;*

*Principle 2: make sure that they are not complicit in human rights abuses.*

### **Labour**

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

*Principle 4: the elimination of all forms of forced and compulsory labour;*

*Principle 5: the effective abolition of child labour; and*

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

### **Environment**

*Principle 7: Businesses should support a precautionary approach to environmental challenges;*

*Principle 8: undertake initiatives to promote greater environmental responsibility; and*

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

### **Anti-Corruption**

*Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.*

The UNGC is not a regulatory nor a monitoring instrument, but rather a forum for discussion and a network for communication including governments, companies and labour organisations, whose actions it seeks to influence, and civil society organisations, representing its stakeholders. Therefore, once companies declared their support for the principles, this does not mean that the Global Compact recognizes or certifies that these companies have fulfilled the Compact's principles. Furthermore, the UNGC's goals are intentionally flexible and quite vague, but they play a critical role in helping participating entities to achieve the SDGs. The UNGC also periodically creates resources and guides that business and non-profit organizations may use in their efforts to support the Compact's overall mission. One such example is the SDG Compass, developed in collaboration with the Global Reporting Initiative (GRI) and World Business Council for Sustainable Development (WBSCD) (see later in this chapter).

In the framework of the UNGC, the UN Guiding Principles Reporting Framework was launched in February 2015. It is the first comprehensive guidance for companies to report on salient human rights issues in line with their responsibility to respect human rights. This responsibility is set out in the UN Guiding Principles on Business and Human Rights (UNGPs)<sup>1</sup>, the authoritative global standard in this field, endorsed by the Human Rights Council in its resolution 17/4 of 16 June 2011 and implementing the “Protect, Respect and Remedy” Framework<sup>2</sup>. The Reporting Framework provides a concise set of smart and straightforward questions<sup>3</sup> to which any company should provide answers in order to know internally and show externally that it is meeting its responsibility to respect human rights in practice, based on the expectations of the UNGPs. It offers companies clear and straightforward guidance on how to answer these questions with relevant and meaningful information about their human rights policies, processes and performance. In particular, the central element is the identification for each company of the “salient” that is the most severe risks to people’s human rights in the company’s operations and value chain. After that, the Reporting Framework asks companies to describe how they are avoiding or mitigating these salient risks.

UN Global Compact participants in the food and agriculture sector should take an additional, voluntary step to embrace six Food and Agriculture Business Principles (FAB Principles) – linked to Principles 7, 8 and 9 of the Global Compact – and report annually on their progress. The UNGC has facilitated the development of those Principles to help realize the goal of sustainable development as described in the Rio+20 outcome document (“The Future We Want”<sup>4</sup>) and in the 2030 Agenda for Sustainable Development<sup>5</sup>, and to empower the private sector to make a substantial contribution in the post-2015 era. The FAB Principles respond to the call from Rio+20 for sustainable intensification of food production by increasing local investments, access to local and global markets, and reducing waste in supply chains. The FAB Principles are the outcome of a nearly two-year broad and inclusive multi-stakeholder process. Over twenty consultations have been conducted globally, including more than 1,000 businesses, UN agencies and civil society organizations involved in agriculture, nutrition and food systems.

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1. OHCHR, Guiding Principles on Business and Human rights. Implementing the United Nations “Protect, Respect and Remedy” Framework, New York-Ginevra, 2011. The document is divided into three sections (the State duty to protect human rights; the corporate responsibility to respect human rights; access to remedy) and includes 31 principles. The UNGPs apply to all States and to all business enterprises, both transnational and others, regardless of their size, sector, location, ownership and structure. They are grounded in recognition of three fundamental principles: (a) States’ existing obligations to respect, protect and fulfil human rights and fundamental freedoms; (b) The role of business enterprises as specialized organs of society performing specialized functions, required to comply with all applicable laws and to respect human rights; (c) The need for rights and obligations to be matched to appropriate and effective remedies when breached. Of particular interest for our study is Principle 21, that requests business enterprises to communicate externally on how they address their human rights impacts, especially when concerns are raised by or on behalf of affected stakeholders. Communication can take a variety of forms, including in-person meetings, online dialogues, consultation with affected stakeholders, and formal public reports.

2. The UN Special Representative John Ruggie presented such a framework to the Human Rights Council in June 2008. It rests on three pillars: the state duty to protect against human rights abuses by third parties, including business, through appropriate policies, regulation, and adjudication; the corporate responsibility to respect human rights, which means to act with due diligence to avoid infringing on the rights of others and to address adverse impacts that occur; and greater access by victims to effective remedy, both judicial and non-judicial.

3. There are eight overarching questions, followed by supporting questions as companies make progress.

4. General Assembly, A/RES/66/288 of 27 July 2012, “The Future We Want”. The resolution highlights opportunities in the ‘green economy’ to eradicate poverty, contribute to food security, and better manage water and natural resources.

5. General Assembly, A/RES/70/1 of 25 September 2015, “Transforming our world: the 2030 Agenda for Sustainable Development”.

*These principles are:*

1. **Aim for Food Security, Health and Nutrition:** Businesses should support food and agriculture systems that optimize production and minimize waste, to provide nutrition and promote health for all people;
2. **Be Environmentally Responsible:** Businesses should support sustainable intensification of food systems to meet global needs by managing agriculture, livestock, fisheries and forestry responsibly. They should protect and enhance the environment;
3. **Ensure Economic Viability and Share Value:** Businesses should create, deliver and share value across the entire food and agriculture chain from farmers to consumers;
4. **Respect Human Rights, Create Decent Work and Help Communities to Thrive:** Businesses should respect the rights of farmers, workers and consumers. They should improve livelihoods, promote and provide equal opportunities;
5. **Encourage Good Governance and Accountability:** Businesses should behave legally and responsibly by respecting land and natural resource rights, avoiding corruption, being transparent about activities and recognizing their impacts;
6. **Promote Access and Transfer of Knowledge, Skills and Technology:** Businesses should promote access to information, knowledge and skills for more sustainable food and agricultural systems.

The six principles are designed to complement existing initiatives that advance sustainability in food and agriculture, and serve as an umbrella over voluntary standards and technical compliance platforms. They provide agreed global language on what constitutes sustainability in food and agriculture on critical issues ranging from food security, health and nutrition, to human rights, good governance, and environmental stewardship, as well as ensuring economic viability across the entire value chain. By defining widely-accepted business principles and desired outcomes, the FAB Principles fill the gaps between crop-specific initiatives developed and led by industry and Government.

The Principles express a high-level commitment and philosophy of an organization to instil policies and practices that are responsible and sustainable. UNGC corporate participants from the food and agriculture sector can use the FAB Principles to disclose their sustainability policies and practices in their required annual Communication on Progress (CoP).<sup>6</sup>

In the framework of the UNGC, other initiatives were launched in the agri-food sector, such as the Zero Hunger Challenge, aiming to drive commitment and action by all stakeholders, including business, to end malnutrition in all its forms and realize inclusive, resilient and sustainable food systems. Moreover, in order to advance the positive contribution that business can make to soil health, the UNGC has facilitated the development of the Principles for Sustainable Soil Management, offering a framework for principle-based collaboration between business, the UN, governments, civil society and other stakeholders. Companies are invited to support the Principles for Sustainable Soil Management and to report on progress against them through their annual CoP

### ***.Food and Agriculture Organization (FAO) and SDGs***

FAO is recognized as having a fundamental global role in developing methods and standards for food and agriculture statistics, and in providing technical assistance that can help countries meet the new monitoring challenges.

Each global SDG indicator has been assigned a "custodian" agency by the UN Inter-agency and Expert Group on SDG indicators. The agency is responsible for collecting data from national sources, providing the storyline for the annual global SDG progress report, providing and updating the indicator documentation, working on further methodological development, and contributing to statistical capacity building. In this context, FAO is the proposed "custodian" UN agency for 21 SDG indicators, across SDGs 2, 5, 6, 12, 14 and 15.

Goal 2 refers to how the world's population grows, produces and consumes food. It is an issue that impacts the whole ecosystem, involving the health of the oceans and forests that are being rapidly degraded, and has social impacts on malnutrition and undernourished people that live and work in developing countries. The solution for this enormous problem must refer to system changes, such as well-functioning markets, increased incomes for smallholder farmers, equal access to technology and land, and additional investments in the agricultural sector.

Investing in agriculture seems to be one of the most effective action to combat poverty, improve food security and reduce hunger and malnutrition. However, UN official data reveal an alarming situation. The share of aid to

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6. The CoP is the instrument at the heart of companies' commitment to the UNGC, providing information to the stakeholders. The CoP Policy sets out key information including the minimum requirements for each CoP: 1. A statement by the Chief Executive expressing continued support for the UNGC and renewing the participant's ongoing commitment to the initiative; 2. A description of practical actions the company has taken or plans to take to implement the Ten Principles in each of the four areas; 3. A measurement of outcomes. Reporting through the CoP will demonstrate how an organization has aligned policies and practices with the FAB Principles as well as its activities and achievements that contribute to meeting the global challenges of food security and sustainable agriculture. According to the CoP policy, a business participant will be designated as "non-communicating" if it fails to submit a CoP within the required deadlines and, if the same participant fails to submit a CoP that meets all CoP requirements within a year of becoming non-communicating, it will be expelled from the Global Compact.

See UN Global Compact Policy on Communicating Progress, updated 1 March 2013.

agriculture from member countries of the Development Assistance Committee of the Organization for Economic Cooperation and Development (OECD-DAC) has fallen from nearly 20% in the mid-1980s to only 7% in 2015, reflecting a shift away from the financing of infrastructure and production towards a greater focus on social sectors.

Goal 5 concerns gender equality. Women's empowerment and gender inequality are conditions linked with Goals 3 and 4. Although considerable progresses were carried on during the past years, women continue to be victims of abuses and discriminations in every parts of the world. Nowadays the priority is implementing new normative frameworks regarding female equality and the eradication of harmful practices targeted at women.

Goal 6 addresses challenges related to water access and water quality, sanitation and hygiene for populations. These are the basic conditions for progress in many other areas across the SDGs including health, education and poverty reduction. In addition, the right use and protection of water are critical for the economic system, for producing food and for all productive sectors.

Goal 12 refers to responsible consumption and production practices as factors that enable efficient resource use and that can reduce the impact of economic activities on the environment. Examples can be among others, promoting resource and energy efficiency, providing access to primary services and develop sustainable infrastructure in order to achieve a better quality life and reduce environmental and social future costs. Achieving this goal requires strong national frameworks for sustainable consumption and production that are integrated into national and sectorial plans, along with sustainable business practices and consumer behaviour.

Goal 14 concerns the conservation and the sustainable usage of oceans, seas and marine resources. Oceans cover almost three-quarters of the planet, and the increasingly adverse impact of climate change (including ocean acidification), overfishing and marine pollution are nullifying recent gains in protecting parts of the world's oceans

Goal 15 refers to the protection, restoration and promotion of the sustainable use of terrestrial ecosystems. Forests cover 30.7 per cent of the Earth's surface and they assume a key role to combat climate change, protect biodiversity and provide increased resilience in the face of mounting human pressures and natural disasters. Healthy ecosystems also produce multiple benefits for the communities that rely on them.

### ***Sustainability Assessment of Food and Agriculture systems (SAFA)***

The SAFA Guidelines are developed and hosted by FAO). SAFA is a holistic global framework for the assessment of sustainability along food and agriculture value chains, trying to harmonize sustainability approaches and support good practices. The principal aim of SAFA is to ensure that enterprises, whether companies or small-scale producers, involved in the production, processing, distribution and marketing of goods, have a clear understanding of what sustainable development means and how the main sustainability issues can be dealt with. In order to tackle these issues, a common base of guided principles as well as a holistic approach to assess sustainability performance are needed. T

This is the aim of SAFA<sup>7</sup>, to create a common language to evaluate sustainability with the long-term objective of transformation of food systems towards a more sustainable path.

SAFA, starting from the four dimensions of sustainability (good governance; environmental integrity, economic resilience, social well-being), provide a protocol for assessing sustainability along 21 themes and 58 sub-themes, according to international reference documents and conventions. For each sub-theme a set of specific indicators is provided in order to facilitate measuring progress towards sustainability in a harmonized reporting format.

The SAFA Guidelines provide an operational resource to put the SAFA framework into practice. The Guidelines do not replace existing systems but put them into the perspective of a common sustainability language for the food and agriculture sector. The SAFA Guidelines provide the protocol for assessing sustainability along 21 themes and 58 sub-themes.

The SAFA Guidelines are based on certain core methodological principles including the Bellagio Stamp (IISD, 2009; Pinter et al., 2011), the ISO norms for Life Cycle Assessment (ISO, 2009), the ISEAL Code of Good Practice (version 1.0; ISEAL Alliance, 2010), the ISEAL Credibility Principles (ISEAL Credibility Principles v0.3 - June 2013), the Reference Tools of the GSCP (2010), and the GRI Sustainability Reporting Guidelines (version 3.1 and 4; GRI, 2011 and 2013).

The peculiarity of the SAFA framework is that the core performance indicators serve the purpose of providing standardized metrics to guide assessments on sustainability for food and agricultural enterprises. SAFA provides such indicators for users who do not necessarily have the knowledge to develop indicators themselves. Moreover, these indicators are applicable to all enterprise of any size and type, and in all contexts.

SAFA can be a useful means for food and agricultural enterprises to make a self-assessment of their sustainability performance and identify hot spots for operations improvement. It can also be used for internal management and communication about sustainability goals and performance. Moreover, it is possible to use the SAFA report for communication with other businesses to establish a common understanding of sustainability aspects and share best practices.

### ***SDG Compass***

The SDG Compass has been developed by GRI, UN Global Compact and the World Business Council for Sustainable Development (WBCSD) and it represents a guide for companies on how they can align their strategies, performance measurements and reporting, in order to successfully manage their contribution to the SDGs. The SDG Compass is based on five key steps that can help companies during their journey towards sustainable development:

1. Understanding the SDGs and the related opportunities they can represent for companies
2. Defining companies' priorities
3. Setting goals, based on the outcomes of impact assessment and prioritization

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7. For more information, visit <http://www.fao.org/nr/sustainability/sustainability-assessments-safa/en/>.

4. Integrating, in order to embed sustainability targets across all business functions
5. Reporting and communicating sustainable performance using common indicators.

In particular, the phase regarding goal setting and KPIs selection guides companies is an essential step for driving, monitoring and communicating progress. SDG Compass helps companies to set goals that cover all material issues across all dimensions of sustainability, including the social one that can be more challenging in terms of monitoring and measuring, respect to, for example, the environmental dimension. Moreover, some companies set ambiguous goals, that are difficult to measure, without a clear definition of their scope or without a clear baseline. In this regard, SDG Compass recommends companies to carefully establish the level of ambition of their targets and goals, highlighting the importance of consultation with both internal and external stakeholders. The level of ambition of goals and targets can have several implications in terms of reputation.

Usually, companies fix their target according to historical and/or current performance, taking into account also benchmark with industry peers. However, this approach is not able to take into account and address all the current sustainability challenges. For this reason, companies are shifting from an 'inside-out' towards an 'outside-in' approach when facing goal setting<sup>8</sup>. In this context, SDGs can represent a recognised international guide to evaluate what is the desired level of progress regarding a wide range of sustainability challenges, offering companies the opportunity to apply similar approach. In this way, SDGs Compass guide companies in the phase of goal setting aligning them to SDGs, defining what is desirable for both companies and the external context. Other initiatives that can support companies in adopting 'outside-in' approach are WBCSD and UN Global Compact.

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8. For more information, visit [https://sdgcompass.org/wp-content/uploads/2016/05/019104\\_SDG\\_Compass\\_Guide\\_2015\\_v29.pdf](https://sdgcompass.org/wp-content/uploads/2016/05/019104_SDG_Compass_Guide_2015_v29.pdf).

While the SDGs provide companies the framework to better understand the sustainability context in which they operate, internationally recognized standards, such as GRI, SASB, UN Guiding Principles Reporting Framework, are needed to help companies disclosing high-quality information about their sustainability performance.

Complementary to the SDGs Compass, the SDGs Industry Matrix has been developed by the UN Global Compact and KPMG International Cooperative. Starting from the recognition of differences and opportunities of each industry, the SDGs Industry Matrix provides ideas and practical examples for each SDGs that are industry-specific, aiming to inspire as well as guide private sector towards sustainable development.

One of the SDGs Matrix is the Food, Beverage & Consumer Goods Matrix, recognizing the key role played by this sector in enhancing the economic well-being and ensuring a positive social and environmental impact as well. This Matrix identifies four areas that represent the biggest opportunities to create shared value within this sector:

1. **Enterprise development.** This includes, for example: training and best practices guidance for small business and retailers; creation and promotion of local markets through infrastructures and innovative tools; investments and cross-sector partnerships; better access to capital market.
2. **Sustainable supply.** This implies the reduction in using natural resources and energy use in all stages of 'farm to fork' process, investing in sustainable sourcing and processes, reducing waste and emissions, promoting the use of renewable sources of energy, and ensuring full traceability of the supply chain and fair labour practices.
3. **Healthy and sustainable living.** This means consumers and employees' engagement in order to increase awareness and knowledge about sustainable consumption and healthier lifestyles. Moreover, it means also promoting partnerships and industry associations advocating for responsible public policies regarding climate change, product life cycle and so on.
4. **Product innovation.** This includes the development of innovative solutions and products tailored to meet the preferences and challenges of developing communities, representing also low cost options as well.

### ***OECD Guidelines for Multinational Enterprises***

The OECD Guidelines for Multinational Enterprises are recommendations addressed by government to multinational enterprises operating in or from adhering countries. They provide non-binding principles and standards for responsible business conduct in a global context consistent with applicable laws and internationally recognised standards. The Guidelines' recommendations express the shared values of the governments of countries from which a large share of international direct investment originates and which are home to many of the largest multinational enterprises.



The Guidelines aim to promote positive contributions by enterprises to economic, environmental and social progress worldwide. In particular, companies are called "within the framework of laws, regulations and administrative practices in the countries in which they operate, and in consideration of relevant international agreements, principles, objectives, and standards, take due account of the need to protect the environment, public health and safety, and generally to conduct their activities in a manner contributing to the wider goal of sustainable development"<sup>9</sup>.

## 2.2 STANDARDS

### *Global Reporting Initiatives (GRI)*

A crucial role in the evolution of sustainability disclosure and reporting was played by the Global Reporting Initiative, an independent international organization that was established in 1997 by a number of companies and organizations belonging to the Coalition for Environmentally Responsible Economies (CERES). The aim of this initiative is to help businesses and governmental organizations worldwide in evaluating and communicating their impact on key sustainability issues related to environmental, social and governance dimensions. Since 1997, thanks to the key role played by GRI, the sustainability reporting practices became a widespread practice used by the majority of world's largest corporations to disclose their sustainability performance (KPMG Survey of Corporate Responsibility Reporting, 2017). In line with that, GRI is the most used guideline in the redaction of sustainability reports (Borglund et al., 2010; Brown et al., 2009).

As clearly expressed by the GRI, its mission is based on four focus themes:

- Develop standards and guidelines to support sustainable development;
- Contribute to harmonize sustainability landscape through also initiatives, collaboration and partnerships;
- Improve the quality of sustainability reporting, its efficiency and effectiveness;
- Work with different partners to enhance transparency, driving a successful use of sustainability information to improve performance.

The framework proposed by the GRI is principles-based<sup>10</sup>, offering an appropriate balance between flexibility and prescription. This approach allows recognizing the variety and different characteristics of organizations and different circumstances in which they act, providing, at the same time, a guidance for a worldwide-accepted report that inevitably requires a sufficient degree of comparability across organizations. The application of the Reporting Principles is required if an organization wants to claim that its sustainability report has been prepared in accordance with the GRI Standards. Reporting principles are distinguished in: i) Reporting Principles for defining report content and ii) Reporting Principles for defining report quality.

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9. OECD Guidelines for Multinational Enterprises, 2011, p. 42, Sec. VI ("Environment").

10. For more information, visit <https://www.globalreporting.org/Pages/default.aspx>.

## Reporting Principles for defining report content

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**Stakeholders Inclusiveness:** The reporting organization shall identify its stakeholders, and explain how it has responded to their reasonable expectations and interests.

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**Sustainability Context:** The report shall present the reporting organization's performance in the wider context of sustainability.

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**Materiality:** the report shall cover topics that reflect the reporting organization's significant economic, environmental, and social impacts; or substantively influence the assessments and decisions of stakeholders.

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**Completeness:** The report shall include coverage of material topics and their Boundaries, sufficient to reflect significant economic, environmental, and social impacts, and to enable stakeholders to assess the reporting organization's performance in the reporting period.

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## Reporting Principles for defining report content

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**Accuracy:** The reported information shall be sufficiently accurate and detailed for stakeholders to assess the reporting organization's performance.

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**Balance:** The reported information shall reflect positive and negative aspects of the reporting organization's performance to enable a reasoned assessment of overall performance.

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**Clarity:** The reporting organization shall make information available in a manner that is understandable and accessible to stakeholders using that information.

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**Comparability:** The reporting organization shall select, compile, and report information consistently. The reported information shall be presented in a manner that enables stakeholders to analyze changes in the organization's performance over time, and that could support analysis relative to other organizations.

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**Reliability:** The reporting organization shall gather, record, compile, analyze, and report information and processes used in the preparation of the report in a way that they can be subject to examination, and that establishes the quality and materiality of the information.

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**Timeliness:** The reporting organization shall report on a regular schedule so that information is available in time for stakeholders to make informed decisions.

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GRI Sustainability Reporting Standards (GRI Standards) are the latest evolution of GRI's sustainability reporting framework. Thanks to a transparent and multi-stakeholder process, these standards were published in October 2016, issued by the Global Sustainability Standards Board (GSSB), an independent standard-setting body created by GRI. Thousands of organizations in more than 90 countries currently use the GRI Standards to report their sustainability information.

The GRI Standards has been developed to support organizations in reporting their economic, social, and environmental impact of their business activities focusing on material topics, and for this reason they are structured as a set of interrelated standards.

The GRI Standards are divided into four series. Universal Standards (100 series) are applied to any organization that wants to report about its economic, environmental, and/or social impacts. The first universal Standards is the GRI 101: Foundation. It represents the starting point when using the framework of GRI Standards. Setting out the Reporting Principles for report content and quality, the GRI 101 establishes the guiding principles for preparing a sustainability report in accordance with the GRI Standards, describing also how the GRI Standards can be used and referenced. The GRI 102: General Disclosures is used to report some information about an organization, for example regarding to its profile, strategy, ethics, governance, stakeholder engagement practices, and, of course, about its sustainability reporting practices. Finally, among the Universal Standards, there is the GRI 103: Management Approach that is used to report information about how an organization manages a material topic. It has been designed to be used for each material topic including those covered by GRI Standards series 200, 300, and 400. These, in fact, represent the topic-specific Standards. The 200 series cover the economic topics, 300 series cover the environmental topics while the 400 series embraces the social ones.

For the preparation phase of reporting, there are two options for preparing a report in accordance with the GRI Standards: Core and Comprehensive. The Core option indicates that a report contains the minimum information to understand the nature of the organization, and which are its material topics and impacts, and in which way these are managed. The Comprehensive option is built on the previous one but requires additional information on the organization's strategy, ethics and integrity, and governance. Furthermore, this option required to deepen organization's impacts by reporting all the topic-specific disclosures for each material topic covered by the GRI Standards.

### ***GRI G4 Sector Disclosure – Food Processing***

A sector-specific guidance for sustainability reporting is offered by the G4 Sector Disclosures<sup>11</sup>, which guide the following sectors: airport operators; construction and real estate; electric utilities; event organizers; financial services; food processing; media mining and metals; NGO; oil and gas. The G4 Sector Disclosures can be used for reporting with the GRI Standards, even though the G4 Guidelines have been overcome by the GRI Standards, which will be required for all reports published on or after 1 July 2018. For this reason, the use of the G4 Sector Disclosures is recommended for organizations using the GRI Standards but is not a requirement for preparing a report in accordance with the Standards.

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11. For more information, see the document at <https://www.globalreporting.org/resourcelibrary/grig4-part1-reporting-principles-and-standard-disclosures.pdf>.

The Food Processing Sector Disclosures document represents a guideline for all organizations in the Food Processing sector, covering key sustainability aspects that are meaningful and relevant for companies belonging to this sector and which are not deepened enough in the G4 Guidelines. The Food Processing sector "includes all companies that are engaged in processing food, as well as food commodity trading related to food processing and fish processing, and beverage companies" (GRI-G4, 2014). These companies, that can process products like fish, milk, meat, crops and water, can be small-and-medium size enterprises (SMEs) as well as large companies and leaders of their value chain. In fact, this sector is one of the largest in the world for the number of companies involved, for its economic value and the sustainability challenges that the food sector needs to face<sup>12</sup>.

Economic Aspects	Sector Additions to G4 Indicators	Specific Indicators
<i>Economic Performance</i>	<p>Financial Assistance received from Government: Governmental support for agriculture, biofuels and food production has important consequences across the global food value chain. This support can promote responsible practices, economic development and enhance public health, but it can also marginalize smaller-scale producers and generate unintended negative consequences for public health.</p>	<b>G4-EC4:</b> Financial assistance received from government.
<i>Procurement/Sourcing Practices</i>	<p>The suppliers' raw material is:</p> <ul style="list-style-type: none"> <li>- Produced in an area of resource constraint</li> <li>- Produced in a region of high conservation value</li> <li>- Produced in an area of social, political or economic vulnerability</li> </ul> <p>The reporting organization should provide a disclosure of the sourcing strategy, goals and policy regarding the following elements:</p> <ul style="list-style-type: none"> <li>• Protecting Natural Resources;</li> <li>• Minimizing Toxicity;</li> <li>• Fair Trade;</li> <li>• Fair Compensation for Labour;</li> <li>• Traceability;</li> <li>• Genetically Modified Organisms (GMO);</li> <li>• Animal Welfare; and</li> <li>• Biofuels.</li> </ul>	<p><b>FP1:</b> Percentage of purchased volume from suppliers compliant with company's sourcing policy.</p> <p><b>FP2:</b> Percentage of purchased volume which is verified as being in accordance with credible, internationally recognized responsible production standards, broken down by standard.</p>

12. For more information, see the document at <https://www.globalreporting.org/Documents/ResourceArchives/GRI-G4-Food-Processing-Sector-Disclosures.pdf>.

<b>Environmental Aspects</b>	<b>Sector Additions to G4 Indicators</b>	<b>Specific Indicators</b>
<i>Materials</i>	Material Used by weight or volume: Identify total materials used. This includes, as a minimum: Raw materials (that is, seafood including wild caught and farmed, palm oil, soy and meat, endangered species, natural resources used for conversion to products or services such as ores, minerals, wood)	<b>G4-EN1:</b> Materials Used by weight or volume.
<i>Biodiversity</i>	Operational sites owned, leased, managed in, or adjacent to protected areas and areas of high biodiversity value outside protected areas;  Habitats protected or restored.	<b>G4-EN11:</b> Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.  <b>G4-EN13:</b> Habitats protected or restored.
<b>Social Aspects</b>	<b>Sector Additions to G4 Indicators</b>	<b>Specific Indicators</b>
<i>Labour/Management Relations</i>	Percentage of working time lost due to industrial disputes, strikes and/or lock-outs, by country	<b>FP3:</b> Percentage of working time lost due to industrial disputes, strikes and/or lock-outs, by country
<i>Public Policy</i>	Food processing companies should provide clarity and specific detail on any lobbying activities related to the subsidized or otherwise advantaged production of key product ingredients within their organizations.	
<i>Healthy and Affordable Food</i>	Nature, scope and effectiveness of any programs and practices (in-kind contributions, volunteer initiatives, knowledge transfer, partnerships and product development) that promote access to healthy lifestyles; the prevention of chronic disease; access to healthy, nutritious and affordable food; and improved welfare for communities in need	

## Social Aspects

## Sector Additions to G4 Indicators

## Specific Indicators

### *Animal Welfare*

As Animal Welfare is not included in the G4 Guidelines, these Sector Disclosures focus on breeding and genetics, animal husbandry; transportation, handling, and slaughter. They address the potential animal welfare concerns associated with the handling, treatment, and processing of animals (both terrestrial and aquatic) specifically reared for the production of food.

**FP9:** percentage and total of animals raised and/or processed, by species and breed type.

**FP10:** Policies and practices, by species and breed type, related to physical alterations and the use of anaesthetic.

**FP11:** percentage and total of animals raised and/ or processed, by species and breed type, per housing type.

**FP12:** policies and practices on antibiotic, anti-inflammatory, hormone, and/or growth promotion treatments, by species and breed type.

**FP13:** Total number of incidents of significant non-compliance with laws and regulations, and adherence with voluntary standards related to transportation, handling, and slaughter practices for live terrestrial and aquatic animals.

### *Consumer Health and Safety*

Include assessment of significant environmental and social impacts across the life-cycle stages.

**FP5:** percentage of production volume manufactured in sites certified by an independent third party according to internationally recognized food safety management system standards.

**FP6:** percentage of total sales volume of consumer products, by product category, that are lowered in saturated fat, trans fats, sodium and added sugars.

**FP7:** percentage of total sales volume of consumer products, by product category, that contain increased nutritious ingredients like fiber, vitamins, minerals, phytochemicals or functional food additives.

## Social Aspects

## Sector Additions to G4 Indicators

## Specific Indicators

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### *Products and Services Labelling*

Policies and practices on communication to consumers about ingredients and nutritional information beyond legal requirements

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### *Marketing Communications*

The increased consumption of energy-dense, nutrient-poor foods that are high in fat, sugar and sodium is identified as a risk factor. Food marketing affects food choices and influences dietary habits, especially of vulnerable groups such as expectant and new mothers, children, teenagers and disadvantaged people.

#### **Compilation**

When reporting any codes or voluntary standards relating to marketing communications, consider e.g., television, internet, text messages, email, in-school promotions, competitions and giveaways.

Food processing companies should also make specific reference to policies and guidelines relating to marketing to vulnerable groups such as expectant and new mothers, children, teenagers and disadvantaged people.

#### **References**

WHO International Code of Marketing of Breast-milk Substitutes.

ICC Framework for responsible food and beverage communications.

WHO guidelines for marketing of foods and non-alcoholic beverages to children

World Bank Glossary of Key Terms, "Vulnerable Groups".

Millennium Development Goal Number 5: Improve Maternal Health.

### ***Sustainability Accounting Standards Board (SASB)***

The Sustainability Accounting Standards Board (SASB) is a non-profit organization born in 2011 to define and share sustainability reporting standards supporting companies in disclosing non-financial information, namely ESG performance, which are financially relevant. As reported in the SASB conceptual framework document (SASB, 2017), a reporting information and data is “material” if there is “[...] a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the “total mix” of information made available [...]”<sup>13</sup>. SASB meets the needs of corporate stakeholders creating standards for compact and comparable integrated reporting as to enhance firm transparency and competitiveness in the US industry and on the global market. In particular, SASB helps companies to manage, measure and communicate sustainability performance which could be important proxies of global corporate value created mostly for investors and other stakeholders. In October 2018, after a six-year standard-setting process, SASB released a group of 77 industry-specific codified standards and related metrics globally applicable as well as relative rules of procedure. Nowadays, such codified standards are useful to assess and report those financially material sustainability topics that mainly characterize the core business of a company operating in a certain sector and/or subsector.

The SASB's designed standards for those non-information that are: reasonable likely to be material due to their impacts on corporate value; decision-useful for managers and investors; as well as cost-effective for companies which issue sustainability reporting. Moreover, SASB provides disclosure guidance that is cost-effective for companies and decision-useful for investors. Furthermore, SASB set standards which are: evidence-based; market-informed; industry-specific. In particular, during a standard-setting process SASB checks evidence to identify topics that might matter for reasonable investors, assessing their possible financial impacts on corporate value. This assessment takes into account the following five factors, such as:

1. the direct and measurable impact of corporate performance on the identified topic affects financial performance;
2. changing in regulation effects on company actions and financial performance which could induce a company to internalize costs associated with compliance and/or it could create business opportunities as the launch of new products, markets, or the adoption of a business model;
3. the effects produced by the investor pressure to enhance standards related to the management and the reporting of certain sustainability issues;
4. the impacts produced by the stakeholders' activism which could affect the corporate financial performance through operating constraints, brand damage, shifts in client demand, and disruptions to business viability;
5. the possible financial impacts and risks related to corporate innovations (launch of new products, the adoption of a new business model) useful to face industry sustainability challenges which could induce firm growth and competitive advantages to the benefit for investors.

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13. TSC Industries v. Northway, Inc., 426 U.S. 438, 449 (1976).



Furthermore, SASB implements a transparent and cooperative standards setting process considering the opinions of group of experts composed by managers, investors and other stakeholders of capital markets. Indeed, SASB interacts with the stakeholders to select those aspects of a sustainability topic commonly recognized by parties in order to define a disclosure format efficiently standardized and widely accepted. Such activity is also useful to frame, describe, and measure those aspects for the purposes of standardization. In addition, the legal grounds of concept of materiality sustained by US normative framework helps SASB to settle possible conflicting stakeholder inputs which could occur in the standard definition process.

Finally, because the materiality of sustainability topics varies across industries, SASB defined Sustainable Industry Classification System® (SICS®), identifying 11 sectors (i.e. Consumer Goods, Extractives & Minerals Processing, Financials, Food & Beverage, Health Care, Infrastructure, Renewable Resources & Alternative Energy, Resource Transformation, Services, Technology & Communications, Transportation) and related 77 industries based on the existing traditional classification systems (such as, SIC, GICS, and BICS). This process has been fundamental in order to identify relevant topics across industry and to set standards considering industry-specific sustainability issues. In particular, SASB defined industry groups and subgroups considering same features such as business model, resource intensity, the sustainability innovation potential as well as risks and opportunities.

Furthermore, per each disclosure topic SASB set quantitative and/or qualitative accounting metrics useful to assess corporate performance on each sustainability issue. In addition, SASB defined some activity metrics that determine the scale of a company's business. Such metrics combined with the accounting ones standardize data disclosed supporting efficiently the benchmark.

Moreover, SASB issued technical protocols per every accounting metric providing users detailed information and guidelines about definitions, scope, implementation, compilation, and presentation. Such technical protocols play another key role reporting suitable criteria useful for third-party disclosure assurance. Finally, SASB released the Standards Application Guidance for users that validates the general guidelines to adopt and implement sustainability accounting standards. The guidance in the SASB Standards Application Guidance applies to the definitions, scope, implementation, compilation and presentation of metrics in the industry standards, unless otherwise specified in the technical protocols contained in the industry standards.

These formal and methodological aspects followed by SASB in standards setting process ensure a correct performance and disclosure benchmark among companies and within industry. The robustness of SASB codified standards is supported also by the definition of solid accounting metrics. In particular, SASB adopts a set of following criteria to elaborate those useful performance measures to assess the identified aspects of every sustainability topic. In this regard, each SASB's metrics meet the criteria summarized in the table below.

**Tab. – SASB's criteria about sustainability disclosure topic metrics**

<b>Criteria</b>	<b>Meaning</b>
Fair	Ensuring a fair representation of a corporate aspect and or a performance, which is related to a specific disclosure topic.
Useful	Providing useful information helping managers in managing corporate performance associated with specific topics, as well as investors to perform financial analysis.
Applicable	As each metric should be applicable for all companies operating in a certain industry characterized by a typical operating context.
Comparable	As every metric could be a quantitative data, useful for the benchmarking analysis, and/or a qualitative information facilitating the comparison of sustainability reporting
Complete	Providing enough data and information to analyse performance related with all aspects of a particular sustainability topic.
Verifiable	As each metric should support an effective internal control for the aims of data verification and assurance.
Aligned	Because metrics are set according to standards, definitions, and concepts characterizing the SASB's conceptual framework.
Neutral	As every metric is objectively defined avoiding bias and value judgments.
Distributive	Ensuring a discernible variety of information about companies which operate in the same industry or across industries, supporting stakeholders to distinguish a performance and/or an aspect of a particular topic.

*Source: own elaboration*

The following Figure summarized the main characteristics of the SASB conceptual framework which defines the concepts, principles, definitions, and objectives followed by the Standards Board in setting standards for sustainability accounting. Generally, the SASB Rules of Procedure are focused on the governance processes and practices for standards setting.

SASB defined the set of sustainability disclosure topics from a group of 26 widely general sustainability issues<sup>14</sup> clustered in the five dimensions (i.e. Environment, Social Capital, Human Capital, Business Model & Innovation, Leadership & Governance). However, this large sample of sustainability issues represents the baseline for the SASB's framework. Indeed, starting from such universe the SASB's standard setting process identified those issues which could produce material impacts on companies operating in a specific industry. This is because every ESG issue produce different impact depending on the core business, the firm sustainability activities will differ cross-industry, as every industry is characterized by a specific approach to operationalize sustainability. Therefore, SASB standards identified industry-specific disclosure topics which composed a subgroup of the sustainability issues universe adapted in line with the industry's specific environment.

In order to support companies and investors in identifying and comparing the sustainability disclosure topics industry-specific financially relevant, SASB defined a Materiality Map<sup>®</sup>. The current version of this tool has been defined and adapted in line with Lydenberg, Rogers & Wood (2010). This matrix shows an interactive view of disclosure topics for a particular sector and/or across industries, as an essential reference about SASB standards. A company could use the SASB Materiality Map<sup>®</sup> for two main purposes. Firstly, as a managerial tool to formulate business sustainability strategies focusing on those material ESG issues which could affect corporate financial performance. Secondly, as a visual guideline to better identify and adopt those SASB standards metrics related to every disclosure topic. On the other hand, such a map could be useful for investors to perform portfolio analysis on the risks and/or opportunities as regards specific ESG material issues. In particular, SASB Materiality Map<sup>®</sup> is a matrix which compares the 26 general categories of sustainability issues, so-called disclosure topics, clustered in the sustainability dimensions and reported in rows, with 11 sectors (and/or 77 industries) ranked in columns. Moreover, the SASB Materiality Map<sup>®</sup> highlights cells whether a sustainability issue is material for more than 50% of industries in a certain sector. Otherwise, the cells remain blank whether SASB considered that a sustainability issue is not material for that sector. Furthermore, by clicking on the highlighted cells SASB Materiality Map<sup>®</sup> provides detailed information as regards of the sustainability disclosure topic identified as relevant for the industry and its related accounting metrics.

In light of the theme covered by the present report, we interacted with the SASB Materiality Map<sup>®</sup> focusing our attention on the Food & Beverage industries. As shown in the following Table, according the SASB Materiality Map<sup>®</sup> the Food & Beverage sector presents several sustainability issues which are financially relevant and differ by its specific-industries.

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14. GHG Emissions, Air Quality, Energy Management, Water & Wastewater Management, Waste & Hazardous Materials Management, Ecological Impacts, Human Rights & Community Relations, Customer Privacy, Data Security, Access & Affordability, Product Quality & Safety, Customer Welfare, Selling Practices & Product Labeling, Labor Practices, Employee Health & Safety, Employee Engagement, Diversity & Inclusion, Product Design & Lifecycle Management, Business Model Resilience, Supply Chain Management, Materials Sourcing & Efficiency, Physical Impacts of Climate Change, Business Ethics, Competitive Behavior, Management of the Legal & Regulatory Environment, Critical Incident Risk Management, Systemic Risk Management.

**Tab. – Sustainable Material Issues for the Food & Beverage Industry**

Dimension	General Issue Category	Agricultural Products	Alcoholic Beverage	Food Retailers & Distributors	Meat, Poultry & Dairy	Non-Alcoholic Beverages	Processed Foods	Restaurants	Tobacco
Environment	GHG Emission								
	Air Quality								
	Energy Management								
	Water & Wastewater Management								
	Waste & Hazardous Materials								
	Ecological Impacts								
Social Capital	Human Rights & Community Relations								
	Customer Privacy								
	Data Security								
	Access & Affordability								
	Product Quality & Safety								
	Customer Welfare								
	Selling Practices & Product Labelling								
Human Capital	Labor Practices								
	Employee Health & Safety								
	Employee Engagement, Diversity & Inclusion								

**Tab. – Sustainable Material Issues for the Food & Beverage Industry (cont'd)**

Dimension	General Issue Category	Agricultural Products	Alcoholic Beverage	Food Retailers & Distributors	Meat, Poultry & Dairy	Non-Alcoholic Beverages	Processed Foods	Restaurants	Tobacco
<b>Business Model &amp; Innovation</b>	Product Design & Lifecycle Management								
	Business Model Resilience								
	Supply Chain Management								
	Materials Sourcing & Efficiency								
	Physical Impacts of Climate Change								
<b>Social Capital</b>	Competitive Behavior								
	Management of the Legal & Regulatory Environment								
	Critical Incident Risk Management								
	Systemic Risk Management								

Source: SASB <https://materiality.sasb.org/>

The SASB Materiality Map® highlights that companies operating in Food & Beverage sector generally face with material issues in the following sustainability dimensions: Environmental, Social Capital, Business Model & Innovation, Human Capital. Moreover, regarding the Food & Beverage industries, the SASB’s SICS® identified the following industries for the Food & Beverage sector, which has been raked formerly as the Consumption I sector: Agricultural Products, Alcoholic Beverages, Food Retailers & Distributors, Meat, Poultry & Dairy, Non-Alcoholic Beverages, Processed Foods, Restaurants and Tobacco. A detailed description of these categories is provided in related tables provided in the Annexes. SASB defined the set of sustainability disclosure topics from a group of 26 widely general sustainability issues<sup>14</sup> clustered in the five dimensions (i.e. Environment, Social Capital, Human Capital, Business Model & Innovation, Leadership & Governance).

### 2.3 A COMPARISON OF THE MAIN REPORTING FRAMEWORKS AND STANDARDS

Despite the multiplicity of frameworks and standards, the most widely used is the GRI, which represent “de facto” the global standard for sustainability reporting (KPMG, 2011). Nevertheless, other standards exist and are also adopted. Among these, the most common are the United Nations Global Compact, SASB and IIRC (Albu et al., 2013). In light of this, the following questions emerge: what differences exist between these standards? Why do companies adopt one standard rather than another?

We were able to outline the following distinctions:

- **UN Global Compact:** it proposes a broad and generic framework. It indicates the guiding principles to follow but does not provide any precise indication on how to execute them.
- **GRI:** it proposes comprehensive and detailed standards. They are designed to provide information to a wide variety of stakeholders and, consequently, cover a very wide range of topics. Companies that want to give an account of their activities to stakeholders and institutions, in general, adopt them.
- **SASB:** it provides standards that refer to useful information in investment activities. They are designed to provide information to investors and therefore focus on specific sustainability issues that are financially relevant.
- **IIRC:** it aims at bringing together (in an integrated way) material information about an organization's strategy, governance, performance and prospects in a way that reflects the commercial, social and environmental context within which it operates. It is more oriented toward primarily fulfilling the information needs of investors.

Traditionally, companies tend to use the standards that are most in line with their interests. Their choice, therefore, tends to be a choice of convenience dictated by their specific needs as well as by the interests they intend to satisfy. For this reason, companies that are more inclined to attract capitals, or that are listed on regulated markets, may be more persuaded to adopt IIRC (Wachira et al., 2019) or SASB as the latter are focused on information that particularly affects the investors.

If, on the other hand, the company needs to respond to regulatory reporting obligations, it may find more convenient to use GRI standards, having to address a wide range of stakeholders (Wachira et al., 2019).

Finally, if the disclosure is performed on a voluntary basis and / or there is no need to be particularly specific and detailed in communicating business activities, companies can refer to the more flexible UN Global Compact.

In some cases, companies can also develop their own reporting standards starting from the existing ones. In this case, this choice could be dictated by a strong specificity of the issues to be reported that does not find full endorsement in existing standards (see e.g. Albul et al., 2013). Alternatively, a strong company's commitment could lead to the development of “customized” sustainability measures and indicators that, since they do not correspond with recognized standard, then lead to the creation of their own reporting standard. Anyway, in the long run, companies

generally tend to conform to international recognized standards (e.g. GRI) since, conforming to the latter, lead to a minimization of self-referential and reputational risks (see e.g. Marimon et al., 2012; Tschopp & Nastanski, 2014).

In short, the choice of what standard to adopt depends on several factors, including business specificity and interests, peculiarities of the topics to be disclosed and/or the recipients' expectations of such disclosure. By way of conclusion, it is undeniable to observe that, as previously mentioned, reporting systems remain highly idiosyncratic and, in some cases, incomplete and that companies often use and interpret them to their own advantage, by picking and choosing the focus of their reporting.

The recent reports issued by the main actors in the field of sustainability reporting in the food industry are briefly presented in the following table.

**Tab. – Recent reports issued by main actors in the field of sustainability reporting in the food industry**

<b>Entity</b>	<b>Recent relevant report</b>	<b>Reports' contents &amp; objectives</b>	<b>Future proposals</b>
<b>FAO</b>	SAFA (2013)	Establishing a common basis for assessing sustainability defining core performance indicators applicable to all enterprise sizes and types, and in all contexts.	Best practices in using good governance, environmental integrity, economic resilience and social-wellbeing indicators, proposed in the SAFA framework itself.
<b>UN Global Compact</b>	White paper (2013)	Definition of a set of principles for sustainable agriculture	Diffusion of best practices for business and other actors to achieve 'sustainable intensification' in agriculture.
<b>WBCSD</b>	FReSH Discussion Paper: True cost of food (2018)	Improving sustainability summarizing the data and methodologies that are available to assess the true cost of food today.	Encourage organizations on using True Cost Accounting as a key lever to achieve the common goal of healthy and sustainable food systems for all.

**Tab. – Recent reports issued by main actors in the field of sustainability reporting in the food industry**

Entity	Recent relevant report	Reports' contents & objectives	Future proposals
<b>WBCSD</b>	Spotlight on FReSH action (2018)	Enabling the development and implementation of transformative business solutions that are aligned to science-based targets.	<p>Define sets of recommendations about metrics and measurement that are best applicable to business and about how companies can use them.</p> <p>Business solutions to holistically improve food sector's sustainability.</p> <p>Use of a FWL (food waste losses) calculator to reduce FWL itself.</p>
<b>GAIN</b>	A review of accountability mechanisms and nutrition (2019)	Understanding the limits and opportunities of the current landscape assessment of businesses impact on nutrition through an overview of the main accounting mechanisms used in food & nutrition	<p>Transparency and harmonization are key principles that should lead this discussion on alignment.</p> <p>Global coordination on accountability will help to promote initiatives that can make a difference either in one company or globally.</p>
<b>World Benchmarking Alliance (WBA)</b>	Food and Agriculture Benchmark (2019)	Providing a first step to develop transformative benchmarks that will track and compare companies' performance on the SDGs. These benchmarks are designed to be used by a variety of stakeholders, including investors, financial institutions, governments, civil society and the companies themselves.	<p>Map in greater detail current scientific targets, existing standards and accountability frameworks across the three dimensions of food system transformation;</p> <p>Open consultations with stakeholders to develop the methodology and a set of meaningful and actionable indicators</p>



**Tab. – Recent reports issued by main actors in the field of sustainability reporting in the food industry**

Entity	Recent relevant report	Reports' contents & objectives	Future proposals
GRI	GRI Sustainability Reporting Standards (2019)	Proposing comprehensive and detailed reporting standards. They are designed to provide information to a wide variety of stakeholders and, consequently, cover a very wide range of topics.	Opening collaborations with other reporting institutions (e.g. SASB) in order to harmonize Sustainability Disclosure
SASB	Sustainability Accounting Standards (2018)	Standards that refer to useful information in investment activities. They are designed to provide information to investors and therefore focus on specific sustainability issues that are financially relevant.	Opening collaborations with other reporting institutions (e.g. GRI) in order to harmonize Sustainability Disclosure
GRI; UN Global Compact; WBCSD	The SDG Compass (2015)	Guiding companies in the alignment of their strategic objectives with SDGs, providing practical steps on how to measure and manage their progress.	Encouraging the use of the proposed guide, not only for large multinational enterprises, but also for SMEs.  Extending the use of the guide beyond the entity level, including product, site, divisional and regional levels.

### 3. MONITORING MECHANISMS AND TOOLS

Besides *Sustainability reporting frameworks and standards*, based upon normative and regulatory impulse, other tools are used by companies we analysed, here called Monitoring mechanisms and tools, which don't have the same degree of impulse.

Such mechanisms and tools can be distinguished between "External assessment mechanisms", "Business led mechanisms", "Certifications and Certification Bodies" and "Mechanisms developed by a single company"<sup>15</sup>.

15. Such distinction is based upon a proposal by GAIN (2019), which distinguishes between "External assessment mechanisms" and "Business led mechanisms".

## 1. EXTERNAL ASSESSMENT MECHANISMS

External Assessment Mechanisms are defined as those providing an independent assessment, with different degrees of independence, of business impact (GAIN, 2019).

An overview of the mechanisms used by the companies we analysed is provided in the table below.

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### FTSE4Good Index

The FTSE4Good inclusion criteria was developed with similar aims as all the other tools which is to provide investors a means by which they could identify and invest in corporations that meet the minimum requirement of socially responsible practices. To be included in the FTSE4Good Index Series, corporations must be able to meet bare requirements in five core areas namely working towards environmental sustainability, upholding and supporting universal human rights, ensuring good supply chain labour standards, countering bribery and mitigating climate change. It liaises with experts in EIRIS and other network of international partners to research on corporate performance in ESG. Some of the noted research mechanisms involved are a review of annual reports, research of corporation websites and through written questionnaires and publicly available material (FTSE, 2011).

The specialised index includes only companies the meet specific economic, environmental and social requirements based on over 300 indicators drawn from publicly available sources and assessed by FTSE ESG proprietary methodology.

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### ECPI Global Equity Indices

ECPI is an investment management advisory firm specializing in sustainable investment with offices in Luxemburg and Milan. ECPI maintains industry sector, regional, and theme-based indices composed of companies from around the world, which achieve a certain level in CSR performance standards.

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### Dow Jones Sustainability Indices

DJSI was first launched in 1999 as a global sustainability benchmark. Firstly, the top 2500 corporations in terms of float- adjusted market capitalisation across industries/sectors are invited to participate in a corporate sustainability assessment based on SAM's questionnaire. Corporations are then filtered out as part of the DJSI construction process. The stock performance of the world's leading corporations in terms of social, economic and environmental (the DJSI family) is then monitored on a continuous basis.

Dow Jones Sustainability Indices evaluate the sustainability performance of the largest 2,500 companies listed on the Dow Jones Global Stock Market Index. Nestlé scored 100 for Health and Nutrition Performance criteria and holds the leadership scores in the Environmental and Social Dimensions.

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**Carbon Disclosure Project's (CDP)**

CDP independent assessment of more than 7000 companies trading publicly, including over 300 in the oil and gas sector.

The CDP is an independent non-profit corporation which holds one of the largest database on disclosure of greenhouse gas emissions, water use and climate change strategies on a global scale. The carbon disclosure scores assess corporations solely based on the quality and completeness of their disclosures (CDP claims that these scores are not an indicative measure of corporate performance because it does not make any judgment of a corporation's action to mitigate climate change) (CDP, 2010). Factors considered include corporation-specific risks and potential opportunities arising from climate change and good internal data management practices to help the corporation understand their GHG emissions.

CDP is the main reference for financial markets when evaluating strategies and performance related to climate change. It works on behalf of over 650 international investors with a total capital of more than \$87 trillion.

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**Coalition for Environmentally Responsible Economies (CERES)**

CERES ranks over 40 of the largest food sector companies on how they are responding to water risks and how performance has shifted since the first round of benchmarking.

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**MSCI ESG indices**

MSCI provides investment decision support tools to over 5000 clients on pension funds and hedge funds. MSCI generates scores for each applicable criterion (environmental, social and governance). These scores are then aggregated to form one composite ESG score which is mapped to a letter scale, much like the credit reporting structure where AAA represents the highest sustainability performance while C represents the lowest sustainability performance (MSCI, 2011).

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**Bloomberg ESG disclosure scores**

Up to 2010, Bloomberg's research into approximately 20,000 of the most capitalized corporations across 73 countries resulted in ESG data for only 3600 corporations (Suzuki and Levy, 2010). Suzuki and Levy (2010) note that although the response to Bloomberg's Sustainability Survey has been disappointingly low, corporations' coverage on ESG criteria have grown by approximately 11e12% annually. In an effort to encourage corporations to disclose more ESG data, Bloomberg decided to score corporations based on their ESG data disclosure. The Bloomberg ESG Disclosure Score out of a 100 is based on GRI's guidelines. There are four major categories namely Environmental Disclosure Score, Social Disclosure Score, Governance Disclosure Score and ESG Disclosure score (overall combination of Environmental, Social and Governance Disclosure Scores) (Suzuki and Levy, 2010). Weightings differ by sectors. For example, the omission of the number of fatalities would not be considered significant for a retail corporation but will be punitive for a corporation in the oil and gas sector. Eccles et al. (2011) study the market interest in Bloomberg's ESG data. They find that generally interest in environmental and governance information supersedes social information.

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## B-Corp

Certified B Companies are a new kind of businesses that, beside pursuing “traditional” profit, take into serious consideration the impact of their decisions and actions on the social community, hence including their workers, customers, suppliers and the environment as well. Their mission is to develop business in a sustainable and long-lasting way, adopting a long-run perspective. They represent a new business paradigm that is adequate and necessary for our times, since it requires a transparent management focused on the constant improvement of sustainability performances. B Corps integrate their economic-financial objectives with positive social and environmental impact goals in their business strategy: they are called upon demonstrating how they are able to produce a positive impact on society, people and nature, still pursuing profit. In other words, their purpose is twofold: creation of economic value and positive impact on society.

As of June 2019, there are over 2,750 certified B Corporations across 150 industries, located in 64 countries all over the world. Their number is constantly increasing. The certification is provided by the B Lab certification that requires firms to be transparent and meet certain accountability, social and environmental standards, meet accountability standards. The assessment measures the positive impact of the company's operations and products or services, considering governance, workers, community and environment.

Certified B Companies have the opportunity to build long-lasting credibility, trust, and value among their Stakeholders, since they produce value for the entire society and not only for their shareholders. They go way beyond the traditional business scheme: they do things differently and they definitely tend to be highly innovative.

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## 3.2 BUSINESS LED MECHANISMS

Business Led Mechanisms are those which use predominantly self-reporting to map business commitments to reach sustainability goals or standards.

They include mechanisms proposed by WBA, CGF-Health & Wellness, FReSH, IFBA, NAFSN, SBN. In the following paragraphs, FReSH and WBA are illustrated, as they have a wider and more global value.

Companies in our study make reference only to Gartner Supply Chain Leadership<sup>16</sup>. This mechanism provides business managers and leaders with tools, advices and insights they need in order to enable the of building the company strategy in a long term perspective.

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16. <https://www.gartner.com/en/about>.

### ***World Benchmarking Alliance (WBA) – Food and Agriculture Benchmark***

The World Benchmarking Alliance (WBA) was established to boost participation from the private sector and incentivise and accelerate companies' efforts towards achieving the 17 SDGs. In fact, the private sector plays a crucial role in advancing sustainable development. However, a real change in the way companies measure their impacts is needed to boost their motivation. In line with that, WBA has set out with the aim to develop transformative benchmarks to track and compare companies' performance on the SDGs, useful for a variety of stakeholders, including investors, financial institutions, governments, civil society and the companies themselves. The report "Food and Agriculture Benchmark" is the first step to develop an international recognized benchmark in this sector, identifying a preliminary list of companies that have a profound and disproportionate impact on the food and agriculture system.

Starting from the consideration that a transformation of the food system is needed, the Food and Agriculture Benchmark tries to translate globally recognized targets into "meaningful and actionable indicators" that can be used by the private sector. The final aim is the development of a methodology to evaluate business performance and create a companies' ranking, encouraging also the dialogue and drive actions among stakeholders.

In order to achieve the 17 SDGs, WBA identifies seven system transformations: Financial System; Social; Decarbonisation and Energy; Urban; Digital; Circular; Food and Agriculture.

WBA defines a food and agriculture system transformation as one that produces healthy and nutritious food considering the growing world population, while offering farmers, fishers and their families a decent standard of living. For this reason, recognizing the complexity of this sector, the Food and Agriculture Benchmark assess companies from farm to fork, considering three dimensions of analysis: sustainable production practices; healthy diets and nutrition; social inclusion. These dimensions will be used to develop a measurement framework with specific indicators to assess companies.

### ***The World Business Council for Sustainable Development (WBCSD) Initiatives for Sustainable Food Systems***

The World Business Council for Sustainable Development (WBCSD) is a global organization which involves over 200 CEOs of companies operating in all sectors and in those great economies with the aim to support international cooperation within the private sector to boost sustainability worldwide. WBCSD supports its members to improve the corporate success and sustainability preserving all stakeholders' needs, the natural environment and the socioeconomic well-being across the globe. Therefore, WBCSD works with its member companies along and across value chains to co-create and business solutions and implement operating actions facing the most challenging sustainability issues. In particular, WBCSD disseminates knowledge and share best practices, tools, models in order to enhance the business case for sustainable development. This network delivers services and science-based solutions to support companies in assessing and measuring their economic, social and environmental impacts.

Furthermore, WBCSD members work together enforcing their leadership in international negotiations and processes to execute actions and solutions operationalizing the Agenda 2030. Indeed, in line with its vision and mission, WBCSD pursues to play a crucial role as an institutional global facilitator to achieve SDGs, activating systems transformation processes through the implementation of the following six programs:

1. New Circular Economy;
2. Cities and Mobility;
3. Climate and Energy;
4. Food, Land and Water;
5. People;
6. Redefining Value.

As regards the implementation of Food, Land & Water Program, the WBCSD is carrying out the Food Reform for Sustainability and Health (FReSH) project. Such initiative has been launched in January 2017 in partnership with the EAT Forum. FReSH aims to find solutions in tackling food & soil use systems problems. In particular, the FReSH mission is to rearrange the production, supply chain and consumption stages of food value chains through comprehensive approaches and new technologies. FReSH aims to accelerate the change of food systems through the creation and implementation of business solutions able to support the agri-food industry transformation. FReSH is going to define a global platform useful to involve scientists, companies, civil society to implement collaborative projects. To this end, FReSH moves “from fork to farm”, which is a holistic approach which considers consumers' habits trends in order to foster healthy diets and sustainable productions through the implementation of pre-competitive business-driven solutions aligned with the science-based targets delivered by the The EAT-Lancet Commission report on Food, Planet, Health (January, 2019). This project currently involves more than 30 companies, such as: Baker McKenzie, BASF, Bayer, BCG, BUHLER, Cargill, CERMAQ, C.P. GROUP, Danone, Deloitte, DSM, Du Pont, Edelman, ERM, Evonik, FEMSA, Friesland Campina, Givaudan, Google, IFF, Kellogg's, KDD, Nestlé, Olam, Pepsico, PROTIX, Quantis, Sigma, Solvay, SONEA, Storaenso, Symrise, Syngenta, Team, Unilever, Yara.

This initiative aims to minimize food losses and waste, to take into account positive and negative externalities in business decision-making activities as well as in food value chains transactions, to ensure the dietary shifting and the food security along all supply chains.

In order to achieve the main project goals, FReSH levers on the definition of some critical sustainability issues and metrics based on the True Cost of Accounting (TCA) as a strategic tool in assessing and monitoring impacts on food systems. The implementation of TCA approach is particularly fostered by FReSH through the initiative so-called True Cost of Food (TCF). TCA helps to understand the food systems impacts, addressing the most harmful practices and suggesting new, positive pathways forward. TCA defined a scientific-based systemic approach (including climate, health and agroecology) able to re-modulate policies and business practices, ensuring healthier and more sustainable food systems involving governments, companies, investors and other relevant stakeholders. TCA is a systemic

approach for business. Indeed, this approach allows the company to identify material corporate risks supporting both the financial and risk management activities. Moreover, TCA improves the investors and stakeholders' engagement enhancing corporate transparency through the implementation of an integrated performance measurement and reporting system. Further, the TCA could enhance the supply chain management creating long-term value for suppliers and customers. Finally, according to WBCSD (2018) the TCA could be a key decision-making modus operandi in order to set some business solutions able to rearrange the food systems coupled with the execution of aligned policies and civil society actions. In particular, the implementation of effective policies as well as some civil society interventions could encourage the inclusion of positive/negative externalities in food prices (along supply chains and for final products) as suggested by TCF view. Such cost reconfiguration in food systems should incentivize decision-makers to shift production and consumption methods towards higher sustainable standards. As a result, sustainable food, as determinant of healthy diets, could be cheaper than low dietary quality ones.

Therefore, for FReSH the definition and adoption of TCF (or TCA) could be considered itself as a FReSH science-based pre-competitive. Indeed, the implementation of TCF helps companies' FReSH members to elaborate a materiality map. This process allows companies to identify those topics that are relevant not only for FReSH but also according to other external stakeholders and other initiatives focused on TCF (e.g. TEEBAgriFood) as well as on health and sustainability impact assessments (e.g. planetary boundaries and LCA frameworks). The following Table shows the FReSH materiality framework, highlighting: the three impact areas (natural environment, economy & society, nutrition/health) on which the project goals are focused; the material issues to tackle, possible links with other existing frameworks and initiatives currently implemented.

**Tab. – Recent reports issued by main actors in the field of sustainability reporting in the food industry**

Impact Area	Material Issues	Link with other frameworks and initiatives
<i>Environmental, Natural capital</i>	<ol style="list-style-type: none"> <li>1. Climate change</li> <li>2. Freshwater use</li> <li>3. Nitrogen &amp; phosphorus cycles</li> <li>4. Land-use change</li> <li>5. Biodiversity loss</li> <li>6. Soil</li> </ol>	Closely related to planetary boundaries and complemented with aspects specific to food sector (soil & animal welfare).
<i>Socio-economic, Human Capital</i>	<ol style="list-style-type: none"> <li>1. Employment &amp; remuneration</li> <li>2. Skills &amp; knowledge</li> <li>3. Health/safety/well-being</li> <li>4. Basic human rights</li> <li>5. Farmer livelihoods</li> <li>6. Cultural rights/community engagement</li> </ol>	Many different systems of classification exist, but a set of indicators is common to most existing frameworks (the first five indicators on the left). Cultural rights/community engagement as well as social values & risks/uncertainties are summarized representations of additional indicators in the TEEBAgriFood framework; profits/taxes/sustainable growth combines indicators from the Social & Human Capital Protocol.

**Tab. – Recent reports issued by main actors in the field of sustainability reporting in the food industry (cont'd)**

Impact Area	Material Issues	Link with other frameworks and initiatives
<i>Nutritional &amp; Health</i>	<ol style="list-style-type: none"> <li>1. Nutrition</li> <li>2. Malnutrition</li> <li>3. Non-communicable diseases</li> <li>4. Overweight</li> <li>5. Obesity</li> <li>6. Hypertension</li> <li>7. Food poisoning</li> <li>8. Pesticide exposure</li> </ol>	<p>Conventionally included in the socioeconomic capital, this area is mentioned separately here, given the large impact the food sector has on health through the consumption of the finished product.</p> <p>Health impacts related to supply chain workers would, however, be included in the socio-economic/human capital area. This area is the least mature, given that nutrition/human health impacts are relevant only in food system evaluations. The framework is closely related to the indicators used in the Hidden Cost of UK Food assessment.</p>

*Source: own elaboration based on WBCSD (September, 2018 - Discussion Paper: True Cost of Food)*

The FReSH materiality map is a tool that leads FReSH companies to set specific key performance indicators which ensure both the internalization of externalities and the alignment with existing initiatives and frameworks on food sustainability and health targets (i.e. EAT-Lancet, TEEBAgriFood, LCA frameworks, etc.) redefining the internal corporate management control, assessment and monitoring systems.

However, nowadays the TCF approach needs to be steady, filling gaps of data availability, increasing the maturity of the assessment methods, and lack of comparability for some relevant indicators as argued in WBCSD (2018). Indeed, as shown in the table below, the economic indicators present a large availability of data, as well as the environmental and food safety/nutritional indicators are well data-covered, while some social issues are fewer measurable due to qualitative features that produce mainly partial data available.



**Tab. Sustainability and health issues clustered by dimensions, coloured in line with the data availability**

Environment	Social	Economic	Food Safety/Nutrition
<b>Atmosphere (GHG &amp; air quality emissions)</b> <i>good data availability</i>	<b>Farmer livelihoods</b> <i>partial data availability</i> <sup>17</sup>	<b>Investment</b> <i>good data availability</i> <sup>18</sup>	<b>Residues</b> <i>data not available</i>
<b>Water (quantity and quality)</b> <i>good data availability</i>	<b>Labour rights</b> <i>partial data availability</i> <sup>19</sup>	<b>Resilience</b> <i>good data availability</i>	<b>Hazardous substances</b> <i>partial data availability</i>
<b>Land</b> <i>poor data availability (in particular regarding production practices)</i>	<b>Equity</b> <i>poor data availability</i>	<b>Product quality and information</b> <i>data not available</i>	<b>Dietary Energy</b> <i>Good data availability</i>
<b>Biodiversity</b> <i>partial data availability</i>	<b>Human safety and health</b> <i>partial data availability</i> <sup>31</sup>	<b>Local economy</b> <i>good data availability</i> <sup>20</sup>	<b>Macronutrients</b> <i>good data availability</i> <sup>21</sup>
<b>Materials and Energy</b> <i>good data availability</i>	<b>Cultural diversity</b> <i>partial data availability</i> <sup>31</sup>	<b>Technology</b> <i>good data availability</i> <sup>22</sup>	<b>Micronutrients</b> <i>partial data availability</i> <sup>33</sup>
<b>Water Reduction and Disposal</b> <i>partial data availability</i>			<b>Dietary Diversity</b> <i>data not available</i> <sup>23</sup>
<b>Animal Welfare</b> <i>poor data availability</i>			

Source: own elaboration based on WBCSD (September, 2018 - Discussion Paper: True Cost of Food)

Therefore, the TCF approach currently needs more contributions from direct assessment methods developers, data providers as well as companies. Currently only few issues present well-defined metrics and a large availability of data. In particular, all the dimensions (i.e. Socio-economic/Human, Environment/Natural, Health/Nutrition) need more mature assessment methods and data collected, especially as regards social (i.e. Skills & knowledge, Farmer livelihoods, Social values & risk/uncertainties, Basic human rights, Cultural rights, community engagement),

17. Metrics developed and data collected by following initiatives: PRé Sustainability (2018) Product Social Impact Assessment Handbook, available at <https://product-social-impact-assessment.com/>; Social Hotspots Database (2018), available at <https://www.socialhotspot.org/>.

18. Food Security Index Global (2018) database, available at <https://foodsecurityindex.eiu.com/>; CIA World factbook. (2018), retrieved from <https://www.cia.gov/library/publications/the-world-factbook/>.

19. Metrics and Data by Social Hotspots Database (2018) initiative, available at <https://www.socialhotspot.org/>

20. Data provided by World Bank (2018), available at <https://www.worldbank.org/>; and Knoema (2018), available at <https://knoema.com/>.

21. Database provided by Global Burden of Disease (2018), available at <http://www.healthdata.org/gbd>; and FAOSTAT (2018), available at <http://www.fao.org/faostat/en/#home>.

22. Data collected by FAOSTAT (2018), available at <http://www.fao.org/faostat/en/#home>; and reported by United Nations Human Development Reports (2018), retrieved from <http://hdr.undp.org/en>.

23. Data collected by Global Burden of Disease (2018), available at <http://www.healthdata.org/gbd>.

environmental/animal (i.e. Land-use change, Animal welfare, Soil conservation, N&P cycles, Biodiversity loss, Mineral & fossil resources), health and nutritional (Nutrition, Food poisoning, Malnutrition, Pesticide exposure) issues.

Considering the aforementioned limitations about the implementation of TCF, WBCSD (2018) calls for: more efforts in methodological and data developments in order to help companies in measuring and reporting their performance and impacts on environmental, social, economic, human nutrition and health; a larger adoption of TCF in the corporate decision-making processes for better managing risks, economic resources and the relations with investors as well as other stakeholders; more collaboration between companies, governments, NGOs and other stakeholders to foster the TCF such as a well-known and implemented mainstream practice able to address policies and market dynamics towards sustainable food systems.

### **3.3 CERTIFICATIONS AND CERTIFICATION BODIES**

In order to ensure high levels of quality and safety food throughout the entire production chain until its consumption and final disposal, certifications can guarantee that business operations are conducted in an environmental and socially responsible way. Certifications ensure the fulfilment by the applicant organization of a series of requirements that may be of a legal/regulatory nature, as well as of a voluntary nature. A brief description of some of certifications and certification bodies is summarised here for the reader.

#### ***(EMAS-Eco Management and Audit Scheme) ISO 14001:2015 – Environmental management system***

Recognizing the potential of environmental management, several firms have implemented various environmental management practices. Among these practices, ISO 14001 is the world's most widely accepted environmental management standard, which provides general guidelines for the environmental management system. As of 2015, ISO 14001 has been implemented by more than 300 000 organizations in 171 countries (ISO, 2015).

#### ***(EMAS-Eco Management and Audit Scheme) ISO 9001 – Quality management System***

The ISO 9000 family addresses various aspects of quality management and contains some of ISO's best known standards. The standards provide guidance and tools for companies and organizations who want to ensure that their products and services consistently meet customer's requirements, and that quality is consistently improved.

This standard is based on a number of quality management principles including a strong customer focus, the motivation and implication of top management, the process approach and continual improvement.

#### ***CEPAA (Council of Economic Priorities Accreditation Agency) SA8000 - Social accountability for the Human Rights***

The international standard SA 8000 is a management model that aims to valorise and protect all the personnel involved in the sphere of control and influence of the Organizations that adopt it.

This standard allows to:

- improve staff conditions;
- promote ethical and fair treatment of staff;
- include international human rights conventions.

The SA 8000 standard was first published in 1997 by the Council on Economic Priorities Accreditation Agency (CEPAA), today SAI (Social Accountability International); subsequent revisions were made in 2001, 2008 and the last of 2014. Key areas addressed are: planning for hazard identification; risk assessment; training, awareness and competence; operational control; performance monitoring and improvement; consultation and communication with others (BSI, 2013). The aim of SA8000 is to provide a standard according to international human rights norms and national labour laws so that employees within a corporation can stay protected and empowered.

The SA8000 guideline provides a resolution by clearly stating that “a corporation shall comply with national and all applicable laws, prevailing standards and other requirements to which the corporation subscribes, and this standard (SA8000). When such and other applicable laws, prevailing industry standards, and other requirements to which the corporation subscribes, and this standard address the same issue, the provision most favourable to workers shall apply” (SA8000, 2008, p. 4).

### ***OHSAS: 18001***

It is a framework for an occupational health and safety management system. It sets out the minimum requirements for best practices. Key areas addressed are: planning for hazard identification; risk assessment; training, awareness and competence; operational control; performance monitoring and improvement; consultation and communication with others (BSI, 2013).

The OHSAS 18001 standard is applicable to any organization that wants to:

- Establish an OHSMS to eliminate or minimize the risks for workers and other stakeholders who may be exposed to OHS hazards associated with their activities;
- Continuously implement, maintain and improve an OHSMS;
- Safeguard its compliance with its established OHS policy;
- Demonstrate the compliance of its OHSMS with the OHSAS standard:
- Produce a self-declaration and ensuring self-determination, or
- Require confirmation of its compliance by parties who have an interest in the OHSMS, such as customers, or
- Requiring a certification or registration of its OHSMS by an external organization.

### ***Hazard Analysis Critical Control Points (HACCP)***

It is a systematic preventive approach to food safety from biological, chemical, and physical hazards in production processes that can cause the finished product to be unsafe and designs measures to reduce these risks to a safe level. In this manner, HACCP attempts to avoid hazards rather than attempting to inspect finished products for the effects of those hazards.

### ***FSSC22000 certification standard***

The Foundation Food Safety System Certification 22000 (FSSC 22000) offers a complete certification Scheme for the auditing and certification of Food Safety Management Systems (FSMS) or FSMS and Quality Management Systems (FSSC 22000-Quality).

### ***ISO 22000 Food Safety management***

ISO 22000:2018 sets out the requirements for a food safety management system and can be certified to. It maps out what an organization needs to do to demonstrate its ability to control food safety hazards in order to ensure that food is safe. It can be used by any organization regardless of its size or position in the food chain.

### ***Ethical Tea Partnership Certification***

It is a not-for-profit membership organisation that has been working with tea producers and tea companies to improve the sustainability of the tea industry since 1997. This industry-wide initiative, which was originally called the Tea Sourcing Partnership, was established by a number of large UK tea packing companies who took the decision to work together to improve the social conditions in their supply chains. Later on, ETP membership opened up to non UK based-tea packers, and extended the scheme to include environmental issues as well.

The ETP works in all the main tea producing regions and has a London-based Secretariat, and five Regional Managers based in Kenya, India, Indonesia, Sri Lanka and China.

### ***Marine Stewardship Council (MSC) Ecolabel***

The blue ecolabel indicates whether seafood comes from a sustainable fishery that has met the MSC Fisheries Standard. Businesses trading in these products have met the MSC's Chain of Custody Standard for traceability. In order to get certified, fishery clients will appoint an accredited certification body to assess their practices against the MSC standard which covers three principles: sustainable fish stocks, minimizing environmental impact, and effective management.

### ***Rainforest Alliance***

This international non-profit organization works to conserve biodiversity and ensure sustainable livelihoods. Products that bear the logo of the little green frog, which serves as the seal, represent items that originate in or contain ingredients sourced from Rainforest Alliance Certified farms or forests. These farms and forests are rigorously managed in order to conserve wildlife and increase livelihoods in order to achieve long-term sustainability.

### ***RSPCA Welfare Standards***

The RSPCA welfare standards are set by the RSPCA's team of farm animal welfare experts and are based on leading scientific, veterinary and practical industry expertise.

The standards cover every aspect of the animals' lives, including feed and water provision, the environment they live in, how they are managed, healthcare, transport and humane slaughter.

### ***Forest Stewardship Council (FSC)***

This council serves to promote responsible forest management worldwide. The company enables businesses and consumers to make informed choices about the forest products they buy. Members include some of the world's leading environmental NGO's, such as the World Wide Fund for Nature and Greenpeace. Together, the members work to define best practices for forestry by setting the FSC Principles and Criteria- the highest standards of appropriate forest management. As the world's most respected forest certification scheme, FSC is a global system with certificates issued in all forest types around the world.

### ***Programme for The Endorsement of Forest Certification (PEFC)***

This is the world's largest forest certification system. Certification demonstrates that management practices meet requirements for best practice in sustainable forest management including biodiversity, ecosystem services, natural alternatives to chemicals, workers' rights, local employment, indigenous people's rights, and legal compliance. In addition to Forest Certification, PEFC offers Chain of Custody Certification and Project Certification.

### ***United States Department of Agriculture Organic Standards (USDA)***

Organic is a labelling term that indicates that the food or other agricultural product has been produced through approved methods. The organic standards describe the specific requirements that must be verified by a USDA-accredited certifying agent before products can be labelled USDA organic.

Overall, organic operations must demonstrate that they are protecting natural resources, conserving biodiversity, and using only approved substances.

### ***Fairtrade***

This movement for change works directly with businesses, consumers and campaigners to make trade deliver benefit for farmers and workers. The international Fairtrade system represents the world's largest and most recognized fair trade system. The FAIRTRADE Mark means that the ingredients in the product have been produced by small-scale farmer organisations or plantations that meet Fairtrade social, economic and environmental standards. The standards include protection of workers' rights and the environment, payment of the Fairtrade Minimum Price and an additional Fairtrade Premium to invest in business or community projects.

### 3.4 MECHANISMS DEVELOPED BY A SINGLE COMPANY

In addition to external business led mechanisms and certifications, several companies developed different monitoring mechanisms internally, summarized below.

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<b>Barilla Nutritional Guidelines</b>	Updated every three years on the basis of internationally established dietary guidance, such as "Dietary Guidance for Americans" and the dietary reference intake tables for nutrients and energy (LARN), published by the Italian Society for Human Nutrition (SINU). The Guidelines establish criteria and reference values for the main nutrients contained in the products and its impact on human being diet.
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<b>Barilla Nutrition Index</b>	Barilla Nutrition Index classifies the product portfolio into three categories (Joy for you; Better for you; Good for you). Each product is assigned a score, from a minimum of 0, for "Joy for You" products to a maximum of 1.25, for "Good for You" products that are already fully aligned with the Guidelines.
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By multiplying the sales volumes of products by the score assigned to their respective family, is obtained the Barilla Nutrition Index.

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<b>Nestlé Nutritional Compass® Guideline Daily Amount – GDAs</b>	The GDA indicates nutritional values and percentages of the daily intakes for energy, fat, saturated fat, sugar and sodium/salt and key nutrients provided in a reference portion of the product.
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The percentages are calculated against average intake levels that most people, in a given age group, are advised to consume daily for a healthy diet.

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<b>Nestlé Water Stewardship Ladder</b>	Nestlé has developed its "Water Stewardship Ladder based on the Alliance for Water Stewardship (AWS), a multi-stakeholder platform of which Nestlé is a founding member and contributor. The approach involves three step ladder: compliance, excellence in water resources management and collective action.
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<b>Nestlé Water Stewardship Ladder</b>	The quality standards, which comprise 28 different standards ranging from product development to customer communications, are frequently reviewed to keep in line with internal and external trends.
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The Ajinomoto Group applies its own quality assurance system, ASQUA, both in Japan and overseas. Its core content is based on ISO 9001, the international quality management system standard. As of March 2018, the Ajinomoto Group has acquired ISO 14001 certification at 60 out of 98 group companies. ISO 9001, ISO 14001 (is the international standard for an effective

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**Ajinomoto System of Quality Assurance**

The quality standards, which comprise 28 different standards ranging from product development to customer communications, are frequently reviewed to keep in line with internal and external trends.

The Ajinomoto Group applies its own quality assurance system, ASQUA, both in Japan and overseas. Its core content is based on ISO 9001, the international quality management system standard. As of March 2018, the Ajinomoto Group has acquired ISO 14001 certification at 60 out of 98 group companies. ISO 9001, ISO 14001 (is the international standard for an effective environmental management system, EMS), ISO 18600 (standardization of packaging and its environmental impact), and ISO 26000 series are used, which demonstrates dedication to continual improvement and adherence to international standards.

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**Nestlé Responsible Sourcing Standard**

The Responsible Sourcing Standard describes the requirements and ways of working that the company applies together with the upstream supply chain third parties to ensure sustainable long-term supply and to reduce the impact on the planet's resources.