



# FIXING THE BUSINESS OF FOOD

HOW TO ALIGN THE AGRI-FOOD SECTOR WITH THE SDGs

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# TABLE OF CONTENTS

4	<b>Executive Summary</b>	77	<b>Towards an SDG indicator framework for business</b> <ul style="list-style-type: none"><li>• Principles</li><li>• Proposed business indicator framework for greenhouse gas (GHGs) emissions</li></ul>
24	<b>Introduction</b>	90	<b>Recommendations</b>
27	<b>The Four Pillar Framework for corporate alignment to the SDGs</b>	93	<b>Glossary</b>
37	<b>Key topics for business to align with the SDGs</b> <ul style="list-style-type: none"><li>• Key Environmental Topics</li><li>• Key Nutrition Topics</li><li>• Key Social inclusion &amp; Governance Topics</li><li>• Applying the topics to five food and agricultural sub-sections</li></ul>	95	<b>Figures</b>
48	<b>Analysis of sustainability reporting standards, frameworks, and certifications</b>	97	<b>Tables</b>
53	<b>Evidence from companies' sustainability reports</b> <ul style="list-style-type: none"><li>• Objectives of the analysis of sustainability reports</li><li>• The Key Topics to assess sustainability reports</li><li>• Analysis of the 'Four Pillar Framework' using the materiality perspective defined by companies of our sample and by SASB</li><li>• The normative framework of the European Union on food systems: from the European Green Deal to the Farm to Fork Strategy and the Common Agricultural policy (CAP)</li><li>• Analysis of companies' sustainability reports</li></ul>	100	<b>Annex</b> <ul style="list-style-type: none"><li>• Annex A: List of standards, frameworks and certifications analyzed</li><li>• Annex B: Standards, frameworks and certifications selection criteria</li><li>• Annex C: Standards, frameworks and certifications categories classified into the Four Pillars Framework</li><li>• Annex D: Companies' sustainability reports data</li></ul>
		108	<b>References</b>





# EXECUTIVE SUMMARY

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What does it mean for a food and agriculture company to be aligned with the Sustainable Development Goals (SDGs)? Despite growing corporate sustainability efforts, the answer to this question remains unclear. Companies, investors, consumers, and citizens continue to face challenges in understanding what it means for a company or an investment to be considered "sustainable" or not. The lack of a rigorous and comprehensive framework through which to assess corporate alignment with the SDGs leaves companies without clear guidance on supporting SDG achievement. This gap also enables companies to downplay some areas of the SDGs when reporting on their sustainability performance.

In 2019, the Fixing the Business of Food Initiative presented a Four Pillar Framework for alignment of the food and agriculture sector with the SDGs. This report presents a deeper iteration of that conceptual framework to guide business alignment with the SDGs and the Paris Climate Agreement (PCA), specifically for companies in the food and agriculture sector. We propose a Four Pillar Framework, which seeks to contribute to corporate SDG alignment by bringing rigor and clarity on the aspects of business activity that affect the SDGs. To understand how the framework might be applied to the food and agriculture sector, the report also elaborates on the key environmental, nutrition, and social & governance topics that companies in the food and agriculture sector need to tackle in order to achieve the SDGs. The report further assesses current sustainability reporting standards, frameworks, and certifications against the Four Pillar Framework and key identified topics, exploring whether available reporting instruments sufficiently support SDG alignment. It concludes by examining how business indicators might be developed under the Framework to support its application, using greenhouse gas (GHGs) emissions as an example, and with some recommendations.



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## THE FOUR PILLAR FRAMEWORK FOR CORPORATE SDG ALIGNMENT

The Four Pillar Framework has been developed based on more than a year of research and consultation with diverse stakeholders, and it will continue to be refined and elaborated moving forward. It identifies four dimensions of all business activity that holistically and indivisibly impact society and the planet, as described to the right. The Framework aims at providing a tool for businesses of all sectors to align with the SDGs and the PCA. In this report, it has been specifically applied to the food and agriculture sector, and it is evolving.

- 1. BENEFICIAL PRODUCTS AND STRATEGIES** This Pillar addresses the impact of companies' products, services, and strategies on human well-being and the planet's sustainability. For the food sector, this Pillar focuses on **business contributions to healthy and sustainable dietary patterns through their products and strategies**. This includes whether product lines are healthful, and whether product use is conducive to well-being and supportive of improved living standards and consumers' life goals.
- 2. SUSTAINABLE BUSINESS OPERATIONS AND INTERNAL PROCESSES** This Pillar considers the environmental and social impacts of business operations, including their production processes and other internal processes, with a focus on issues such as resource use (land, water, energy) and emissions, respect for human rights, diversity and inclusion, and decent work conditions that improve livelihoods of employees and their families. It also assesses whether companies encourage and reward conduct that strives to internalize externalities.
- 3. SUSTAINABLE SUPPLY AND VALUE CHAINS** This Pillar reflects the company's role in and responsibility for the broader ecosystem of which it is part, including its interaction with its supply chain and value chain, producers, clients, consumers, and the industry in which it operates. This pillar focuses on whether the company supports realization of the SDGs through these interactions, and whether it collaborates to promote, incentivize, and ensure more sustainable practices and better livelihoods within its own value chain as well as within the relevant industries or sectors that its operations influence.
- 4. GOOD CORPORATE CITIZENSHIP** This Pillar refers to how companies engage externally and how they seek to influence the rules that govern them. It assesses whether companies avoid strategies that would diminish social goods or societal well-being, and whether companies value and do not undermine the crafting and effective deployment of law and policies that advances sustainable development.





# BENEFICIAL PRODUCTS AND STRATEGIES

Pillar 1 in the food and agriculture sector refers to its contribution to healthy and sustainable dietary patterns through its products and strategies.





It denotes the products and services that a food company offers to the market, with a focus on the product's or service's qualities, its impact on human health and well-being, and its impact on the planet's sustainability. It recognizes that marketing and consumption of a company's products has a direct impact on individuals' health and well-being. The impact that a product has on health and well-being can result from factors such as: its ingredients; its nutritional value; its labeling; how it is marketed; how information about the product and about diets generally are communicated to consumers; and whether it supports the availability and affordability of nutritious foods. The shift towards more sustainable and healthier diets is a strong leverage to improve both planetary and human health, provided that over 70% of global deaths are caused by Non-Communicable Diseases and up to 37% of anthropogenic GHG emissions are related to food systems from farm to fork to disposal.<sup>1</sup>

## KEY AREAS OF IMPACT AND SDG-ALIGNED PRACTICES

- Embed nutrition-related commitments and targets to address undernutrition within the company's core business strategy and governance operations, tailored specifically to different market and geographical contexts.
- Marketing policies and strategies of products and brands that give primacy to healthy, nutritious, and sustainable diets and products, especially concerning children and other vulnerable groups.
- Disclosures related to the nutritional information of portfolios, with plans and targets to progressively transition towards more healthful products and portfolios.
- Commitments to food safety.
- Clear, transparent, and accurate labeling of products.
- Commitments to producing and marketing products and services in a manner that supports consumption patterns aligned with human health and planetary boundaries.





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# SUSTAINABLE BUSINESS OPERATIONS AND INTERNAL PROCESSES

Pillar 2 encompasses a company's responsibility to adopt and implement socially and environmentally sustainable practices across its business operations (including production processes) and internal management.



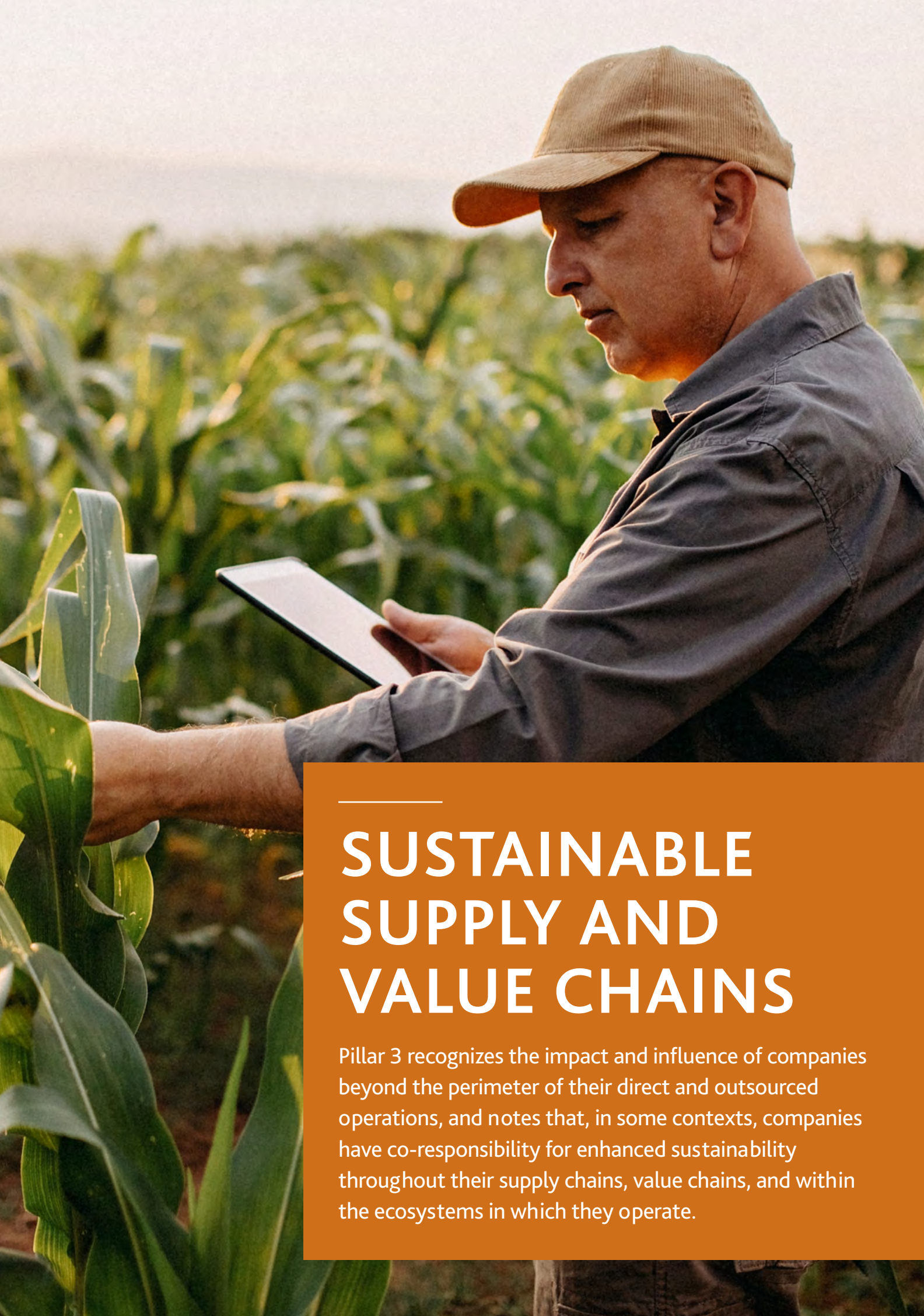
This Pillar covers many of the issues that are traditionally considered in Environmental, Social, and Governance (ESG) frameworks. It takes, as a starting point, basic accepted premises: chief among them, that companies must respect and not violate human rights and labor rights, and that companies must follow environmentally sound practices. The Pillar also expands beyond those minimum requirements of doing no harm to address how food businesses can further actively contribute to the achievement of the SDGs through their specific operations.

## KEY AREAS OF IMPACT AND SDG-ALIGNED PRACTICES

- Robust and accurate disclosure of human rights and labor rights<sup>2</sup> compliance, beyond policy commitments, and action plans to eliminate any abuses across production processes and operations.
- Remuneration for all company employees and contractors that is “sufficient to afford a decent standard of living for the worker and her or his family”.<sup>3</sup>
- Operational principles to support the recognition and respect of land tenure rights and water and other natural resource rights (including legitimate but not formalized rights) of individuals and vulnerable rights holders, including disclosures of related grievances and remedies.
- Explicit integration of diversity and inclusion practices in corporate internal processes.
- Internal management and governance that supports alignment with the SDGs. This includes: representative and inclusive board composition, and executive compensation plans that are linked to performance aligned with the SDGs as explained under the Four Pillars.
- Incorporation of science-based targets and guidance to both measure and abate the impacts of food production on “climate change, biodiversity loss, freshwater use, interference with the global nitrogen and phosphorus cycles, and land system change (and chemical pollution)”.<sup>4</sup>
- Mitigation of internal processes’ impacts on air and climate through the reduction of GHG emissions.
- Monitoring of internal processes in order to protect and restore soil and terrestrial habitat, addressing nature and biodiversity issues in local contexts.
- Ensuring sustainable use of water resources in order to improve both efficiency and wastewater quality.
- Monitoring food loss and waste linked to product production and consumption, designing mechanisms to minimize and control food loss and waste, and reporting periodically on total food loss and waste as well as improvements against targets.
- Commitment to high animal welfare standards, transparency for consumers regarding animal welfare, and elimination of cruel animal production practices.







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# SUSTAINABLE SUPPLY AND VALUE CHAINS

Pillar 3 recognizes the impact and influence of companies beyond the perimeter of their direct and outsourced operations, and notes that, in some contexts, companies have co-responsibility for enhanced sustainability throughout their supply chains, value chains, and within the ecosystems in which they operate.





This Pillar does not suggest that companies are solely responsible for SDG realization, which primarily remains the remit of governments. But Pillar 3 does acknowledge the important ways that a company can and should contribute to positive social and environmental impacts on a broader scale than its direct operations. In some contexts, achievement of the SDGs throughout complex food systems may also require collective and pre-competitive collaboration by companies in the sector.

## KEY AREAS OF IMPACT AND SDG-ALIGNED PRACTICES

The key areas of social and environmental impact and SDG-aligned practices overlap significantly with those identified in **Pillar 2**. The main distinction that Pillar 3 focuses on is the way in which companies use their business relations, market power, and other leverage points to help promote better social and environmental impacts and practices, including through their supply chains and value chains. This could include, for example:

- Robust requirements of first-tier suppliers and below first-tier suppliers—through contractual arrangements—to guarantee respect of human rights, labor rights, and resource rights, to avoid rights violations, and to redress any harms that have occurred.
- Proactive efforts to ensure fair prices or income support for farmers at a level that would allow viable farmers to earn a living income from the production and sale of agricultural commodities that the company sources.
- Collective efforts to help farmers producing agricultural commodities relevant to the company to adapt to climate change, mitigate climate risk, and build climate resilience.
- Collection and disclosure of SDG-related data throughout a company's value chain, from producer to consumer, to support targeted engagement to progressively address SDG needs and challenges, including the well-being and livelihoods of smallholder farmers and their communities, in collaboration with local and national governments, civil society, communities, and other private sector partners.





# GOOD CORPORATE CITIZENSHIP

Lastly, Pillar 4 considers companies' external strategies and engagement: both with the communities where they operate and with the rules that govern them.



This includes companies' contributions to local initiatives that promote realization of Agenda 2030. It also includes companies' relationship with the law, such as the ways in which they seek to influence the rules that govern them, as well as their use of strategies that may advance or undermine SDG achievement. To that end, Pillar 4 assesses whether companies' practices support and advance policy making, resource mobilization, and the rule of law that underpins achievement of the SDGs.

## KEY AREAS OF IMPACT AND SDG-ALIGNED PRACTICES

- Establish local community engagement based on SDG-related and relevant data, in partnership with local actors and stakeholders, to contribute targeted corporate resources to local communities, aligned with SDGs achievement.
- Tax strategies that aid enforcement, strengthen tax bases and curb profit shifting to low/no tax jurisdictions.<sup>5</sup>
- Transparent engagement in policy making, limited to supporting efforts that would help to achieve the SDGs, and avoiding efforts that would undermine public interest regulation.
- Any engagement in legal strategies and cases that involve consumer rights or the public interest should be transparent.<sup>6</sup>
- Establish assessment tools and protocols to identify and address conflicts of interest and promote anti-corruption practices.







## COOPERATION WITH MAJOR ACTORS

These draft Pillars provide a preliminary basis for assessing current sustainability reporting standards, frameworks, and certifications in the food sector. The draft Framework accountability mechanisms will continue to evolve, as Pillars are refined and then elaborated to advance a robust framework that captures the broader set of business products, strategies, and activities that impact the SDGs.

The definition of the above-mentioned key areas includes, among others, a strong collaboration with the World Benchmarking Alliance (WBA) and the Food Foundation as WBA's Food and Agriculture Benchmark developed its draft for discussion. Such cooperation allowed the identification and group key environmental, nutrition, and social & governance topics that companies in the food and agriculture sector should address to achieve the SDGs. The WBA's Food and Agriculture Framework will be used to analyze and benchmark over 300 global food companies by the end of 2021. The definition of the key areas also benefitted extensively from the collaboration with Cibus Italia, Démetre France and Ielka Greece, whose member companies participated in a survey program developed for this purpose.



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## ANALYSIS OF SUSTAINABILITY REPORTING STANDARDS, FRAMEWORKS, AND CERTIFICATIONS

Company frameworks for practice, measurement, and reporting must address the quantitative, time-bound SDGs if the business sector is to align with the 2030 Agenda. To understand current practices, the project assessed some of the 12 major corporate sustainability reporting standards, frameworks, and certifications against the Four Pillar Framework.

The list of standards, frameworks, and certifications analyzed is certainly not complete, but it should be taken as a sample of some of the most widely used sustainability standards by companies operating in different geographies. We also considered whether they address the quantitative nature and level of ambition of the SDGs. Overall, our analysis suggests major deficiencies in SDG alignment across those available reporting instruments. Our major findings indicate that:

### 1. THE VAST MAJORITY OF INDICATORS FOCUS ON PILLAR 2, LEAVING MAJOR REPORTING GAPS IN OTHER DIMENSIONS OF BUSINESS ACTIVITY

Indeed, 64% of company indicators defined in the analyzed reporting frameworks address companies' operations and internal processes, thereby leaving underrepresented the other equally important aspects of business impact on the SDGs.

### 2. THE COVERAGE OF TOPICS THAT THE FOOD AND AGRICULTURE SECTOR NEED TO TACKLE REMAINS HIGHLY INCOMPLETE

For instance, very few questions focus on sustainable food production practices, hardly any reporting is required for food loss and waste, or on the livelihoods of smallholder farmers. Also, governance indicators do not have enough focus on tax practices, or the companies' use of litigation.

### 3. MOST OF THE INFORMATION REQUESTED FROM COMPANIES FOR THE STANDARDS ANALYZED IS PURELY DESCRIPTIVE AND THEREFORE INSUFFICIENT TO TRACK PROGRESS TOWARDS QUANTITATIVE, TIME-BOUND SDGS

Our analysis shows that on average, 65% of questions refer only to qualitative information, which makes it difficult to measure and compare company performance. Many questions focus on the availability of company policies, standard operating procedures, activity logs and other process indicators (e.g. signed sheets of training received by employees). Only 24% of questions asked to companies in the instruments require quantitative data that could help determine if companies are on track in their contribution to achieving the SDGs. Where quantitative information is requested, it is usually not supported by quantitative targets and multi-year reporting.





## EVIDENCE FROM COMPANIES' SUSTAINABILITY REPORTS

We explored the main gaps in aligning practices and strategies to sustainability principles through a deep qualitative analysis, based on the Four Pillar Framework, of sustainability reports for 2018 and 2019 published by 12 global companies with high reputation in terms of sustainability. The major findings of this analysis are the following:

### 1. THERE ARE STILL MAJOR GAPS IN SUSTAINABILITY DISCLOSURES

Even when companies are asked to disclose their non-financial performance, as in the case of companies traded in the Stock Exchange market or obliged to follow the European Non-Financial Disclosures Directive, our analysis confirms sustainability reporting and corporate transparency gaps.

Topics related to healthy and sustainable diets through products and strategies (**Pillar 1**) have a high degree of disclosure. However, such disclosures are mainly related to the description of products, ingredients and procedures, more than actively promoting healthy and sustainable diets.

Information on the sustainability of production processes is highly disclosed, partly because of the consolidation of so-called "environmental accounting". Although the proliferation of external accountability mechanisms, standards and frameworks, information related to the sustainability of the value chain and good corporate citizenship remains scarce. More information on supply chains is found only in terms of impact on air quality and climate (GHG Emissions).



## **2. COMPANIES TEND NOT TO DISCLOSE TARGETS**

Disclosed information is not supported by adequate targets and baselines. Therefore, it is difficult to understand a company's journey and its real commitment to sustainable development.

On average, targets were defined only for approximately 21% of the topics analyzed. Moreover, when measurable targets exist, it is not always clear how they were indeed defined. Often, companies set a medium to long term timeframe, between five and ten years, without defining intermediate targets. The achievement of set targets is presented in only 2% of the 2018 and 2019 disclosures.

## **3. COMPANIES' MATERIALITY ASSESSMENTS SHOW GAPS VIS À VIS THE FOUR PILLAR FRAMEWORK, ESPECIALLY WITH REFERENCE TO GOOD CORPORATE CITIZENSHIP**

Our analysis shows a weak consistency between the relevant topics the companies stated in their materiality assessments and the information we collected and analyzed through our framework. Major gaps were detected in the disclosure of Corporate taxes and Resource Rights, where little information was reported even as materiality was high. This sheds light on the necessity to strengthen these topics, only mildly recognized as material by companies, and scantily reported, when they are crucial for achieving the SDGs.

Our analysis also found good alignment of the Four Pillar Framework with the materiality analysis proposed by the Sustainability Accounting Standards Board (SASB). Therefore, sustainability performance as monitored by companies using our framework could be in line with requirements by investors.

## **4. CRITICAL ISSUES RELEVANT TO SUPPLY CHAINS STILL NEED TO BE DISCLOSED**

The analysis of disclosures shows that supply chain topics are deemed only moderately material by the vast majority of the companies analyzed. Overall, this is not sufficient for the purposes of SDG alignment as laid out in the Four Pillar Framework. Future research should focus on understanding how material topics within the supply and value chains can be more comprehensively and consistently measured and reported.

## **5. COMPANIES SUFFER THE LACK OF A CONSISTENT AND COMPREHENSIVE FRAMEWORK FOR SUSTAINABILITY REPORTING**

Many companies seem to have understood the importance of implementing sustainable practices and communicating their sustainability performance and, in some cases, started following an integrated approach. All of the analyzed companies publish their Sustainability Report based on the Global Reporting Initiative (GRI) and all but one declare to have adopted the SDGs within their management system. The flexible nature of the GRI framework makes it a useful tool to support companies in their reporting processes. However, such flexibility also allows companies to use different standards and metrics developed by several initiatives and organizations, making it more difficult to compare and use information and data to measure SDG achievement, as well as challenging specific target follow up and accountability.



## **6. CHANGES IN EU FOOD REGULATORY CONTEXT ASK FOR A GREATER ATTENTION TO INNOVATIVE BUSINESS MODELS AND SUSTAINABLE BUSINESS STRATEGIES**

A radical transformation is needed to cope with the environmental, social, and economic challenges of agri-food systems at the global and local levels. In 2020, the COVID-19 pandemic has exacerbated global development challenges especially for the most vulnerable communities around the globe. The European Union is promoting such transformation through the European Green Deal and the 'Farm to Fork' Strategy, aiming to make European food system 'the global standard for sustainability'.

In this new regulatory context, food companies are considered actors of primary relevance. Companies are required to move beyond "business as usual", aligning their strategic objectives and initiatives with Agenda 2030, adopting innovative business models and defining, monitoring, and disclosing indicators and targets that are aligned with the achievement of the SDGs.

Generally, this evolution is coherent with the growing relevance that investors and consumers are also placing on sustainability. It is often seen by smaller businesses as a threat. From our analysis we conclude that the Four Pillar Framework has a great level of coherence with the goals and targets of the European 'Farm to Fork' Strategy. Therefore, the Four Pillars could be a tool to support companies in the transition towards a more sustainable food system.



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## TOWARDS AN SDG INDICATOR FRAMEWORK FOR BUSINESS

Given the conclusions of our analyses, we introduce an indicator framework for business, based on the SDGs and the Four Pillar framework. We start by describing the principles that guide the design of our proposed indicator framework for the food and agriculture sector. We then apply these principles to the issue of GHG emissions. Based on feedback received on this indicator framework, we will develop indicators for most topics introduced in this report (see [section 3](#) Key topics for business to align with the SDGs).

### PRINCIPLES

For each topic, we identify the major drivers from the food and agriculture sector and consider abatement options which companies need to tackle to support the achievement of the SDGs and the PCA. These inform the identification of business indicators and associated targets to facilitate implementation. Our aim is to make the indicators as operational as possible by targeting actions that companies can measure and control. In some cases, it may be better to track an “input” or “action”, so reporting against proxy indicators facilitates the setting of corporate objectives and monitoring. The targets we recommend are framed in technological or physical terms that have a direct effect on the proposed proxy indicators.

### PROPOSED BUSINESS INDICATOR FRAMEWORK FOR GREENHOUSE GAS (GHGs) EMISSIONS

Starting with the key topic of *air and climate*, we propose to focus on the most important GHG emission sources without being exhaustive. Focusing on the production side, we start by asking the following question: where are the main emissions of GHGs coming from, specifically in food production? According to scientific research, we found four major drivers of GHG emissions from the food and agriculture sector:

1. Deforestation and land use change, representing approximately 44% of all the sector's emissions,
2. Energy use accounting for about 24%,
3. Livestock farming with 22%, and
4. Methane (CH<sub>4</sub>) and Nitrous Oxide (N<sub>2</sub>O) Emissions from Cultivation with 9%.

Due to its importance, we added one major driver that is not a production-side issue, but rather a complete supply chain issue:

5. Food loss and waste.

This driver is estimated to contribute up to 30% of the sector's GHG emissions, but we present it separately to avoid double counting with the 4 major production-side GHG emission drivers. Ultimately, reductions in food loss and food waste will lead to lower demand for agricultural products and therefore reduce production. For this reason, we propose an indicator framework that focuses on GHG emissions from the production and distribution of food. We therefore present emissions from food loss and waste “below the line”.

To tackle deforestation and land-use change, the biggest GHG emission driver in the food and agriculture sector, we propose that companies track the percentage of agricultural inputs from certified Zero Deforestation sources aiming at certifying 100%.

Regarding energy use, all food and agriculture companies should report GHG emissions from their power consumption and aim to bring these to zero. In most cases, GHG emissions from energy use fall under Pillar 2 (sustainable production processes).

To reduce GHG emissions from livestock farming, we propose that food companies in the downstream of the supply chain track the share of products containing animal-based proteins, aiming at reducing it. Indeed, food companies could have a major effect in promoting healthier and more plant-based diets through their marketing and nutrition strategies. In this way, there could be a reduction of animal-based protein consumption, which should decrease demand and production of livestock farming, hence reducing GHG emissions. Regarding companies producing or dealing with ruminant meat (cattle, sheep, goat), we propose they report and target 100% of feed with methane-reducing properties for ruminants and 100% of manure management to reduce GHGs.

Similarly, regarding methane (CH<sub>4</sub>) emissions from cultivation, we propose that companies track the percentage of agricultural inputs sourced from production using methane reducing techniques, such as Alternate Wetting and Drying (AWD) practices in the case of rice paddies or other proven methods that reduce methane emissions. Indicators on Nitrogen Use Efficiency & N<sub>2</sub>O emissions will be developed in the future. Indeed, the excessive use of fertilizers has several effects that include GHG emissions but that can also result in runoff and pollute water tables. This complex and important subject requires more research to propose robust indicators that are useful for business.

Finally, all companies should achieve a 50% reduction in food loss and waste by 2030, as stated by SDG 12 on Responsible Consumption and Production. As there is a risk of double-counting GHG emissions from a production perspective and a food-loss-and-waste lens, we do not propose at this stage more detailed indicators related to greenhouse gas emissions from food loss and waste.

Companies in the food and agriculture production sector that do not have any relation to livestock or rice, for example, should not report on these specific matters. This business indicator framework for GHGs proposes that the sector focuses on the most pressing issues that are currently creating the majority of emissions. Time and resources should be allocated to the strategies that will bring the biggest system changes. Any company in the food and agriculture sector will have to deal with deforestation and land use change, since almost half of the sector's GHG emissions arise from these. A strong commitment and a clear, rigorous path to carbon neutrality can be an important starting point to accelerate corporate transition to a more sustainable pathway. Carbon neutrality starts with the quantification of GHG emissions. The purpose of this exercise is also to point the industry in the direction it should be looking. Not one company can solve any of these challenges alone. However, together with business alliances, governments and other stakeholders, putting the focus on the actual drivers will bring the solutions the world needs.

The next table summarizes the suggested company proxy indicators and targets.



## PROPOSED COMPANY INDICATORS AND TARGETS FOR EACH DRIVER OF GHG EMISSIONS

	FOOD AND AGRICULTURE GHG EMISSION MAIN DRIVERS	GHG EMISSIONS (million tons CO <sub>2</sub> eq./year)	GHG EMISSIONS GLOBAL TARGETS FOR 2030-2050 (million tons CO <sub>2</sub> eq./year)	COMPANY INDICATORS	COMPANY TARGETS
1	Deforestation and Land Use Change (44%)	6 600 <sup>7</sup>	0 or negative <sup>8</sup>	Percentage of agricultural inputs from certified Zero Deforestation sources (Certified no deforestation since minimum 2014 <sup>9</sup> ) <sup>10</sup>	100% certified Zero Deforestation inputs
2	Energy use (24%)	3 611 <sup>11</sup> Including Post-Production activities: 1 534 Energy use: 1 502 Fertilizer manufacture: 575	4 000 <sup>12</sup>	Percentage of all company power consumption emitting zero GHG emissions <sup>13</sup>	Zero GHG emissions from power consumption
3	Livestock farming (22%)	3 294 <sup>14</sup> Including Ruminant enteric fermentation: 2 260 Manure: 1 034 <sup>15</sup>		[Percentage of products sold containing animal-based protein inputs]  For livestock producing companies specifically:  Percentage of feed with methane reduction properties (including additives)  Percentage of manure managed to prevent GHG emissions <sup>16</sup>	Sharply decreasing tendency  For livestock producing companies specifically:  100% of feed with methane reduction properties  100% of manure managed to reduce GHG emissions
4	Methane (CH <sub>4</sub> ) and Nitrous Oxide (N <sub>2</sub> O) Emissions from Cultivation (9%)	1 398 <sup>17</sup> Including Rice Cultivation 1 120 Fertilizer application : 278 <sup>18</sup>		Percentage of agricultural inputs sourced from production using methane reducing techniques  Indicators on Nitrogen Use Efficiency & N <sub>2</sub> O emissions to be developed	100% inputs produced with reduced methane emissions
	TOTAL 100%	14 903 <sup>19</sup>			
5	Food Loss and Waste (FLW) <sup>20</sup>	4 400 <sup>21</sup>		Percentage of Food Lost and/or Wasted	-50% reduction in FLW (SDG 12)

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## RECOMMENDATIONS

A more sustainable food system requires greater and more focused commitments by businesses; a more comprehensive and coherent framework to align corporate practice, measurement, and reporting to the SDGs; and the creation of more precise SDG-aligned metrics.

Given the depth of the transition required, the support of international and national institutions and investors to agri-food companies is imperative. The Four Pillar Framework aims to support businesses to confidently contribute to the realization of the SDGs, and to be recognized for their critical contributions to that end. With those objectives in mind, we recommend:

### **SUSTAINABILITY STANDARDS,**

frameworks, certifications, and accounting mechanisms should update and review their reporting requirements to help companies better align to the SDGs and the PCA, which are time-bound, quantitative agendas. To do this, monitoring systems should first guide companies' in the food and agriculture sector to focus on the key topics described in this report. Second, they should define clear and comparable quantitative targets, that can allow all stakeholders to see the progress companies are making, rewarding the most innovative and committed companies and more clearly showing the laggards. We propose a first attempt of an SDG indicator framework for GHG emissions, which can be useful for standards, frameworks, and certifications that wish to align their own indicators to the quantitative achievement of SDGs. Indeed, we propose a Four Pillar Framework to analyze a company's performance: by the products it sells, its production processes, its impact and relations with its supply and value chains and the broader ecosystem those chains impact, and its behavior as a corporate citizen. Harmonization among the Four Pillars, the key topics and the quantitative metrics and targets should bring reliable, comparable results to bring the transformation of companies in this sector to form a sustainable food system.

### **COMPANIES IN THE FOOD AND AGRICULTURE SECTOR**

should address the areas highlighted by the Four Pillar Framework, once finalized, as well as an SDG indicator framework to measure and report their impact on the SDGs. This tool, and particularly, the proxy indicators to monitor alignment to the time-bound, quantitative targets of the SDGs and the PCA, will help to focus efforts and resources on the right approaches to transform the currently unsustainable food system. As shown in our company analysis, even though companies report on some of the key topics, there are still major gaps on what is being measured and reported, particularly in terms of targets. Businesses in the food and agriculture sector should more systematically disclose their strategies, practices, and achievement or non-achievement of targets. There is a clear need for a set of indicators, targets and benchmarks to measure the adaptation of companies' strategies both to Agenda 2030 and to the 'Farm-to-Fork' strategy in the EU context.



**POLICY MAKERS** should support more ambitious regulation, emphasizing more forceful alignment of business practices with the SDGs and the PCA, as well as robust and rigorous measurement and reporting of such alignment. Policy makers should call on reporting frameworks to align to the SDGs using the Four Pillar Framework as a useful analytical tool and by including indicators in line with our proposed SDG indicator framework for business. This indicator framework should be useful for policy makers to include targets that will significantly accelerate the needed transformation in the food and agriculture sector to meet Agenda 2030.

**INVESTORS** in the food and agriculture sector should closely monitor companies' performance on issues covered by all four Pillars of the Framework, and should make investment and engagement decisions accordingly. Depending on the investor's approach to sustainability, this may include making decisions to invest or not invest based on performance against the Pillars, and/or proactively engaging with companies regarding their performance and ways to improve. Investors are encouraged to consider the issues covered by the four Pillars as part of a holistic strategy to ensure overall sustainability of their portfolios and the companies in which they are invested, and not simply as part of company or portfolio risk assessments. Finally, the creation of a community of businesses sharing practices and experiences could help illuminate the implications of the transition to an SDG aligned sector, showcase effective business models and practices, support businesses in aligning in the post-Covid 19 context, and gather useful feedback from regulators, investors, institutions and experts.

The Fixing the Business of Food Initiative has initiated a focused framework for business alignment with the SDGs. The next step is to refine and elaborate this framework, capturing the broader set of business products and activities that impact the SDGs, specifically in the food and agriculture sector, with actionable standards for business and robust indicators and targets by which business stakeholders can assess alignment. This work to refine and elaborate the framework will reflect feedback from relevant stakeholders and experts, with an ultimate goal of finalizing an effective framework with actionable standards that help companies contribute effectively to achievement of the SDGs.





# 1 INTRODUCTION







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## PURPOSE AND BACKGROUND

What does it mean for a food and agriculture company to be aligned with the Sustainable Development Goals (SDGs)?

Despite growing corporate sustainability efforts, the answer to this question remains unclear. Companies, investors, and consumers continue to face challenges in understanding what it means for a company or an investment to be considered “sustainable” or not. The lack of a rigorous and comprehensive framework through which to assess corporate alignment with the SDGs leaves companies without clear guidance on supporting SDG achievement. This gap also enables companies to ignore less convenient SDGs when reporting on their sustainability performance.

This report presents the first deep iteration of a conceptual framework to guide business alignment of the food sector with the SDGs and the Paris Climate Agreement (PCA). We propose a Four Pillar Framework, which seeks to contribute to corporate SDG alignment by bringing rigor and clarity on the aspects of business activity that relate to the SDGs. To understand how the framework might be applied to the food sector, the report also elaborates on the key environmental, nutrition, and social & governance topics that companies in the food and agriculture sector need to tackle in order to achieve the SDGs. The report further assesses current sustainability reporting standards, frameworks, and certifications against the Four Pillar Framework and key identified topics, exploring whether available reporting instruments sufficiently support SDG alignment. It concludes by examining how business indicators might be developed under the Framework to support its application, using greenhouse gas (GHGs) emissions as an example.



Even as corporate sustainability efforts increase—as seen in the rising number of sustainability initiatives and standards,<sup>22</sup> Environmental, Social, and Governance (ESG) screened investment increases,<sup>23</sup> and in the mainstreaming of sustainability reports<sup>24</sup>—corporate alignment with the SDGs continues to face fundamental challenges. These include:

1. A lack of consensus on the key principles defining an “SDG-aligned” business or project, creating confusion and enabling greenwashing. There is no one commonly accepted definition of a “sustainable corporation” or a “sustainable investment”, nor is there clarity on what an SDG-aligned business entails.<sup>25</sup>
2. Existing frameworks and ESG data providers have generally overlooked or neglected critical aspects of business engagement with companies’ stakeholders, value chains, and policy makers that are decisive for understanding the overall influence and impacts of companies on the SDGs. Moreover, existing ESG frameworks heavily emphasize risk identification and mitigation, rather than considering a company’s contributions to and impacts on society or the planet.
3. Many standards and reporting frameworks focus on corporate policies and codes of conduct,<sup>26</sup> which have proven insufficient to tackle and eradicate rights violations and poor practices in business operations and throughout value chains.
4. Current practices that allow for company self-reporting of sustainability performance, coupled with the diverse scope of the SDGs and associated targets, as well as a vast range of sometimes inconsistent ESG metrics and criteria, have allowed companies to cherry-pick their preferred reporting criteria while ignoring less convenient SDGs.<sup>27</sup> In terms of financial products, “SDG-aligned investing”—and the corresponding tools and funds—still take vastly different approaches to definitions, function, and even purpose.

The Four Pillar Framework seeks to contribute to corporate SDG alignment by bringing more rigor and clarity to the critical aspects of business activity that affect the achievement of the SDGs, from the product itself, to business operations, to supply and value chains, through to corporate citizenship. The framework provides a holistic approach to corporate SDG alignment and the principles elaborated in these four indivisible Pillars should underpin business strategies, reporting, and measurement.





# THE FOUR PILLAR FRAMEWORK 2 FOR CORPORATE ALIGNMENT TO THE SDGs



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The Four Pillar Framework identifies four dimensions of business activity that holistically and indivisibly impact society and the planet, as described below. The Framework aims at providing a tool for businesses of all sectors to align with the SDGs and the PCA. In this report, it has been specifically applied to the food and agriculture sector, and it is evolving: it has been developed based on more than a year of research and consultation with diverse stakeholders, and it will continue to be refined and elaborated moving forward.

### 1. BENEFICIAL PRODUCTS AND STRATEGIES.

This Pillar addresses the impact of a company's products, services, and strategies on human well-being and the planet's sustainability. For the food sector, this Pillar focuses **on business contributions to healthy and sustainable dietary patterns through their products and strategies**. This includes whether product lines are healthful, and whether product use is conducive to well-being and supportive of improved living standards and consumers' life goals.

### 2. SUSTAINABLE BUSINESS OPERATIONS AND INTERNAL PROCESSES.

This Pillar considers the environmental and social impacts of business operations, including resource use (land, water, energy) and emissions, respect for human rights, diversity and inclusion, and decent work conditions that improve livelihoods of employees and their families. It also assesses whether a company encourages and rewards conduct that strives to internalize externalities.

### 3. SUSTAINABLE SUPPLY AND VALUE CHAINS.

This Pillar reflects the company's role in and responsibility for the broader ecosystem of which it is part, including its interaction with its supply chain and value chain, producers, clients, consumers, and the industry in which it operates. This Pillar focuses on whether the company supports realization of the SDGs through these interactions, and whether it collaborates to promote, incentivize, and ensure more sustainable practices and better livelihoods within its own value chain as well as within the relevant industries or sectors that its operations influence.

### 4. GOOD CORPORATE CITIZENSHIP.

This Pillar refers to how companies engage externally and how they seek to influence the rules that govern them. It assesses whether companies avoid strategies that would diminish social goods or societal well-being, and whether companies value and do not undermine the crafting and effective deployment of law and policy that advances sustainable development.

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5. In the following pages, we apply the Four Pillar Framework to the food sector, identifying principles that guide alignment of companies to the SDGs. These principles—which we present for consultation and which will continue to be refined and elaborated—cover topics that are profoundly impacted by the food sector. While these topics are not exhaustive, they aim to capture the major drivers through which the food sector affects the achievement of the SDGs.



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## PILLAR 1

# BENEFICIAL PRODUCTS & STRATEGIES

Pillar 1 refers to the products and services that a food company offers to the market, with a focus on the product's qualities, impact on human health and well-being, and impact on the planet's sustainability. For the food and agriculture sector, a focus on human health and well-being is particularly important, given the sector's influence on the dual crises of worsening chronic malnutrition,<sup>28</sup> and the growing obesity epidemic. In its recently published Manifesto for a healthy recovery from COVID-19, the World Health Organization (WHO) states that "diseases caused by either lack of access to food, or consumption of unhealthy, high-calorie diets, are now the single largest cause of global ill health".<sup>29</sup>

Although food processing has improved food availability, food preservation and safety, and convenience,<sup>30</sup> ultra-processed foods<sup>31</sup> are associated with high dietary content of sodium, added sugar, saturated fat, and energy density. Over-reliance on such foods can displace the consumption of healthy foods, including fresh fruit and vegetables,<sup>32</sup> and result in poor diets with negative health outcomes. Poor diets are directly linked to the overweight and obesity epidemic, as well as to the increase in preventable non-communicable diseases such as cardiovascular diseases, diabetes, and certain types of cancer.<sup>33</sup>

This Pillar recognizes that marketing and consumption of a company's products has a direct impact on individuals' health and well-being. The impact that a product has on health and well-being can result from factors such as: its ingredients; its labeling; how it is marketed; how information about food products and diets are communicated to consumers; and whether it supports the availability and affordability of nutritious foods.







## LIMITATIONS OF EXISTING STANDARDS, GUIDELINES AND PRINCIPLES WITH RESPECT TO PILLAR 1

We evaluated the First Pillar against twelve reporting standards and initiatives (more detail in [Section 4](#) and [Annex A](#)). Although some address diets and nutrition, these instruments fail to provide sufficient tools to assess and disclose the nutritional aspects of products as well as their implications for human health. Topics covered by these instruments are related to product labeling, product formulation and nutrient profile (specifically in the Access to Nutrition Index (ATNI)), marketing policy, food security and nutrition access, promotion and awareness of healthy diets, nutrition policy, policy audits, and compliance with safety standards. However, none of the standards or initiatives provide clarity or metrics by which to assess a company's product portfolio, its nutritional strategy, and how pricing and availability are designed to promote and improve consumers' healthful diets.

Overall, the food sector and its stakeholders lack standards that define what it means for companies to ensure that their product lines contribute to societal well-being through their products' nutritional content and components. The sector similarly lacks standards elaborating on how companies can ensure that the production and marketing of their products contribute to the planet's sustainability through respect of planetary boundaries.<sup>34</sup> Clear guidance in these areas would help to guide business alignment with the SDGs.

## KEY AREAS OF IMPACT AND SDG-ALIGNED PRACTICES FOR PILLAR 1

- Embed nutrition-related commitments and targets to address undernutrition within the company's core business strategy and governance operations, tailored specifically to different market and geographical contexts.
- Disclosures related to the nutritional information of portfolios, with plans and targets to progressively transition towards more healthful products, such as through product re-formulation, fortification, and procurement portfolios.
- Clear, transparent and accurate labeling of products.
- Marketing policies and strategies of products and brands that give primacy to healthy, nutritious, and sustainable diets and products, especially concerning children and other vulnerable groups.
- Commitments to food safety.
- Commitments to producing and marketing products and services in a manner that supports consumption patterns aligned with planetary boundaries.





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## PILLAR 2

# SUSTAINABLE BUSINESS OPERATIONS & INTERNAL PROCESSES

Pillar 2 encompasses a company's responsibility to adopt and implement socially and environmentally sustainable practices across its production processes and business operations, and internal management. This Pillar covers many of the issues that are traditionally considered in ESG frameworks. It takes, as a starting point, basic accepted premises—chief among them, that companies must respect and not violate human rights and labor rights, and that companies must use environmentally sound practices. The Pillar also expands beyond those minimum requirements of doing no harm to address how food businesses can further actively contribute to the achievement of the SDGs through their specific operations.

Operations have direct impacts on environmental and social systems through resource use (land, water, energy), emissions, and labor practices. Although a company is not the sole contributor to key SDG targets in the areas where it operates, its production processes can include actions that affect income levels, access to health, education, basic services and infrastructure, and environmental balance and sustainability of employees, their families, and local communities.

## DEFINITION No. 1. BUSINESS OPERATIONS

Business operations include all the activities under the ownership, direct control and legal responsibility of the company, and for which it has full oversight. It includes the company's production, logistics and distribution activities performed to get the final product—including the downstream company's brand—to the market, as well as internal management processes. The management of business operations has been traditionally focused on controlling and optimizing processes, improving efficiencies, reducing costs and risks, and gaining competitive advantage, to ultimately increase companies' profits. This approach has underestimated companies' responsibility regarding the social and environmental impacts of their operations, which has become evident with the inaccurate incorporation of externalities in business models, and therefore, inconsistent reporting and disclosure of information of their operations' real impacts on society and the environment.

## LIMITATIONS OF EXISTING STANDARDS, GUIDELINES AND PRINCIPLES WITH RESPECT TO PILLAR 2

Many existing frameworks, guidelines, and ESG data have aimed to capture the social and environmental impacts of food sector production processes and operations. However, the continued existence of violations of human rights, labor rights, and resource rights, and negative environmental impacts, reflect the limitations of existing approaches—in strategies, disclosure, and measurement. Despite the proliferation of guidance and frameworks, many challenges persist:

- Guidelines, requirements, and indicators overemphasize risk identification, corporate policies, and codes of conduct, and lag in requiring active engagements and impact reporting between companies, companies' stakeholders, value chains, and policy makers, to achieve the SDGs.
- Indicators remain mostly qualitative, relating to corporate policies more than outcomes, leading to insufficient data and information to track alignment with quantitative, time-bound SDGs targets (more detail in [Section 4](#)).
- Some indicators request information but do not lead companies to change their business practices towards more sustainable approaches. For instance, the GRI asks companies to list species in habitats affected by operations, but does not ask for reporting on impacts or targets (more detail in [Section 4](#)).

## KEY AREAS OF IMPACT AND SDG-ALIGNED PRACTICES FOR PILLAR 2

- Robust and accurate disclosure of human rights and labor rights<sup>35</sup> compliance, beyond policy commitments, and action plans to eliminate any abuses across production processes and operations.
- Remuneration for all company employees and contractors that is "sufficient to afford a decent standard of living for the worker and her or his family".<sup>36</sup>
- Operational principles to support the recognition and respect of land tenure rights and water and other natural resource rights (including legitimate but not formalized rights) of individuals and vulnerable rights holders, including disclosures of related grievances and remedies.
- Explicit integration of diversity and inclusion practices in corporate internal processes.
- Internal management and governance that supports alignment with the SDGs. This includes: representative and inclusive board composition, and executive compensation plans that are linked to performance aligned with the SDGs as explained under the Four Pillars.
- Incorporation of science-based targets and guidance to both measure and abate the impacts of food production on "climate change, biodiversity loss, freshwater use, interference with the global nitrogen and phosphorus cycles, and land system change (and chemical pollution)".<sup>37</sup>
- Mitigation of internal processes' impacts on air and climate through the reduction of GHG emissions.
- Monitoring of internal processes in order to protect and restore soil and terrestrial habitat, addressing nature and biodiversity issues in local contexts.
- Ensuring sustainable use of water resources in order to improve both efficiency and wastewater quality.
- Monitoring food loss and waste linked to product production and consumption, designing mechanisms to minimize and control food loss and waste, and reporting periodically on total food loss and waste as well as improvements against targets.
- Commitment to high animal welfare standards, transparency for consumers regarding animal welfare, and elimination of cruel animal production practices.





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## PILLAR 3

# SUSTAINABLE SUPPLY AND VALUE CHAINS

Pillar 3 recognizes the impact and influence of companies beyond the perimeter of their direct and outsourced operations, and notes that in some contexts, companies have co-responsibility for enhanced sustainability throughout their supply chains, value chains, and within the industries in which they operate. This Pillar does not suggest that companies are solely responsible for SDG realization, which primarily remains the remit of governments. But Pillar 3 does acknowledge the important ways that a company can and should contribute to positive social and environmental impacts on a broader scale than its direct operations. In some contexts, achievement of the SDGs throughout complex food systems may also require collective and pre-competitive collaboration by companies in the sector.

In this vein, Pillar 3 underscores that companies have co-responsibility for the sustainability of their value chains, even beyond the immediate control of their direct operations. For instance, for a commodity such as coffee, while profit for retailers and roasters has been increasing in recent years, prices at farmgate have hardly met the cost of production, deeply affecting producers and their livelihoods, especially smallholder farmers, and keeping coffee-producing communities in poverty with basic services out of reach.<sup>38</sup> For such an industry, precompetitive concerted efforts, together with policy makers and local stakeholders, may be fundamental to advancing sustainability within value chains and producing regions.<sup>39</sup>

## DEFINITION No. 2. VALUE CHAIN

The value chain comprises the “full range of activities that firms and workers do to bring a product/good or service from its conception to its end use and beyond. This includes activities such as design, production, marketing, distribution and support to the final consumer”.<sup>40</sup> A value chain can be contained within a single or within multiple geographic locations. In the Four Pillar Framework, the value chain includes first-tier suppliers<sup>41</sup> and beyond (below the first-tier suppliers), including upstream farmers and small producers, and downstream all the way to the final point interacting with and reaching the final consumer.

### LIMITATIONS AND EXISTING STANDARDS, GUIDELINES AND PRINCIPLES WITH RESPECT TO PILLAR 3

Existing standards, reporting frameworks and ESG metrics neither establish the principles of value-chain responsibility nor set clear guidance for how responsible companies can and should support sustainability throughout complex value chains. Some reporting initiatives include indicators regarding community relations, stakeholder consultation, and community engagement.<sup>42</sup> Yet, these metrics focus on companies' direct engagements with local communities; they do not focus on a company's understanding of the development challenges in those communities, nor how different actors throughout the food system must collaborate to achieve systemic and sustainable development.

It will be important for the food sector and stakeholders, including policy makers, development specialists, and experts on food systems and value chains, to elaborate applicable principles for how the food sector can and should work together, pre-competitively, to support sustainability and realization of the SDGs from producer communities through consumption, as well as the responsibilities of individual companies to both understand their value chains and contribute to such efforts.

### KEY AREAS OF IMPACT AND SDG-ALIGNED PRACTICES FOR PILLAR 3

The key areas of social and environmental impact and SDG-aligned practices overlap significantly with those identified in **Pillar 2**. The main distinction that Pillar 3 focuses on is the way in which companies use their business relations, market power, and other leverage points to help promote better social and environmental impacts. This could include, for example:

- Robust requirements of first-tier suppliers and below first-tier suppliers—through contractual arrangements—to guarantee respect of human rights, labor rights, and resource rights,<sup>43</sup> to avoid rights violations, and to redress any harms that have occurred.
- Proactive efforts to ensure fair prices or income support for farmers at a level that would allow viable farmers to earn a living income from the production and sale of agricultural commodities that the company sources.
- Collective efforts to help farmers producing agricultural commodities relevant to the company to adapt to climate change, mitigate climate risk, and build climate resilience.
- Collection and disclosure of SDG-related data throughout a company's value chain, from producer to consumer, to support targeted engagement to progressively address SDG needs and challenges, including the well-being and livelihoods of smallholder farmers and their communities, in collaboration with local and national governments, civil society, communities, and other private sector partners.





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## PILLAR 4

# GOOD CORPORATE CITIZENSHIP

Pillar Four considers companies' external strategies and engagement: both with the communities where they operate and with the rules that govern them. This includes companies' contributions to local initiatives that promote realization of Agenda 2030. It also includes companies' relationships with the law, such as the ways in which they seek to influence the rules that govern them, as well as their use of strategies that may advance or undermine SDG achievement. To that end, Pillar 4 assesses whether companies' practices support and advance policy making, resource mobilization, and the rule of law that underpins achievement of the SDGs.

This Pillar's focus on external strategies that may affect SDGs is warranted given the impact that such strategies—whether positive, such as CSR projects, or negative, such as corporate structuring, tax minimization, and aggressive litigation—can have profound effects on the achievement of development goals. Pillar 4 aims to assess whether companies' practices support and advance policymaking, resource mobilization, and the rule of law that underpins the achievement of the SDGs.

## LIMITATIONS OF EXISTING STANDARDS, GUIDELINES AND PRINCIPLES WITH RESPECT TO PILLAR 4

There are no agreed principles for responsible practices in these areas. While some of the reviewed instruments, including GRI, and the Principles for Responsible Investment (PRI), offer indicators on lobbying, political contributions, ESG governance and affiliations with industry and trade associations, they are limited in their usefulness without an agreement on underlying standards. Moreover, key areas of corporate citizenship are not captured by existing standards or metrics, including how companies engage with litigation (offensive and defensive), indirect influence over law making practices, and the disclosure of information on the support of research and campaigns favorable to their interests.

## KEY AREAS OF IMPACT AND SDG-ALIGNED PRACTICES FOR PILLAR 4

- Establishing local community engagement based on SDG-related and relevant data, in partnership with local actors and stakeholders, to contribute targeted corporate resources to local communities, aligned with SDGs achievement.
- Tax strategies that aid enforcement, strengthen tax bases, and curb profit shifting to low/no tax jurisdictions.
- Transparent engagement in policy making, limited to supporting efforts that would help to achieve the SDGs, and avoiding efforts that would undermine public interest regulation.
- Any engagement in legal strategies and cases that involve consumer rights or the public interest should be transparent.
- Establish assessment tools and protocols to identify and address conflicts of interest and promote anti-corruption practices.

The draft Framework will continue to evolve, as Pillars are refined and then elaborated to advance a robust framework that captures the broader set of business products, strategies, and activities that impact the SDGs. In each of the aforementioned Pillars, the next step is for food sector actors, together with policy makers, consumers, employees, communities, and experts in ecological sciences, nutrition, health, agriculture, corporate governance, and law, to elaborate the principles and standards. The goal is a robust framework, capturing the broader set of business products and activities that impact the SDGs, with actionable standards for businesses and robust indicators and metrics by which business stakeholders can assess alignment.





An aerial photograph of a rural landscape. The top half of the image shows a large yellow field, possibly a sunflower field, with a dense green forest bordering its right side. Below the yellow field is a large green field. A dirt road with a line of trees runs horizontally across the middle of the image. Below the road, there is a large green field on the left and a purple field, likely lavender, on the right. The text "3 KEY TOPICS FOR BUSINESS TO ALIGN WITH THE SDGs" is overlaid in white on the green field.

# 3 KEY TOPICS FOR BUSINESS TO ALIGN WITH THE SDGs





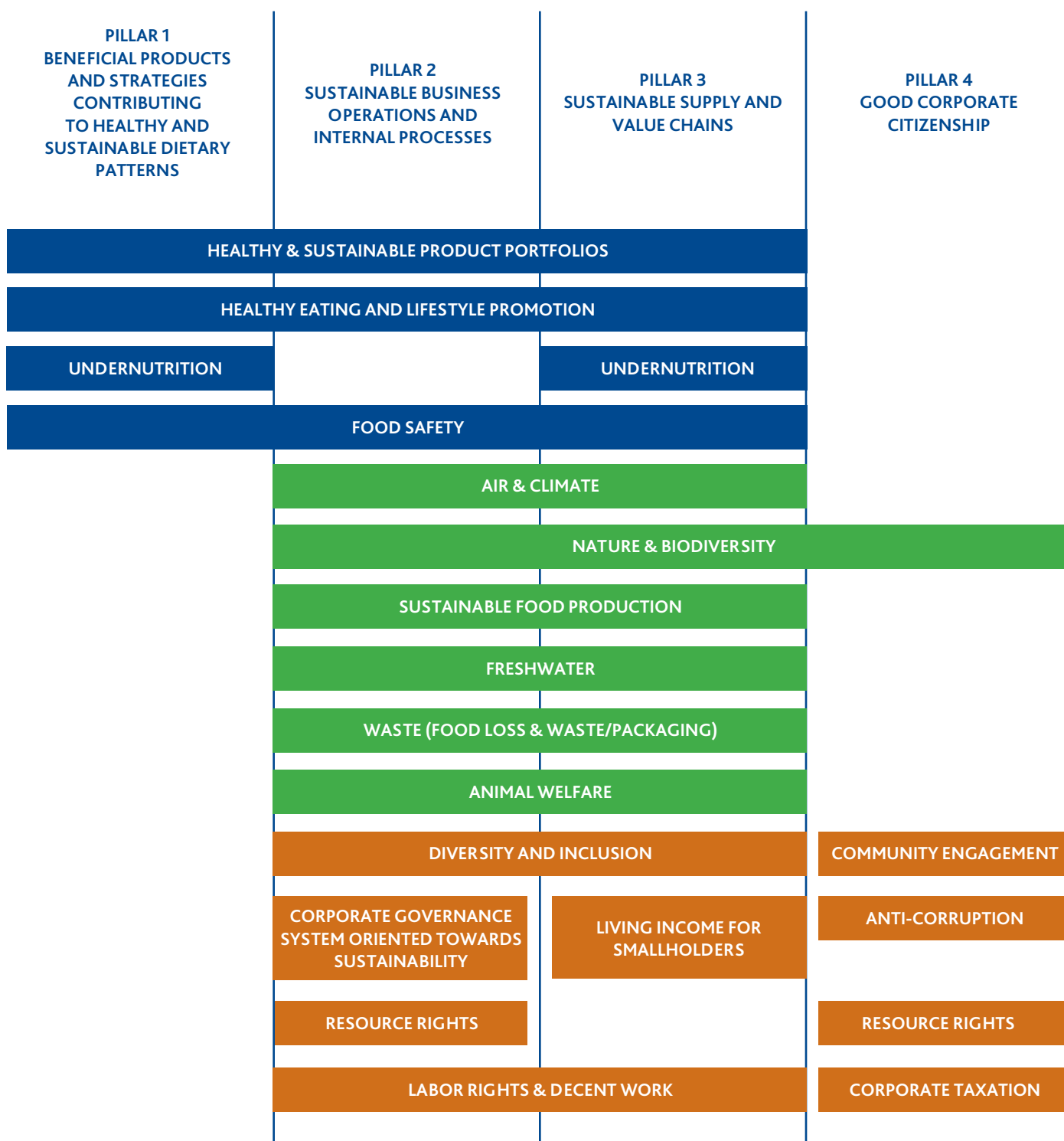
In collaboration with the World Benchmarking Alliance (WBA) and the Food Foundation Plating Up Progress project, we have identified and grouped key environmental, nutrition, and social & governance topics that companies in the food and agriculture sector need to tackle in order to achieve the SDGs. In this report, building on our collaboration, we condensed and/or re-framed some of the topics proposed by WBA in the framework for the Food and Agriculture Benchmark as well as the core topics outlined in the Social Transformation, since these were presented for consultation to the public in July 2020 and our research team aimed to simplify some of the topics. Alongside the Four Pillars, these topics provide the structure for the proposed assessment framework used for the analysis of companies' sustainability reports in **section 5** of the document.

### **KEY TOPICS TO ASSESS SUSTAINABILITY REPORTS OF DOWNSTREAM FOOD COMPANIES**

Among the key areas highlighted in **section 2** for each of the Four Pillars, and taking advantage of the cooperation with WBA and Food Foundation<sup>44</sup> mentioned above, we selected 18 key topics and cross-examined them against each Pillar, placing them where their impact is more significant from the perspective of a Food Processing and/or Distribution company. Given that most topics are relevant to more than one Pillar, we indicated when a topic is included in several Pillars. We used this arrangement of key topics to analyze major companies' sustainability reports in **section 5**. However, this is an evolving framework that might go through improvements in future iterations before it is finalized.



**FIGURE 1: PILLARS AND TOPICS FOR A FOOD PROCESSING/DISTRIBUTION COMPANY**



**TOPIC TYPES**







## KEY ENVIRONMENTAL TOPICS

### 1. AIR AND CLIMATE

The food system is a major contributor to climate change, responsible for some 30% of global greenhouse gas (GHG) emissions.<sup>45</sup> Major sources of GHGs include land-use change, methane emissions from livestock, nitrous oxides from fertilizer use, methane emissions from rice cultivation, and emissions related to energy use. The food system is also a major driver of air pollution through the release of fine particles (e.g. from residue burning) and chemicals. Indeed, agriculture is the largest source of ammonia pollution, and other nitrogen compounds.<sup>46</sup> In turn, air pollution can significantly affect food production. Ozone precursor emissions (nitrogen oxides and volatile organic compounds) have been found to cause crop losses for soy, wheat, and maize.<sup>47</sup> Companies should focus on reducing their contribution to climate change by curbing GHG emissions in support of the Paris Climate Agreement (PCA) objective to limit global warming to 1.5°C, as well as on reducing their contribution to other forms of air pollution.

This topic contributes to achieving SDG 7 on affordable and clean energy and SDG 13 on climate action.

### 2. NATURE AND BIODIVERSITY

In addition to generating GHG emissions, land-use change and degraded lands drive biodiversity loss.<sup>48</sup> Land degradation affects the food system directly by reducing productivity and reducing essential ecosystem services, such as pollination. The food and agriculture sector, in partnership with governments and civil society, must halt the expansion of agricultural land ("zero net loss"), restore landscapes, increase natural carbon sinks that absorb GHGs, and contribute to stopping terrestrial and marine biodiversity loss.

This topic contributes to achieving SDG 13 on climate action, SDG 14 on life below water, SDG 15 on life on land and SDG 17 on partnerships for the goals.

### 3. SUSTAINABLE FOOD PRODUCTION AND SOURCING

Unsustainable soil management practices and the excess use of fertilizers and pesticides can generate nutrient runoff and eutrophication. In fact, fertilizer use needs to be more closely monitored because the biogeochemical flows of nitrogen and phosphorus have already passed the safe operating limit in the globe.<sup>49</sup> Similarly, the excess use of pesticides pollutes air, water, and soils, simultaneously threatening people's health and biodiversity. Persistent residues of pesticides can disperse in nature and also contaminate food.<sup>50</sup> Some areas of the world, particularly low-income economies, may benefit from increasing fertilizer use to enrich soil matter. However, this should be a sustainable intensification process, reaching an amount of inputs that increase yields without turning into runoff pollution. Many regions in the world can alternatively benefit, both environmentally and economically, from reducing excess nutrients in crops and/or developing diversified farming methods such as agrobiodiversity.<sup>51</sup> Companies in the food and agriculture sector should pay particular attention to the efficient use of fertilizers and pesticides.

Additionally, food companies in the middle and downstream of the food value chain must increase their tracing of origin and quality capabilities to ensure the whole food system can transform to a sustainable pathway. For example, any consumer should be able to tell if the products they buy contain ingredients from areas where illegal deforestation or forced labor may be occurring.

This topic contributes to achieving SDG 2 on zero hunger, SDG 6 on clean water and sanitation, SDG 12 on responsible consumption and production, SDG 13 on climate action, SDG 14 on life below water, and SDG 15 on life on land.

### 4. SUSTAINABLE WATER SUPPLY FOR HUMAN USE AND ECOSYSTEMS

Agriculture accounts for 70% of water withdrawal worldwide and up to 95% in some regions of the world.<sup>52</sup> Physical water scarcity affects 1.2 billion people and economic water shortage (lack of infrastructure) affects 1.6 billion people in the world. Even though there is enough freshwater, it is not evenly distributed and there is an increasing number of regions that are chronically short of water.<sup>53</sup> Additionally, 80% of wastewater around the world is being discharged into the environment without any prior treatment.<sup>54</sup> Such

water pollution can undermine food production systems. Hence, water-use efficiency and wastewater quality are major priorities for the sector, including improved aquaculture practices. Companies should contribute to ensuring a sustainable and safe water supply for human use and ecosystems.

This topic contributes to achieving SDG 6 on clean water and sanitation, SDG 14 on life below water and SDG 15 on life on land.

### 5. FOOD AND PACKAGING WASTE

The topic of waste in the food and agriculture sector has two distinct dimensions. First, there is food loss and waste, a major topic to be tackled by this sector. Indeed, about 30% of all food produced is lost and wasted in the supply chain,<sup>55</sup> which exacerbates stresses on the environment such as land use change, water pollution, and GHG emissions. Second, packaging waste is a major source of pollution affecting our lands, oceans, and human health. Plastics decompose into harmful microplastics creating marine pollution—which has increased by ten since 1980—and directly affects about 300 species.<sup>56</sup> The food and agriculture sector must take food loss and waste reduction as a priority from all aspects of its supply chain, and take its share of the burden to create a sustainable supply chain packaging-wise, from the farm to the consumer.

This topic contributes to achieving SDG 12 on responsible consumption and production, SDG 13 on climate action, and SDG 14 on life below water.

### 6. ANIMAL WELFARE

Animal welfare has become an increasing demand from consumers, with direct economic and societal benefits. Farm animal welfare standards have been shown to increase their productivity and improve meat quality in some cases. There are also benefits for workers (in high-confinement situations) via the reduction of the incubation of pathogens, of respiratory problems, and of antibiotic resistance.<sup>57</sup> A sustainable food system should not have animals suffering from hunger, thirst, injuries, fear, or situations that do not allow them to express normal behavior. Companies should ensure they respect minimal animal welfare standards.

This topic contributes to achieving SDG 3 on good health and well-being, SDG 12 on responsible consumption and production, SDG 14 on life below water, and SDG 15 on life on land.



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## KEY NUTRITION TOPICS

We have condensed the WBA Food and Agriculture Benchmark's six topics on nutrition—fighting all forms of malnutrition, availability of healthy and sustainable foods, accessibility and affordability of healthy and sustainable foods for all, promoting healthy eating, healthy and sustainable diets in the workplace, and food safety—into the following four topics:

### 1. UNDERNUTRITION

Today an estimated 820 million people suffer from undernourishment and 2 billion people experience micronutrient deficiencies. Young children in low-income economies are particularly vulnerable to undernutrition, and 45% of deaths of children under five are due to some form of malnutrition.<sup>58</sup> Companies need to help curb undernutrition through more affordable and healthy food.

This topic contributes to achieving SDG 2 on zero hunger, SDG 3 on good health and well-being, SDG 5 on gender equality and SDG 10 on reduced inequalities.

### 2. HEALTHY AND SUSTAINABLE PRODUCT PORTFOLIOS

The main cause of human mortality are non-communicable diseases from poor nutrition, including obesity, cardiovascular diseases, type II diabetes, and others.<sup>59</sup> This accounts for 71% of global deaths (WHO). Diets in most countries are unhealthy with particular deficits in fruits, vegetables, nuts, and protein in some regions.<sup>60</sup> Critically, around 41 million children under five are overweight.<sup>61</sup> The shift towards sustainable diets has been recognized as a fundamental climate mitigation option that must be integrated in national climate strategies by policy makers, which mainly focus on agriculture production and agriculture emissions).<sup>62</sup>

Food companies have a role to play to promote more sustainable diets. Food companies should curb processed foods and drinks and take other measures to ensure consumers have access to healthy, nutritious, and sustainable food. Measures include product reformulations, product fortifications, and protein diversification.

This topic contributes to achieving SDG 2 on zero hunger, SDG 3 on good health and well-being, SDG 12 on responsible consumption and production, and SDG 13 on climate action, but is also indirectly linked to other SDGs.

### 3. HEALTHY EATING AND LIFESTYLES PROMOTION

The food sector can influence consumers to eat more healthily, including their own workforce. To this end, companies should practice responsible marketing and promote healthier food. Labelling important information from the quality to the origin of ingredients will support the demand for healthier and more socially and environmentally friendly food.<sup>63</sup> Responsible marketing is a key component of this topic.

This topic contributes to achieving SDG 2 on zero hunger, SDG 3 on good health and well-being, and SDG 12 on responsible consumption and production.

### 4. FOOD SAFETY

Food safety continues to be critical for the entire food supply chain, with about 600 million people falling ill each year after eating contaminated food.<sup>64</sup> Companies should promote food safety worldwide and actively prevent threats to human health.

This topic contributes to achieving SDG 2 on zero hunger, SDG 3 on good health and well-being, and SDG 12 on responsible consumption and production.

## KEY SOCIAL INCLUSION & GOVERNANCE TOPICS

In this section we focus on social and governance aspects that are particularly critical in the food and agriculture sector. This does not mean that companies in this sector should not focus on equally important topics such as gender equality, personal data protection, or others. In fact, we support the work of the World Benchmarking Alliance's Social Transformation Benchmark which requires all companies, irrespective of what sector they operate in, to demonstrate their respect of 15 topics, including human rights commitments, due diligence, access to remedy and board oversight, freedom of association, the elimination of forced and child labor, gender equality and women's empowerment, health and safety, and lobbying and corporate political influence, among others.<sup>65</sup>

For our company analysis we deliberately focused on the following social inclusion and governance topics that are most relevant to the food and agriculture sector. We assume that basic requirements for topics such as health, safety and wellbeing, or child labor should be covered by all businesses, and that companies in the food and agriculture sector should pay closer attention to these.





## 1. LABOR RIGHTS AND DECENT WORK IN FOOD & AGRICULTURAL PRODUCTION

Companies in the food and agriculture sector must particularly ensure a food system that is free of labor rights violations and that provides decent work and livelihood conditions. Agricultural workers must benefit from the same standard of health, safety and wellbeing of any other industry. Additionally, all the value chain must ensure the fair treatment of all workers,<sup>66</sup> a living wage,<sup>67</sup> and the complete elimination of child labor.<sup>68</sup>

This topic contributes to achieving SDG 1 on zero poverty, SDG 2 on zero hunger, SDG 3 on good health and well-being, SDG 4 on quality education, SDG 5 on gender equality, SDG 6 on clean water and sanitation, SDG 8 on decent work and economic growth, SDG 10 on reduced inequalities, and SDG 16 on peace, justice and strong institutions.

## 2. RESOURCE RIGHTS

Food and agriculture companies must ensure the respect of land tenure and other natural resource rights to ensure a fair and sustainable access to natural resources of local communities. In areas where this is a pervasive issue, businesses must be mindful of land tenure rights, including legal and other legitimate tenure rights, as well as water and natural resource rights.

This topic contributes to achieving SDG 6 on clean water and sanitation, SDG 10 on reduced inequalities, SDG 11 on sustainable cities and communities, SDG 12 on responsible consumption and production, and SDG 16 on peace, justice and strong institutions.

## 3. DECENT STANDARD OF LIVING FOR SMALLHOLDER FARMERS

The food and agriculture sector must ensure that smallholders have a living income through fair contracts, market access, and productivity and resilience support. Indeed, smallholder farmers need better access to markets and benefits in the value chain. They would particularly benefit from more favorable contracts and negotiation terms, as well as extension services focusing on productivity and climate resilience.

This topic contributes to achieving SDG 1 on zero poverty, SDG 2 on zero hunger, SDG 3 on good health and well-being, SDG 4 on quality education, SDG 5 on gender equality, SDG 6 on clean water and sanitation, SDG 8 on decent work and economic growth, SDG 10 on reduced inequalities, and SDG 16 on peace, justice and strong institutions.

## 4. DIVERSITY AND INCLUSION PRACTICES

Companies should ensure a working environment that values differences between people, including nationality, ethnicity, culture, gender, gender identity, sexual orientation, age, disability, religion, marital and family status, as well as education, professional background, experience, working patterns, perspective, and approach.<sup>69</sup>

This topic contributes to achieving SDG 5 on gender equality, SDG 10 on reduced inequalities, and SDG 8 on decent work and economic growth.

## 5. COMMUNITY ENGAGEMENT

This topic is about promoting and funding projects and activities directed to community groups and aimed at contributing to the betterment and well-being of society through discretionary business practices and contributions of corporate resources.<sup>70</sup>

This topic contributes to achieving SDG 1 on zero poverty, SDG 2 on zero hunger, SDG 3 on good health and well-being, SDG 4 on quality education, SDG 5 on gender equality, SDG 10 on reduced inequalities, and SDG 12 on responsible consumption and production.

## 6. CORPORATE TAXATION

Companies have an obligation to comply with tax legislation, and a responsibility to their stakeholders to meet expectations of good tax practices. The present topic aims to shed light on the organization's management approach in relation to tax, reporting on revenue, tax and business activities on a country-by-country basis. Moreover, companies should communicate their tax principles, their tax planning, the degree of risk the organization is willing to accept, and the organization's approach to engaging with tax authorities.

This topic contributes to achieving all the SDGs.



## 7. ANTI-CORRUPTION

Monitoring the company's risk assessment tools for corruption and identification of adequate criteria adopted in the risk assessment such as locations, operations, and industries. Identification of procedures to manage conflicts of interest that any person linked to the company's activities, services or products may have.

This topic contributes to achieving SDG 8 on decent work and economic growth, SDG 9 on industry, innovation and infrastructure, SDG 10 on reduced inequalities, SDG 16 on peace, justice and strong institutions, and SDG 17 on partnerships for the goals.

## 8. CORPORATE GOVERNANCE SYSTEM ORIENTED TOWARDS SUSTAINABILITY ISSUES

The disclosure in this topic gives information regarding the corporate governance of an organisation's structures directly involved in sustainability practices such as: the institution of a Corporate Social Responsibility Committee (e.g. sustainability committee, environmental committee, governance and sustainability committee, etc.); the presence of an expert within it; and the direct involvement of the Internal Audit Function on the control reporting system.

This topic contributes to achieving all the SDGs.



## APPLYING THE TOPICS TO FIVE FOOD AND AGRICULTURE SUB-SECTORS

The food and agriculture sector is highly complex and diverse.

**FIGURE 2: FIVE SUB-SECTORS OF THE FOOD AND AGRICULTURE SECTOR  
(BASED ON WBA 2019)<sup>71</sup>**



Different companies face different challenges in meeting the SDGs, so it is important to group companies by their business models and needs. We follow the sub-sectors identified by the World Benchmarking Alliance (WBA) (see **Figure 2** above).

The “inputs” sub-sector comprises manufacturers of agricultural and farm machinery as well as input providers (e.g. seeds, agrochemicals, fertilizer). The “production” sub-sector includes farmers, aquaculture producers, and fishers. The “trade” sub-sector groups together wholesalers and traders. The “processing” sub-sector comprises processing and food production companies. Finally, the “distribution” sub-sector covers retailers, caterers, and restaurants.

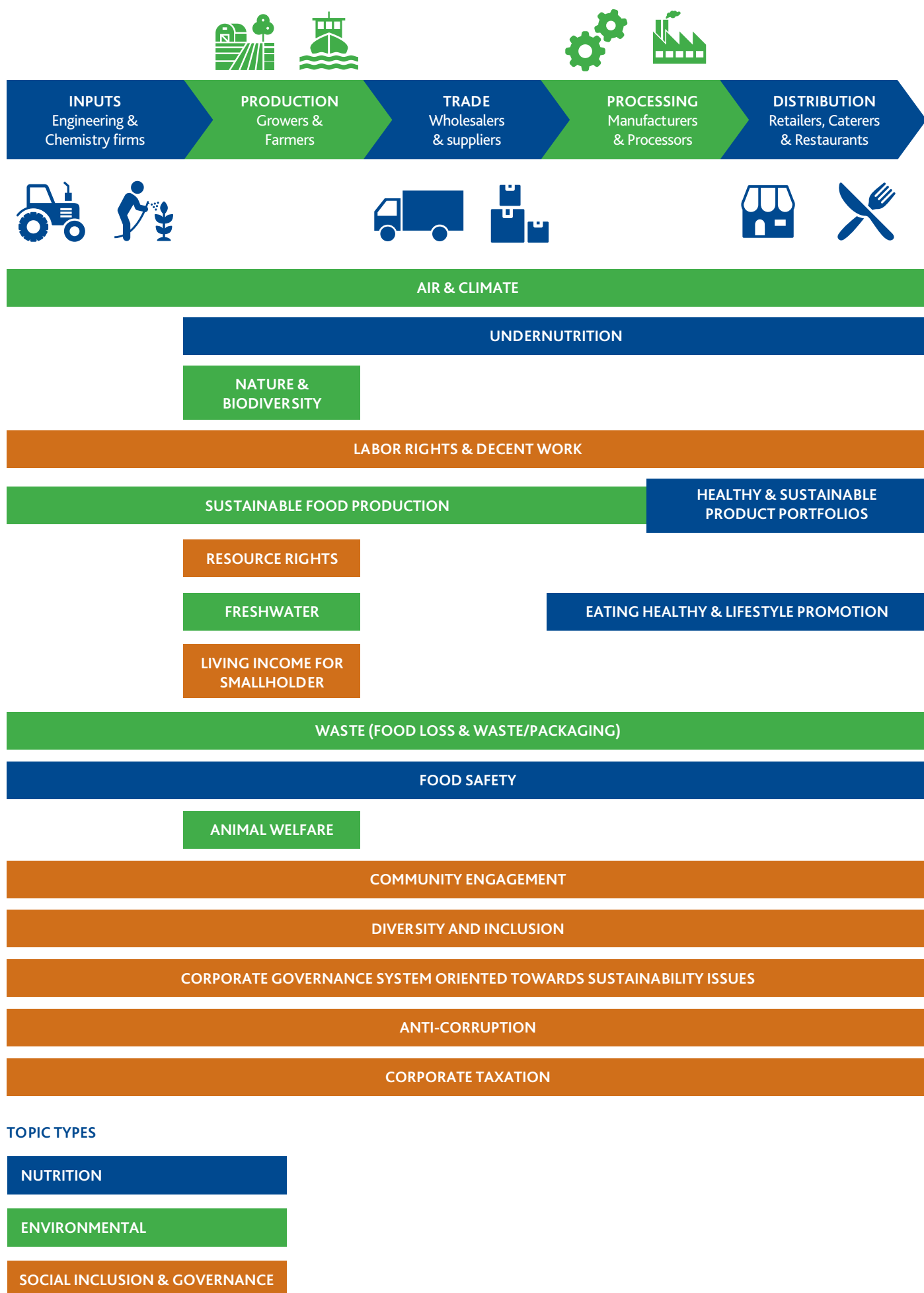
The Four Pillar Framework outlined in **section 2** can be combined with the themes introduced in this chapter to generate an assessment framework for the food and agriculture sector. Each sub-sector faces specific challenges in achieving the SDGs, so the assessment framework must be developed for each sub-sector. For example, production companies need to consider greenhouse gas emissions coming specifically from livestock production under “Pillar 2 – production processes”, whereas processing companies would include these GHG emissions from livestock production under “Pillar 3 – value chain”.

**Figure 3** shows how the environmental, nutrition, and social inclusion & governance topics apply across the five sub-sectors. GHG emissions and waste topics must be considered by all sub-sectors, while nature and biodiversity, freshwater and animal welfare apply primarily to the production sub-sector.

Similarly, nutrition topics apply mostly to downstream companies, except for food safety which is a priority for every company in the sector.

The Four Pillar Framework comes in handy when analyzing what each type of company should do. Clearly, a food distribution company must tackle most environmental topics from the perspective of Pillar 3 – sustainable value chain. However, topics such as healthy and sustainable product portfolios, or food waste, should be tackled from the perspective of Pillar 1 – products contributing to healthy diets and Pillar 2 – sustainable processes.

FIGURE 3: KEY TOPICS PREDOMINANCE IN THE FIVE FOOD AND AGRICULTURE SUB-SECTORS





A woman with voluminous, curly brown hair is looking down at a stack of papers. She is wearing a light blue blazer over a white top. The background is softly blurred, suggesting an office or professional setting. The text is overlaid on the right side of the image.

# **4 ANALYSIS OF SUSTAINABILITY REPORTING STANDARDS, FRAMEWORKS, AND CERTIFICATIONS**

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Company reporting frameworks must align with the quantitative, time-bound SDGs if the business sector is to align with the 2030 Agenda. To understand current practices, we have assessed major corporate reporting standards, frameworks, and certifications against the Four Pillars and key topics. We also consider whether they address the quantitative nature and level of ambition of the SDGs.

This report summarizes a deep analysis made to twelve sustainability standards and frameworks, the aspects they cover, and the respective indicators and metrics addressing the different issues. We identified the following 12 major sustainability reporting mechanisms (see detailed list in [Annex A](#)).

The instruments revised were chosen based on several criteria including: frameworks most widely used globally by major corporations, most used considering geography, frameworks most relevant to the food sector (see the detail in [Annex B](#)). For example, the UN Global Compact's principles, the Global Reporting Initiative or the CDP framework are used by 10,000 companies or more according to their websites, so they were considered relevant. Others might not be so globally used, but were considered to have particular relevance in the Food and Agriculture sector, such as the Roundtable for Sustainable Palm Oil or the Access to Nutrition Index, or were chosen to give some visibility to regions of the world that were less represented. The scope of this analysis is hence limited as it is made for only a sample of reporting mechanisms. We acknowledge that there are many others that are relevant, such as the SAI platform, ISCC, Rainforest Alliance, Fair Trade, ISO, and many more.

## STANDARDS

1. The UN Global Compact's ten principles, its Food and Agriculture Business principles, and its Soil Management principles;
2. The OECD-FAO guidance for agricultural supply chains;
3. The World Business Council on Sustainable Development's CEO Guide to Food System Transformation (WBCSD);
4. The World Benchmarking Alliance's Food and Agriculture Benchmark 2019 scoping report (WBA);

## FRAMEWORKS

5. The universal, environmental, and social standards of the Global Reporting Initiative (GRI) and its standard for the Food Processing sector;
6. The CDP questionnaires for climate change, forests, and water security (formerly Carbon Disclosure Project);
7. The Dow Jones Sustainability Index (DJSI);
8. The B Corp Assessment (B Corp);
9. The Sustainability Accounting Standard for Processed Foods (SASB);
10. The Access to Nutrition Index (ATNI);

## CERTIFICATIONS

11. The Forest Stewardship Council (FSC); and
12. The Roundtable for Sustainable Palm Oil (RSPO).



**TABLE 1: PERCENTAGE OF ESG INDICATORS CLASSIFIED IN FOUR PILLAR FRAMEWORK**

CATEGORIES	1. PRODUCTS	2. PROCESSES	3. VALUE CHAIN	4. CORPORATE CITIZENSHIP	TOTAL
Environmental	2%	29%	4%	2%	37%
Social	3%	26%	12%	0%	41%
Governance	2%	9%	0%	10%	21%
<b>TOTAL</b>	<b>7%</b>	<b>64%</b>	<b>16%</b>	<b>12%</b>	<b>99%</b>

We first considered the coverage of the topics and Pillars described in [section 3 \(Table 1\)](#). The majority (64%) of company indicators considered in available reporting frameworks cover Pillar 2: production processes. A mere 7% of indicators cover Pillar 1 (e.g. "percentage of total sales volume of consumer products, by product category, that are lowered in saturated fat, trans fats, sodium, and added sugars" (GRI-G4-Food-Processing-Sector-Disclosures)). Pillar 3 is also under-reported at 16% of questions (e.g. "significant suppliers in low-income communities" (B Corp) and, "significant investment agreements and contracts that include human rights clauses or that underwent human rights screening" (GRI), or "new lands are not acquired in areas inhabited by communities in voluntary isolation" (RSPO)). Finally, Pillar 4 covers 12% of indicators with a focus on corporate strategy, governance and management issues and only one question on tax disclosure: "Effective Tax Rate (reported tax rate (income statement) and cash tax rate (cash flow statement))" (DJSI).

A deeper look at the questions asked in available reporting frameworks ([Table 2](#)) highlights major reporting gaps with regards to key topics. Standards, frameworks and certifications question categories classified into the Four Pillar Framework are detailed in [Annex C](#).

Very few questions focus on sustainable food production practices. There are virtually no questions about fertilizer or pesticide use, except in the Roundtable for Sustainable Palm Oil (RSPO) certification. The UN Global Compact gives high-level recommendations such as "protect soil from physical, chemical and biological degradation, limit erosion and avoid deforestation", but no indication on how companies might monitor actions in this area in their own operations or in their supply and value chains.

Second, hardly any reporting is required for food loss, food waste and packaging waste. Only WBCSD suggests to "minimize food loss and waste across the system by reducing supply chain inefficiencies, adopting the bioeconomy and increasing awareness of producers and consumers". Among over 1,000 indicators reviewed, only two address food loss and waste. Most frameworks ask about "waste disposal by type", which does not address issues of packaging waste. No indicators cover waste issues under the "product" Pillar ([Table 2](#)), which is important because waste related to packaging could be averted from the design of food products and their packaging.

Numerous indicators address biodiversity, ecosystem services, and land use, but 83% of these concern company production processes and only six ask for quantitative information. As we have seen in [Figure 2](#), biodiversity loss mostly occurs during the production phase of the supply chain, so this topic will be a Pillar 3 – value chain issue for most food companies, and not a Pillar 2 – production processes issue. For example, the GRI asks companies to report "IUCN Red List species and national conservation list species with habitats in areas affected by operations (Critically endangered, Endangered, Vulnerable, Near threatened, Least concern)". Such an indicator does not invite companies to change practices that might endanger species. B Corp, for example, asks for a description of "Supply Chain Biodiversity Management" (Pillar 3), but without providing guidance on acceptable or necessary biodiversity management processes. While descriptions and reports on management practices addressing environmental issues such as biodiversity, for example, are a strong starting point, they fall short on tracking targets and therefore allowing alignment to achieve SDG-specific targets.

**TABLE 2: NUMBER AND PERCENTAGE OF ESG INDICATORS CLASSIFIED IN FOUR PILLAR FRAMEWORK**

	1. PRODUCTS		2. PROCESS		2. VALUE CHAIN		4. CORPORATE CITIZENSHIP		TOTAL	
Categories	Number	%	Number	%	Number	%	Number	%	Number	%
<b>E - Environmental</b>	<b>18</b>	<b>4%</b>	<b>330</b>	<b>79%</b>	<b>51</b>	<b>12%</b>	<b>21</b>	<b>5%</b>	<b>420</b>	<b>99%</b>
Biodiversity, Ecosystem Services, & Land Use	9	5%	143	83%	16	9%	5	3%	173	99%
GHG & Other Emissions			50	63%	19	24%	11	14%	80	99%
Water			48	80%	7	12%	5	8%	60	99%
Waste			33	94%	2	6%			35	99%
Environmental Management System			25	100%					25	99%
Energy	1	5%	17	89%	1	5%			19	99%
Tech, Innovation, & New Business	4	25%	9	56%	3	19%			16	99%
Environmental Practices in the Supply Chain	4	47%			3	43%			7	99%
Animal Husbandry			5	100%					5	99%
<b>S - Social</b>	<b>39</b>	<b>8%</b>	<b>300</b>	<b>63%</b>	<b>131</b>	<b>28%</b>	<b>5</b>	<b>1%</b>	<b>475</b>	<b>99%</b>
Labor Practices	1	1%	114	79%	30	21%			145	99%
Community Relations & Human Rights			56	57%	42	43%			98	99%
Health, Wellness, & Safety	1	1%	70	97%	1	1%			72	99%
Social Practices in the Supply Chain			4	7%	51	89%	2	4%	57	99%
Career Development & Training			49	100%					49	99%
Diets, Nutrition, & Marketing	33	92%	3	8%					36	99%
Philanthropy					5	63%	3	38%	8	99%
Food Safety	1	72%	4	67%	1	17%			6	99%
Product Pricing & Availability	3	100%							3	99%
Value Sharing									1	99%
<b>G - Governance</b>	<b>24</b>	<b>10%</b>	<b>104</b>	<b>43%</b>	<b>5</b>	<b>2%</b>	<b>110</b>	<b>45%</b>	<b>243</b>	<b>99%</b>
Corporate Strategy, Governance, & Management	7	7%	39	41%	3	3%	46	48%	95	99%
Compliance with Laws and Regulations			45	61%	1	1%	28	38%	74	99%
Tax Strategy & Other Disclosures	10	24%	13	31%	1	2%	18	43%	42	99%
Privacy, Information Security, & Cybersecurity	1	8%	4	31%			8	62%	13	99%
Customer Relations	6	55%	2	18%			3	27%	11	99%
Engagement with Policymakers and Other Stakeholders			1	13%			7	88%	8	99%
<b>Total</b>	<b>81</b>	<b>7%</b>	<b>734</b>	<b>64%</b>	<b>187</b>	<b>16%</b>	<b>136</b>	<b>12%</b>	<b>1138</b>	<b>99%</b>

Governance indicators do not have enough focus on tax practices, or the companies' use of litigation, and one final example of major reporting gaps concerns the social inclusion of smallholder farmers. Indicators related to "social practices in the supply chain" (Table 2) tend to be vague. Examples are "Company structure benefiting community" (B Corp) or "Deploy

contracting practices, educational approaches and new technologies to create equitable distribution of value for farmer livelihoods and rural communities" (WBCSD). They do not require companies to report against any standards, for example for living wages or decent living conditions of smallholder farmer.



**TABLE 3: PERCENTAGE OF INDICATOR CATEGORIES IN REPORTING STANDARDS, FRAMEWORKS AND CERTIFICATIONS**

SUSTAINABILITY REPORTING STANDARDS, FRAMEWORKS, AND CERTIFICATIONS	ATNI	B CORP	CDP	DOW JONES SI	FSC	GRI	OECD-FAO	RSPO	SASB	UN GLOBAL COMPACT	WBA	WBCSD	TOTAL
Qualitative indicators	64%	43%	72%	33%	100%	34%	100%	93%	17%	82%	47%	100%	65%
Quantitative indicators	24%	31%	18%	38%	0%	65%	0%	2%	83%	18%	53%	0%	24%
Binary (Yes/No) indicators	0%	25%	2%	8%	0%	0%	0%	0%	0%	0%	0%	0%	7%
Company-determined indicators	12%	1%	7%	21%	0%	0%	0%	0%	0%	0%	0%	0%	3%
Spatially or coordinate explicit indicators	0%	0%	2%	0%	0%	1%	0%	5%	0%	0%	0%	0%	1%
TOTAL	100%	100%	101%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Tracking progress towards the quantitative, timebound SDGs requires quantitative information, so we explore whether available reporting frameworks request quantitative information. On average, 65% of questions refer only to qualitative information (**Table 3**), which of course makes it difficult to measure and compare company performance. A lot of questions focus on the availability of company policies, standard operating procedures, activity logs and other process indicators (e.g. signed sheets of training received by employees). Only 24% of questions asked to companies in the monitoring mechanisms that we analyzed required quantitative information that could help determine if companies are on track to achieving the SDGs. Where quantitative information is requested it is usually not supported by quantitative targets. The remaining 7% are questions that require yes/no answers. Examples include "Is there a Board Review of Social or Environmental Performance? Yes or No" (B Corp) or "Is there Government Ownership (having more than 5% voting rights)? Yes or No" (DJSI). Some of the indicators are determined by the companies themselves (3%), which is useful for setting targets, but which gives the possibility to companies to set targets that are easy to achieve. Finally, 1% of indicators ask spatially explicit information to companies (e.g. "For any conflict or dispute over the land, the extent of the disputed area is mapped out in a participatory way with involvement of affected parties (including neighboring communities

where applicable)" (RSPO), or "Please provide all available geolocation data for your facilities." (CDP Water)). However, it is not clear how this descriptive framing can be useful for monitoring.

Overall, our analysis suggests major deficiencies in SDG alignment across the analyzed reporting frameworks. Most of the information requested from companies is purely descriptive and therefore insufficient to track progress towards quantitative, time-bound SDGs. In terms of coverage, the vast majority of indicators focus on the production Pillar 2, leaving major reporting gaps in other areas. Similarly, the coverage of topics that the food and agriculture sector needs to tackle (**section 3**) remains highly incomplete.

A man with a beard and a woman in business attire are looking at a laptop screen. The man is sitting at a desk, and the woman is standing next to him, pointing at the screen. The background is a blurred office setting with a window.

# **5 EVIDENCE FROM COMPANIES' SUSTAINABILITY REPORTS**





The sustainability of food systems is increasingly questioned in light of the several global social, environmental, health, and economic challenges of the current scenario.

These challenges have been further exacerbated by the recent COVID-19 pandemic, which definitively highlighted the relationship between sustainable food production, healthy food and the wellbeing of people, and brought more concerns about food security and access to healthy food.

In the last few months, the European Green Deal and the Farm to Fork Strategy provided clear examples of the relevance given by European authorities to the transition to a sustainable food system, with the explicit aim of making European food 'the global standard for sustainability'.

In this context, food companies are called to give a crucial contribution. The Farm to Fork Strategy states the avowed intention of the Commission to improve the corporate governance framework *including a requirement for the food industry to integrate sustainability into corporate strategies*.<sup>72</sup>

Although some food companies are making great efforts, more business action is required. Business organizations should move from "business as usual" to sustainable business models and align their strategic objectives and initiatives with the Agenda 2030, defining, monitoring and disclosing targets coherent with the achievement of SDGs.

The remainder of this chapter is structured as follows. The first paragraph provides the objectives of the analysis. In particular, a new Analytical Framework is proposed, by combining the 'Four Pillar Framework' described in section two and the key topics to be tackled by agri-food companies identified in section three. This Framework is then compared with the materiality assessments performed by companies in our sample and by SASB and making reference to the provisions of the European Commission's normative framework. Then a deep analysis of companies' disclosures is done, using our 'Four Pillar Framework'. It concludes with a discussion of major findings.

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## 5.1 OBJECTIVES OF THE ANALYSIS OF SUSTAINABILITY REPORTS

The first edition of the Report “Fixing the Business of Food”, presented in September 2019 in New York at the occasion of the 74th U.N. General Assembly, highlighted that although numerous firms started working to align towards sustainable development transformations, through the implementation of frameworks and standards, the adoption of sector-specific accountability mechanisms and taking part to dedicated initiatives and round tables, many others are “*not yet prepared to face these new responsibilities and demands for accountability*”.

Even in the sample we analyzed in 2019, made of 10 companies with a high reputation for attention given to sustainable development issues, sustainability reporting systems remained highly idiosyncratic and incomplete.

A main outcome of last year's “Fixing the Business of Food” Report was the proposal of Four Pillars of alignment of companies' activities with Agenda 2030 and the SDGs.

Based upon the recommendations and results of the “Fixing the Business of Food” Report 2019, this year a deep qualitative analysis was carried out to verify how food companies reported on the Four Pillars of alignment analysis of business reporting.

### TO THIS GOAL:

1. A new analytical framework ('Four Pillar Framework') was defined, classifying key topics on the relevant Pillars;
2. This Framework was compared with the materiality defined by companies in our sample and by SASB;
3. This Framework was also compared with the provisions of the EC Farm to Fork Strategy;
4. A deep analysis of companies' disclosures was done, using the Framework.

More in details, the Framework was used to explore:

- Gaps existing in terms of Pillars and Topics disclosed;
- If existing gaps were due to a lack of disclosure or to the materiality analysis conducted by each company to prepare its Sustainability Report;
- If companies set out specific objectives and targets for each pillar and topics;
- If companies made disclosures by product line, country, and supply chain;
- What the accountability mechanisms used to report each Topic were.



## 5.2 THE KEY TOPICS TO ASSESS SUSTAINABILITY REPORTS

In section 2 of this Report, each of the Four Pillars of alignment proposed by Fixing the Business of Food in 2019 were broken down into key areas, also taking advantage of the cooperation with WBA and Food Foundation.<sup>73</sup>

In order to assess sustainability reports, 18 key topics were selected among those key areas, as shown in **Table 4**.

Considering the relevance of most topics for more than one Pillar, we indicated (with numbers before the title of the key topic) which other Pillars are affected by each topic. In order to facilitate the reading of the document and the discussion of findings, each topic is commented in the context of the Pillar in which it was initially included.

**TABLE 4: THE FOUR PILLARS AND KEY TOPICS**

PILLARS	KEY TOPICS (NUMBERS INDICATE INTERSECTION OF TOPICS WITH OTHER PILLARS)	TOPIC TYPES
<b>Beneficial products and strategies</b>	2, 3 Healthy and sustainable product portfolios	<b>Nutrition</b>
	2, 3, 4 Healthy eating and lifestyle promotion	
	3 Undernutrition	
	2, 3 Food Safety	
<b>Sustainable business operations and internal processes</b>	3 Air and climate	<b>Environment</b>
	3, 4 Nature and biodiversity	
	3 Sustainable food production and sourcing	
	3 Securing sustainable water supply for human use and ecosystems	
	3 Waste (food loss & waste and packaging waste)	
	3 Animal welfare	
	3 Diversity and inclusion practices	<b>Social inclusion &amp; governance</b>
<b>Sustainable supply and value chains</b>	Corporate governance system oriented towards sustainability	
	2 Labor rights and decent work	
<b>Good corporate citizenship</b>	Decent standard of living for smallholder farmers	
	2 Resource rights	
	Community engagement	
	Corporate taxation	
	Anti-corruption	

## 5.3 ANALYSIS OF THE 'FOUR PILLAR FRAMEWORK' USING THE MATERIALITY PERSPECTIVES DEFINED BY COMPANIES OF OUR SAMPLE AND BY SASB

The aim of the **Four Pillar Framework** is to represent a comprehensive approach to show issues relevant for food companies willing to enact sustainable strategies. To this aim the Four Pillar Framework represents a comprehensive approach to tackle issues that several standard-setting bodies and sustainability reporting systems have identified as material to stakeholders of the food industry (customers, employees, and investors).

### DEFINING MATERIALITY

The materiality of a topic determines the extent to which it is relevant for a company. To assess whether a topic is material or not, a company undergoes a materiality assessment. In this process, *"companies not only ascertain the relevance of a specific sustainability topic from a stakeholder perspective but also assess the company's own impacts with respect to the topic"*.<sup>74</sup>

The Corporate Reporting Dialogue (CRD)<sup>75</sup> recognizes that materiality ought to be evaluated in context and according to its scope; what may be material to certain stakeholders, such as employees and customers, may not be relevant for other stakeholders, such as investors.

*"The definition of materiality focuses on the material information needs of the primary stakeholders for the report being issued. Further, the focus of reporting should be on primary stakeholders as a group and not on a single or atypical stakeholder or one who is behaving unreasonably or irrationally. (...) Material information is that, which is reasonably capable of making a difference to the proper evaluation of the issue at hand"*.<sup>76</sup>

Hence, materiality appears to possess a double nature, respectively, non-financial and financial. This has been further confirmed in the Consultation Document on the Update of the Non-Binding Guidelines on the EU Non-Financial Reporting Directive (NFRD) issued by the EU Commission in 2019.<sup>77</sup> The Consultation Document clarified the EU's position by stating that the NFRD has a double materiality perspective:

*The Reference to the company's "development, performance [and] position" indicates financial materiality (...) The reference to "impact of [the company's] activities" indicates environmental and social materiality.*

A clear example of the dual nature of materiality is to be found in the definition that the Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board<sup>78</sup> give to this concept. The former defines as material those topics that reflect the organization's significant economic, environmental and social impacts, that substantially influence the assessments and decisions of stakeholders.<sup>79</sup> The latter instead adopts the definition established under US securities law information, according to which an information is deemed to be 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."*



The scope of the definition provided by GRI is to serve a broad audience of stakeholders, and materiality is understood as the threshold to which information becomes important. As well known, differently, SASB identifies those sustainability issues that affect companies' financial performance and that are therefore financially material for investors.

Although GRI acknowledges that materiality has two dimensions (*the significance of the organization's economic, environmental, and social impacts and their substantive influence on the assessments and decisions of stakeholders*),<sup>80</sup> it **does not yet provide metrics to identify what may be material. SASB provides standards by classifying ESG issues** by industry (77 organized into 11 sectors), by degree (high or medium), and can be used by all public companies. It is worth noticing that SASB provides standards only for those ESG issues that are relevant to investors. Thus, it focuses only on a few of those topics that might be as well covered by GRI and provides specific standards for them. Nonetheless, SASB provides specific Disclosure Topics, Metrics and Sub-Metrics which are very useful to ensure the consistent application of reporting systems over ESG issues. Taking into account the limitations of SASB and GRI, we have analyzed the materiality of the *Four Pillar Framework* from a financial and non-financial perspective. The process to determine the double materiality of the *Four Pillar Framework* was carried out in two separate ways according to the perspectives explored, namely, the financial relevance and the non-financial relevance of the topics and Pillars.

## THE FINANCIAL RELEVANCE OF THE FOUR PILLAR FRAMEWORK USING SASB

The financial relevance of the *Four Pillar Framework* was identified by carrying out a cross-analysis between the *Four Pillar Framework* and SASB Disclosure Topics and Metrics per the relevant industries in which we have classified of our sample, namely, Processed Foods; Non-Alcoholic Beverages; Food Retailers & Distributors. This analysis does not aim to assess whether SASB standards are comprehensive, but rather it aims to understand whether the topics of the *Four Pillar Framework* "are reasonably likely to have material impacts on the financial condition or operating performance of companies in an industry".<sup>81</sup>

We took the SASB Disclosure Topics and Metrics for the Processed Foods and analyzed whether SASB Disclosure Topics moderately covered the topics of the *Four Pillar Framework*. By *moderately*, we herein intend that the cross-analysis was carried out by assessing whether SASB standards covered at least one of the definitions provided for disclosure topics of the *Four Pillar Framework*. For example, within the Processed Foods industry, SASB assesses Food Safety as a material topic for the industry and provides four accounting metrics to assess it<sup>82</sup>, which relate to the topic of *Food safety*. Hence, in the analysis the topic *Food safety* has been marked as being financially material, in other words as having a material impact on the financial condition or operating performance of a company in the processed food industry. Nonetheless, we recognize that the nature of *Four Pillar Framework* and SASB standards are very different and that SASB Disclosure Topics follow a different rationale compared to key topics we identified in [section 3](#). For these reasons, we have reported the results of the analysis between SASB Disclosure Topics and key topics as varying between *moderate* and *no coverage*. Subject to these conditions, the analysis yielded an interesting result; eight topics of the *Four Pillar Framework* are financially relevant for the processed foods industry; four topics of the *Four Pillar Framework* are financially relevant for the alcoholic beverages industry; and eight topics of the *Four Pillar Framework* are financially relevant for the food retailers and distributors industry.

The implications of this preliminary analysis are mainly two. Firstly, the key topics proposed in our *Four Pillar Framework* possess commonalities with SASB standards. Second, based upon these commonalities, we are able to shed light on the financial relevance that these topics have. The results of this analysis are reported in [Table 5](#).

**TABLE 5: THE ANALYSIS OF THE FRAMEWORK'S FINANCIAL MATERIALITY  
ADOPTING SASB'S PERSPECTIVE**

( ✓ means moderate coverage, empty means no coverage)

PILLARS	TOPICS	SASB MATERIALITY ANALYSIS		
		PROCESSED FOODS	ALCOHOLIC BEVERAGES	FOOD RETAILERS & DISTRIBUTORS
Beneficial products and strategies	2, 3 Healthy and sustainable product portfolios	✓		✓
	2, 3, 4 Healthy eating and lifestyle promotion	✓	✓	✓
	3 Undernutrition			
	2, 3 Food Safety	✓		✓
Sustainable business operations and internal processes	3 Air and climate			✓
	3, 4 Nature and biodiversity			
	3 Sustainable food production and sourcing	✓		✓
	3 Securing sustainable water supply for human use and ecosystems	✓	✓	
	3 Waste	✓	✓	✓
	3 Animal welfare	✓	✓	✓
	3 Diversity and inclusion practices			
	Corporate governance system oriented towards sustainability			✓
Sustainable supply and value chains	2 Labor rights and decent work	✓		
	Decent standard of living for smallholder farmers			
Good corporate citizenship	2 Resource rights			
	Community engagement			
	Corporate taxation			
	Anti-corruption			



## THE NON-FINANCIAL RELEVANCE OF THE FOUR PILLAR FRAMEWORK: A COMPANY-BASED PERSPECTIVE

GRI provides the following definition for materiality in the sustainability reporting context: "*materiality is the principle that determines which relevant topics are sufficiently important that it is essential to report on them. Not all material topics are of equal importance, and the emphasis within a report is expected to reflect their relative priority*".<sup>83</sup> Moreover, GRI declares that the implementation of this principle is fundamental in ensuring disclosure over sustainability topics relevant to businesses' activities and stakeholders. Nonetheless, it leaves the discretionary power of selecting the material topics to companies.

Acknowledging the conformity of our sample to GRI (all companies have adopted GRI), to assess the relevance of key topics described in section 3, for our sample we began by looking at how they applied to the GRI materiality reporting principle (part of GRI 101). We analyzed which topics were declared as relevant by the materiality assessments undertaken by the 12 companies of our sample. This analysis was carried out by taking into account the companies' most recent materiality assessments.

The tool used to assess material topics varies from company to company; we collected data from materiality matrices and materiality results stemming from stakeholder consultations, as well as ad hoc reports and publicly available information on corporate websites. The most widely used materiality assessment tool is the materiality matrix (10 companies out of 12 use this tool), yet a few exceptions exist. Two out of the 12 companies of our sample disclosed information over which topics their stakeholders deemed to be relevant, yet they did not provide neither a visualization nor a comment that could relate these results to the business.

Considering the different wording used by companies in defining material topics as compared to the *Four Pillar Framework*, the cross-analysis was carried out by assessing whether the description of the topics identified as material by companies in their materiality assessments moderately covered the aim of the key topics, covered it partially, or did not cover it at all. The aggregate results were obtained in a two-step process. First, the three degrees of no coverage, partial coverage, moderate coverage were converted into a scale that ranged from 0 to 1 ([0] *no coverage*; [0,5] *partial coverage*;<sup>84</sup> [1] *moderate coverage*<sup>83</sup>). Second, the average per each topic was computed for the sample and then reported in percentages. The results show that eight out of the 18 key topics were detected as relevant in the materiality assessments undertaken by companies. For example, on average ten out of 12 companies declared that *Healthy eating and lifestyle promotion* is relevant for their business and their stakeholders to a certain degree. In particular, eight companies out of 12 were *moderately* aligned to the key topics, whereas four companies out of 12 were *partially* aligned to the topics. As far as Undernutrition, on average, half of the companies declared that such topic is relevant for their business and their stakeholders to a certain degree. Specifically, only three companies out of 12 were moderately aligned to the key topics, whereas 5 companies out of 12 were partially aligned to the topics in the *Four Pillar Framework* and four companies did not mention this topic as material.

The results provided in the table below show that certain topics require due notice and a major effort by companies; they are deemed relevant by our sample. To this extent the key topics in the *Four Pillar Framework* may represent a guiding tool for companies. Indeed, the *Four Pillar Framework* may represent a systematic and consistent approach for companies to disclose relevant environmental, social wellbeing, and societal perspectives.

**TABLE 6: THE ANALYSIS OF THE NON-FINANCIAL RELEVANCE OF THE FRAMEWORK  
ACCORDING TO THE MATERIALITY ASSESSMENTS CARRIED OUT BY THE 12 COMPANIES**

PILLARS	TOPICS	RELEVANCE OF THE TOPICS ACCORDING TO THE MATERIALITY ASSESSMENTS OF THE SAMPLE (RANGE OF COMPANIES DECLARING THE TOPICS IN THEIR MATERIALITY ASSESSMENT)
<b>Beneficial products and strategies</b>	2, 3 Healthy and sustainable product portfolios	76%-100%
	2, 3, 4 Healthy eating and lifestyle promotion	76%-100%
	3 Undernutrition	26%-50%
	2, 3 Food Safety	76%-100%
<b>Sustainable business operations and internal processes</b>	3 Air and climate	76%-100%
	3, 4 Nature and biodiversity	26%-50%
	3 Sustainable food production and sourcing	76%-100%
	3 Securing sustainable water supply for human use and ecosystems	51%-75%
	3 Waste	76%-100%
	3 Animal welfare	51%-75%
	3 Diversity and inclusion practices	76%-100%
	Corporate governance system oriented towards sustainability	26%-50%
<b>Sustainable supply and value chains</b>	2 Labor rights and decent work	51%-75%
	Decent standard of living for smallholder farmers	26%-50%
<b>Good corporate citizenship</b>	2 Resource rights	0%-25%
	Community engagement	76%-100%
	Corporate taxation	0%-25%
	Anti-corruption	26%-50%



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## 5.4 THE NORMATIVE FRAMEWORK OF THE EUROPEAN UNION ON FOOD SYSTEMS: FROM THE EUROPEAN GREEN DEAL TO THE FARM TO FORK STRATEGY AND THE COMMON AGRICULTURAL POLICY (CAP)

The key role of companies to transform the food sector in line with the Agenda 2030 is strengthened by the fact that at the international level, institutions paid great attention to this issue. For instance the European Commission responds to the challenges of environmental degradation and climate change through a powerful set of measures like the European Green Deal, the Farm to Fork Strategies, and the CAP, but also specific rules for the private and investment sectors like the regulation on the establishment of a framework to facilitate sustainable investment.<sup>86</sup>

The European Green Deal<sup>87</sup> aims to “transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use”. The European Green Deal acknowledges the important role that business organizations play. Mobilising industry for a clean and circular economy, is part of the strategy laid out by the European Union. To this extent, The European Green Deal recognizes that corroborating corporate green claims by providing reliable, comparable, and verifiable information is an important part of this process; it enables buyers to make sustainable decisions.

The Farm to Fork Strategy is part of The European Green Deal. It represents the EU's comprehensive approach to the challenges of sustainable food systems by recognizing the inextricable links between healthy people, healthy societies and a healthy planet (COM/2020/381). The Strategy laid down by the Commission, aims at fostering the sustainability of food systems by: “reducing the environmental and climate footprint of the EU food system and strengthening its resilience, ensuring food security in the face of the climate change and biodiversity loss, and leading a global transition towards competitive sustainability from farm to fork and leveraging the new opportunities”.

To this aim, the Commission has proposed a number of targets and initiatives that shall drive the EU towards these achievements. At the EU level the Commission will propel:

- a reduction of CO2 emissions towards 50%-55% compared with 1990 levels by 2030;
- a reduction in the use and risk of chemical pesticides by 50% by 2030;
- a reduction of hazardous pesticides by 50% by 2030;
- a reduction in soil nutrient losses by at least 50%, consequently enforcing a reduction of the use of fertilizers by at least 20% by 2030;
- a reduction in EU sales of antimicrobials for farmed animals and in aquaculture by 50% by 2030;
- reach the objective of at least 25% of the EU's agricultural land under organic farming by 2030;
- support the creation of shorter supply chains that shall reduce dependence on long-haul transportation;
- the promotion of sustainable food consumption through several initiatives (e.g. harmonised mandatory front-of-pack nutrition labelling and tax incentives to encourage consumers to choose sustainable and healthy diets);
- halving per capita food waste at retail and consumer levels by 2030, to this aim it shall propose legally binding targets.

Acknowledging the relevance that the Farm to Fork strategy has for our sample (seven out of 12 companies analyzed are EU based) and the importance it will have for companies in the upcoming years, we have carried out an analysis over the applicability of the Four Pillar Framework in relation to the EU strategy. The aim of this analysis is to understand whether the Four Pillar Framework may represent a useful tool for companies in assessing their degree of maturity in tackling issues set in the Farm to Fork strategy (F2F). To this extent, we have mapped the action plans and targets declared in F2F and further discussed in the The Farm to Fork Strategy implications for agriculture and the CAP of the European Parliament in relation to the pillars of

the Four Pillar Framework. Although the F2F targets have not yet been discussed at the company level, our analysis sheds light on the consistency between the broad F2F commitments and the Four Pillar Framework. In **Table 7** we outline the consistency between the targets set in F2F at the EU level. Overall, the analysis acknowledges the consistency between the Four Pillar Framework and the action plans, targets and initiatives declared in F2F. These findings stress how the Four Pillar Framework may represent a useful tool for companies to assess in a comprehensive way their degree of maturity in relation to sustainability issues even from an EU perspective.

**TABLE 7: THE RELEVANCE OF THE FRAMEWORK IN RELATION TO THE FARM TO FORK STRATEGY**

Pillars	Topics	Targets set in the EU Strategy F2F	Further initiatives declared in EU Strategy F2F	Action n° per F2F obj.
<b>Beneficial products and strategies</b>	2, 3 Healthy and sustainable product portfolios		EU tax systems should also aim to ensure that the price of different foods reflects their real costs in terms of use of finite natural resources, pollution, GHG emissions and other environmental externalities.	
			The Commission will seek commitments from food companies and organisations to take concrete actions on reformulating food products in line with guidelines for healthy, sustainable diets.	13
	2, 3, 4 Healthy eating and lifestyle promotion		The promotion of sustainable food consumption through several initiatives (e.g. harmonized mandatory front-of-pack labelling).	20
			The Commission will seek commitments from food companies to take concrete action on adapting marketing and advertising strategies, taking into account the needs of the most vulnerable.	13
	3 Undernutrition		To improve the availability and price of sustainable goods and to promote healthy and sustainable diets, the Commission will determine the best way of setting minimum mandatory criteria for sustainable food procurement.	
	2, 3 Food Safety	25% of the EU's agricultural land under organic farming by 2030	The Commission will revise the food contact materials legislation to improve food safety and public health.	12

#### LEGEND

NOT COVERED	INITIATIVES PROPOSED	INITIATIVES THAT CALL UPON COMPANIES TO ACT	TARGETS SET
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**TABLE 7: THE RELEVANCE OF THE FRAMEWORK IN RELATION TO THE FARM TO FORK STRATEGY (CONTINUED)**

Pillars	Topics	Targets set in the EU Strategy F2F	Further initiatives declared in EU Strategy F2F	Action n° per F2F obj.
Sustainable business operations and internal processes	3 Air and climate	reduction of CO2 emissions towards 50%-55% compared with 1990 levels by 2030		
	3, 4 Nature and biodiversity	reduction in soil nutrient losses by at least 50%		3
	3 Sustainable food production and sourcing	reduction of the use of fertilizers by at least 20% by 2030		3
		reduction of hazardous pesticides by 50% by 2030		4
		25% of the EU's agricultural land under organic farming by 2030		12
		reduction in soil nutrient losses by at least 50%		3
		reduction in the use and risk of chemical pesticides by 50% by 2030		4
	3 Securing sustainable water supply for human use and ecosystems	reduction in EU sales of antimicrobials for farmed animals and in aquaculture by 50% by 2030		18
	3 Waste	Halving per capita food waste at retail and consumer levels by 2030, to this aim it shall propose legally binding targets	The Commission will seek commitments from food companies to take concrete action on reducing food packaging in line with the new CEAP.	26/13
	3 Animal welfare	reduction in EU sales of antimicrobials for farmed animals and in aquaculture by 50% by 2030		8
Sustainable supply and value chains	3 Diversity and inclusion practices			
	4 Corporate governance system oriented towards sustainability		The Commission is also preparing an initiative to improve the corporate governance framework, including a requirement for the food industry to integrate sustainability into corporate strategies.	13
	2 Labor rights and decent work		The Commission will take action to scale up and promote sustainable and socially responsible production methods.	
Good corporate citizenship	Decent standard of living for smallholder farmers			
	2 Resource rights			
	Community engagement			
	Corporate taxation		Tax incentives should also drive the transition to a sustainable food system and encourage sustainable and healthy diets.	
	Anti-corruption		The Commission will propose stricter dissuasive measures, better import controls and examine the possibility to strengthen coordination and investigative capacities of the European Anti-Fraud Office (OLAF).	19

**LEGEND**

NUTRITION	INITIATIVES PROPOSED	INITIATIVES THAT CALL UPON COMPANIES TO ACT	TARGETS SET
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## 5.5 ANALYSIS OF COMPANIES' SUSTAINABILITY REPORTS

### METHODOLOGY

Our analysis examined publicly available information of non-financial data published by twelve global companies on their official corporate website.<sup>88</sup> The analysis was mainly conducted on the sustainability documents referring to the years 2018 and 2019, for a total number of 24 analyzed reports over the period from February to June 2020. The collection of data was conducted analyzing what companies disclosed for each key Topic in terms of results, previously defined quantitative targets, baselines, and the accountability mechanisms used, for the years 2018 and 2019. A key issue of our analysis is the reference made or not made by the company to previously defined targets.

A company, for instance, can disclose the quantity of GHG emissions in a given year, specifying a long-term target through a metric or not specifying any target. In some cases, when long-term targets are set, intermediate targets are also disclosed. This is not enough to ensure alignment with SDGs, because it is also necessary that the long-term target and the metrics are aligned with achievement of the SDGs. In any case, defining a long-term target is a clear signal of strategic relevance given by the company to that topic. Sometimes, the achievement of set targets is also disclosed. We took notice of that as well. More precisely:

a. For each key topic of the 'Four Pillar Framework', the following variables were investigated:

- **Disclosures** by each company for the years 2018 and 2019;
- **Previously defined quantitative targets** if declared or not declared;
- **Accountability Mechanisms** used to measure the performances;
- **Disclosure by country, by product line and by supply chain** in addition to the company level.

b. The following variable was investigated for Pillar 1 and Pillar 2 topics:

- **Disclosure by product line** (in addition to the company level)

c. The following variable was investigated only for all the Topics of Pillar 1 and for the Topic 'Air and Climate' of Pillar 2:

- **Disclosure by supply chain** (in addition to the company level)

d. Two general variables were also considered:

- **External Assurance Process**, that is if the company declared to have submitted its Sustainability Report to an external control body;
- **SDGs Alignment**, that is if the company declared the implementation of SDGs issues within its Management System.

e. Finally, as previously said, the companies' **materiality analyses**, based on public consultations undertaken with their stakeholders, were studied to understand the extent to which each Topic of the Four Pillars was considered as material by each company. For each Topic, therefore, the average percentage of their materiality for the companies is reported, to be compared with the disclosures presented in the Sustainability Report.

### COMPOSITION OF THE SAMPLE

The global companies analysed in this study were selected according to the following criteria:

- Nine of them were selected from the set of 10 companies analyzed in the first edition of the "Fixing the Business of Food" report<sup>89</sup>;
- Three new companies were added, to represent the major countries subjected to the European Directive 2014/95. METRO, Ab InBev and MARR were thus selected among the largest 3 companies in market value in their respective countries (source: Thomson Reuters).

The specific industry and the countries where companies operate are reported in **Table 8**.

**TABLE 8 : COMPOSITION OF THE SAMPLE FOR THE COMPANIES' ANALYSIS**

SUB-SECTOR	NAME OF COMPANY	COUNTRY
Processing	Danone*°	France
Processing	Barilla°	Italy
Processing	Ajinomoto°	Japan
Processing	Unilever*°	Holland
Processing	Nestlè°	Switzerland
Processing	Kellogg°	United States
Processing	Ab InBev*	Belgium
Distribution	Walmart°	United States
Distribution	Metro*	Germany
Distribution	Marr*	Italy
Distribution	Carrefour*°	France
Distribution	Tesco* °	UK

Data: ° 2017 Reports were analyzed in the 2019 FTBF Report

\* Subject to the EU directive during the financial years considered



## DISCLOSURES BY TOPIC AND DISCLOSURE OF TARGETS

In this section the analysis of findings will be discussed Pillar by Pillar. For each Pillar two main analyses are performed:

- The percentage of companies which made a disclosure for each Topic of the Pillar;
- The percentage of companies which made disclosures on targets and achievement of targets with reference to the whole Pillar

In particular, in **Table 9**, **Table 11**, **Table 13**, and **Table 15**:

- The first column offers a short description of Topics;
- The second column reports the percentage of companies declaring that the topic is material for them;
- The third and fourth columns indicate the percentage of companies disclosing that topic for the years 2018 and 2019;
- The last column indicates the accountability mechanism used for each topic by the companies of our sample.

In **Figure 4**, **Figure 5**, **Figure 6**, and **Figure 7** are reported the percentage of companies that, for every year, have disclosed the following information with reference to the whole Pillar:

- **No disclosure**
- **Disclosure without a target:** they disclosed achieved results, without having declared targets;
- **Disclosure with a target:** they disclosed achieved results, having previously declared targets and related metrics;
- **Disclosure with a target and intermediated targets:** they disclosed achieved results, having also declared intermediate targets;
- **Achievement of a set target:** they achieved disclosed targets.

### a. Analysis of Pillar 1: Contribution to healthy and sustainable dietary patterns through products and strategies.

#### *Disclosure by topic*

**Table 9** shows that disclosure of information over Topic 1 (Developing healthy and sustainable product portfolios), 2 (Healthy eating and lifestyle promotion), and 4 (Food safety) is high and three out of four companies have increased the amount of information disclosed from the year 2018 to 2019. In general, for all the topics the amount of disclosure increases from year to year. Topic 3 (Undernutrition) seems the less discussed with a percentage of 42% in the year 2018 to a 67% for 2019.

This is in line with the materiality assessment by the companies. (As reported in **Table 9** Topics 1, 2 and 4 are material for 75% of the sample's companies, whereas Topic 3 is considered to be material for 68% of the sample's companies.)

Regarding the differences within the sub-industries, companies originating from the "Food Processing" and "Beverage" industries have the highest percentage of disclosure (close to 100%) followed by Food Retail & Distribution (close to 80%).

#### *Disclosures on achievement of targets*

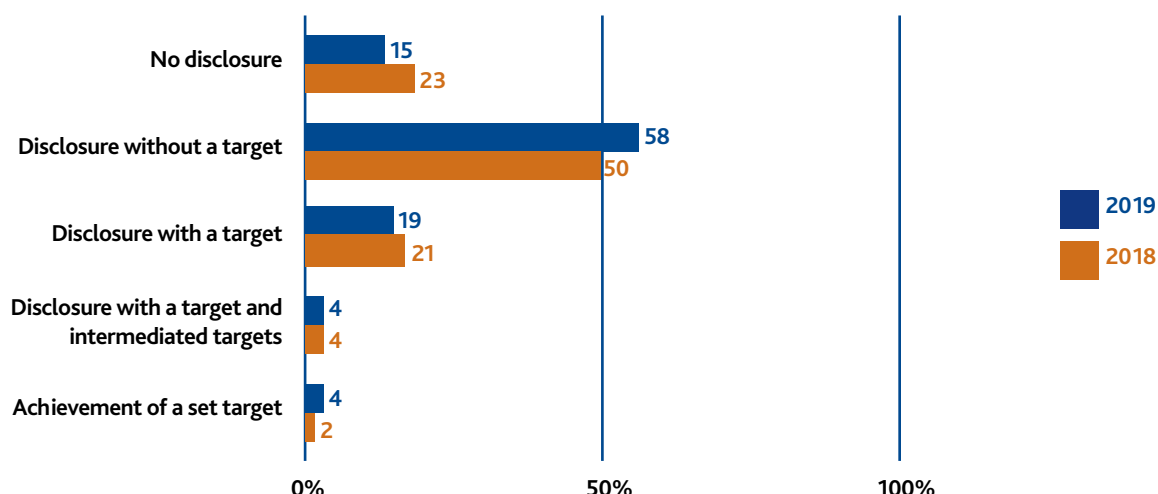
As shown in **Figure 4**, 58% (2019) and 50% (2018) of the analyzed topics companies report the achievement results without making reference to any specific targets.

This suggests that although companies do extensively disclose information on Pillar 1, they do not explicate how they measure their progress. This makes it difficult for stakeholders to evaluate the business organization's progression. Both in 2018 and 2019 only 27% of the topics in Pillar 1 have targets and metrics that support the monitoring of the companies. In 2019, for 15% (23% in 2018) of topics there was no disclosure.

**TABLE 9: PERCENTAGE OF COMPANIES DISCLOSING IN PILLAR 1**

PILLAR 1: BENEFICIAL PRODUCTS AND STRATEGIES: CONTRIBUTING TO HEALTHY AND SUSTAINABLE DIETS	MATERIALITY DECLARED BY COMPANIES	TOTAL PERCENTAGE OF DISCLOSURE		ACCOUNTABILITY MECHANISM USED
		'18	'19	
Topic 1: Developing healthy and sustainable product portfolios	75%	100%	92%	WHO; WBCSD;
Topic 2: Healthy eating and lifestyle promotion	75%	92%	100%	ISO 22005; Worldwide Marketing and Communications Guidelines
Topic 3: Undernutrition	68%	42%	67%	ISO9001;
Topic 4: Food safety	75%	75%	83%	Global Food Safety Initiative (GFSI); ISO22000; Food Safety Management System Certification;

**FIGURE 4: ANALYSIS OF PERCENTAGE OF TOPICS DISCLOSURE IN PILLAR 1 (2018-2019)**



**TABLE 10: ANALYSIS OF TOPICS DISCLOSURE ACROSS COMPANIES IN PILLAR 1 (2018-2019)**

	COMPANY 1		COMPANY 2		COMPANY 3		COMPANY 4		COMPANY 5		COMPANY 6		COMPANY 7		COMPANY 8		COMPANY 9		COMPANY 10		COMPANY 11		COMPANY 12	
	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19
1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
3	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
4	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

**LEGEND**

■	No disclosure	■	Disclosure with a target	■	Achievement of a set target
■	Disclosure without a target	■	Disclosure with a target and intermediate targets		



Targets pursued by the companies often have a medium-long term deadline (between five and 10 years). Defining intermediate targets, that is year by year, could facilitate the understanding of "how well" the company is pursuing its sustainable objectives. However, only 4% of topics disclosed has intermediate targets associated with them. The percentage of already achieved targets in 2019 is 4% in 2019 and just 2% in 2018.

## b. Analysis of Pillar 2: Socially and environmentally sustainable production processes, business operations, and management practices

### *Disclosures by topic*

The second Pillar is the most represented Pillar of the whole framework. Indeed, agri-food companies consider environmental topics heavily material, thus having consolidated more experienced in environmental accounting practices rather than on other sustainability topics.

In fact, as reported in **Table 11**, Topic 5 (Air and Climate) is recognized as being material by the 100% of the sample and 83% of companies disclosed

information on this topic. Also, topics 9 (Waste) and 12 (Diversity and Inclusion practices) are widely represented (respectively 100% and close to 80%) in accordance with the materiality analysis. On the contrary, the least disclosed are topics 6 (Nature and Biodiversity), 10 (Animal welfare) and 11 (Corporate Governance System oriented towards Sustainability Issues), with figures higher than the materiality assessment (respectively 50%, 54%, and 54%). On average, topics in Pillar 2 are disclosed by 80% of companies. In terms of distribution of topics across the sub-industries, relevant differences do not seem to emerge.

### *Disclosures on achievement of targets*

As **Figure 5** shows, for 43% (in 2018) and 42% (in 2019) of the analyzed topics, companies report the achieved results by companies within their publicly available non-financial reports with specific results or initiatives, without making reference to targets. Targets were instead indicated for 25% (in 2019) and 26% (in 2018) of Topics. Concerning intermediate targets, 9% (in 2019) and 8% (in 2018) of the Topics were provided with such level of detail.

**TABLE 11: PERCENTAGE OF COMPANIES DISCLOSING PILLAR 2**

PILLAR 2: SUSTAINABLE BUSINESS OPERATIONS AND INTERNAL PROCESSES	MATERIALITY DECLARED BY COMPANIES	TOTAL PERCENTAGE OF DISCLOSURE		ACCOUNTABILITY MECHANISM USED
		'18	'19	
<b>Topic 5:</b> Air and Climate	100%	83%	83%	CDP; Science Based Target; RE100; UNGC;
<b>Topic 6:</b> Nature and Biodiversity	50%	75%	75%	UNGC; MSC; ASC; Global Food Safety Initiative (GFSI)
<b>Topic 7:</b> Sustainable Food Production and sourcing	67%	67%	75%	Forest Stewardship Council (FSC);
<b>Topic 8:</b> Securing sustainable water supply for human use and ecosystems	58%	83%	83%	
<b>Topic 9:</b> Waste (food loss & waste, and packaging waste)	88%	100%	100%	FReSH Program;
<b>Topic 10:</b> Animal welfare	54%	58%	58%	Business Benchmark on Farm Animal Welfare (BBFAW); WWF;
<b>Topic 11:</b> Corporate Governance System oriented towards Sustainability Issues	54%	67%	67%	
<b>Topic 12:</b> Diversity and Inclusion practices	88%	83%	100%	Diversity Brand Index;

This once again confirms that although companies do disclose information across Pillar 2, they should make a major effort in providing the metrics which may validate the information disclosed. Only 5% (in 2019) and 3% (in 2018) of Topics were related to already achieved declared targets and 18% (in 2019) and 21% (in 2018) of the topics were not disclosed.

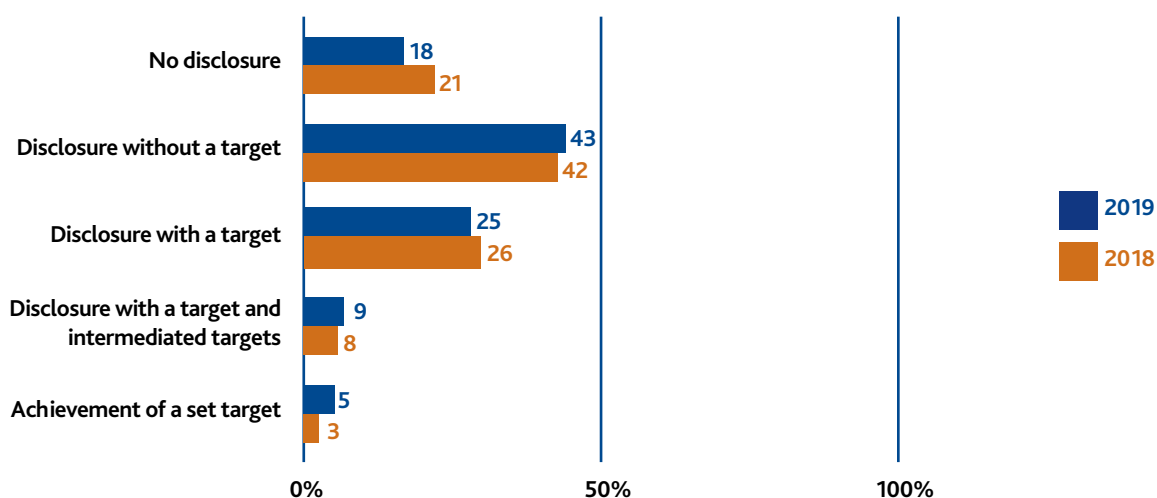
**c. Analysis for Pillar 3: Socially and environmentally sustainable supply chains, value chains, and industries**

*Disclosures by Topic*

The topics of Pillar 3 are complex to disclose, as they imply control over sustainability matters extended to the whole supply chain.

Topics 13 (Labor rights and decent work) and 14 (Decent standard of living for smallholder farmers) are declared material respectively by 63% and 42% of the companies and disclosed by more than 65% of companies over the two financial years considered. The analysis of the sub-industries suggests that the information disclosed for the Pillar is mostly provided by sectors "Beverage" and "Retail & Distribution" and only by about the 50% of "Processing" companies.

**FIGURE 5: ANALYSIS OF PERCENTAGE OF TOPICS DISCLOSURE IN PILLAR 2 (2018-2019)**



**TABLE 12: ANALYSIS OF TOPICS DISCLOSURE ACROSS COMPANIES IN PILLAR 2 (2018-2019)**

TOPIC	COMPANY 1		COMPANY 2		COMPANY 3		COMPANY 4		COMPANY 5		COMPANY 6		COMPANY 7		COMPANY 8		COMPANY 9		COMPANY 10		COMPANY 11		COMPANY 12		DISCLOSURE
	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	
5	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	100%
6	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	71%
7	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	79%
8	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	86%
9	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	100%
10	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	57%
11	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	71%
12	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	86%

**LEGEND**

■	No disclosure	■	Disclosure with a target	■	Achievement of a set target
■	Disclosure without a target	■	Disclosure with a target and intermediate targets		



**TABLE 13: PERCENTAGE OF COMPANIES DISCLOSING IN PILLAR 3**

PILLAR 3: SUSTAINABLE SUPPLY CHAINS AND VALUE CHAINS	MATERIALITY DECLARED BY COMPANIES	TOTAL PERCENTAGE OF DISCLOSURE		ACCOUNTABILITY MECHANISM USED
		'18	'19	
<b>Topic 13:</b> Labour rights and decent work	63%	67%	67%	Fair Trade, UTZ; Rainforest Alliance; ILO;
<b>Topic 14:</b> Decent standard of living for smallholder farmers	42%	67%	75%	SA 8000; Cocoa Horizons Foundation;

#### *Disclosures on achievement of targets*

As shown in **Figure 6** and **Table 14**, Pillar 3 has gaps in relation to the disclosure of targets.

In fact, 67% and 63% of the topics for the fiscal year 2019 and 2018 respectively, were disclosed without providing targets useful to monitor them. Only 4% of them were provided with targets having metrics, which also had intermediate targets for both 2019 and 2018.

#### **d. Analysis for Pillar 4: Good Corporate Citizenship**

##### *Disclosures by Topic*

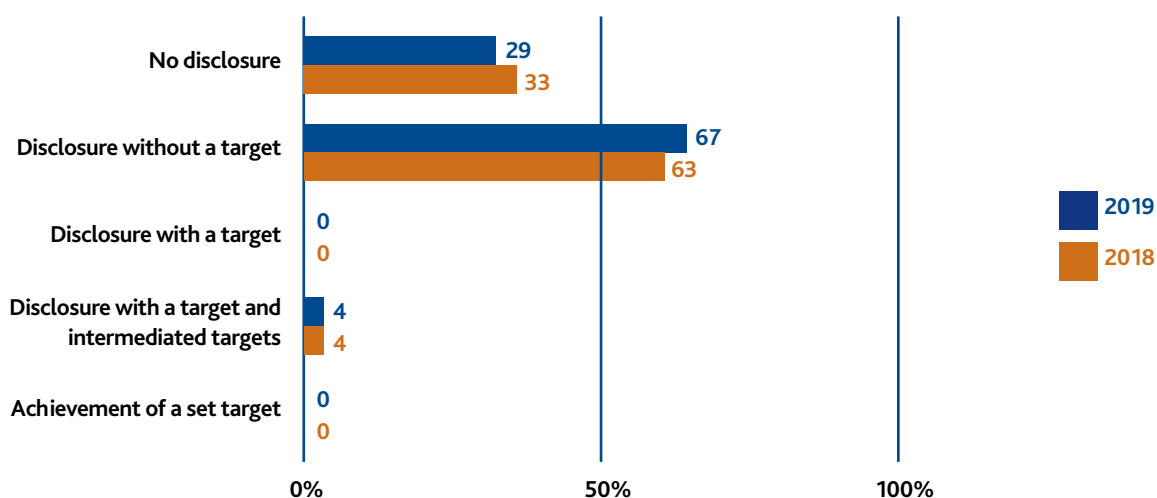
As shown in **Table 15**, 67% (in 2018) and 92% (in 2019) of companies disclosed information about Topic 15 (Community Engagement), a typical issue of corporate social responsibility. For this Topic, such numbers are in line with the materiality analysis which does not give relevance to the other Topics of the Pillar.

Topics 17 (Anti-Corruption) is disclosed by the half of the companies, predominantly operating in the sub-industries "Beverage" and "Food Processing", and material for 25% of the sample. Topic 16 (Corporate Taxation) and 18 (Resource Rights) are not considered critical and are disclosed only by the 8% of the firms in 2019.

#### *Disclosures on achievement of targets*

As shown in **Figure 7** and **Table 16**, Pillar 4 has many gaps in relation to the disclosure of targets: 35% and 29% of the companies' information on topics were reported without providing any target, for the years 2018 and 2019 respectively. Only 2% of the objectives declared by the companies of the sample is associated to a measurable target. In short, Pillar 4 shows gaps for what concerns both the disclosure of information related to the Topics and to the targets.

**FIGURE 6: ANALYSIS OF PERCENTAGE OF TOPICS DISCLOSURE IN PILLAR 3 (2018-2019)**



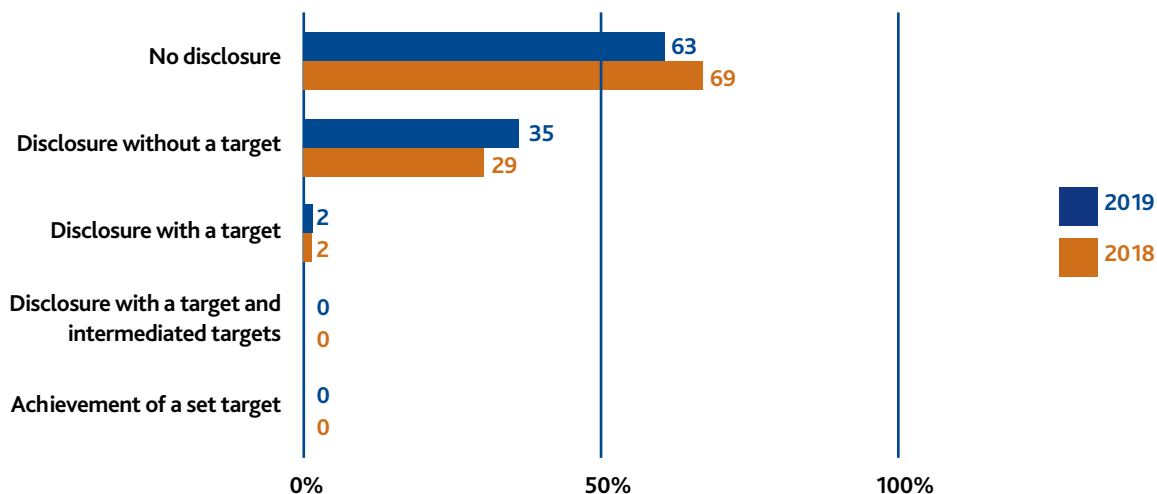
**TABLE 14: ANALYSIS OF TOPICS DISCLOSURE ACROSS COMPANIES IN PILLAR 3 (2018-2019)**

TOPIC	COMPANY 1		COMPANY 2		COMPANY 3		COMPANY 4		COMPANY 5		COMPANY 6		COMPANY 7		COMPANY 8		COMPANY 9		COMPANY 10		COMPANY 11		COMPANY 12	
	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19
13	■	■			■	■	■	■					■	■	■	■	■	■	■	■	■	■		
14	■	■			■	■	■	■	■	■			■	■	■	■		■	■	■	■	■		

**TABLE 15: PERCENTAGE OF COMPANIES DISCLOSING IN PILLAR 4**

PILLAR 4: GOOD CORPORATE CITIZENSHIP	MATERIALITY DECLARED BY COMPANIES	TOTAL PERCENTAGE OF DISCLOSURE		ACCOUNTABILITY MECHANISM USED
		'18	'19	
Topic 15: Community Engagement	71%	67%	92%	
Topic 16: Corporate Taxation	17%	0%	8%	
Topic 17: Anti-Corruption	25%	50%	58%	UNGC
Topic 18: Resource Rights	21%	8%	8%	

**FIGURE 7: ANALYSIS OF PERCENTAGE OF TOPICS DISCLOSURE IN PILLAR 4 (2018-2019)**



**TABLE 16: ANALYSIS OF TOPICS DISCLOSURE ACROSS COMPANIES IN PILLAR 4 (2018-2019)**

TOPIC	COMPANY 1		COMPANY 2		COMPANY 3		COMPANY 4		COMPANY 5		COMPANY 6		COMPANY 7		COMPANY 8		COMPANY 9		COMPANY 10		COMPANY 11		COMPANY 12	
	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19	'18	'19
15		■	■	■	■	■	■	■		■	■	■		■	■	■			■	■	■	■	■	■
16																			■					
17		■	■	■	■						■	■	■	■	■	■								
18		■	■																					

**LEGEND**

□ No disclosure	■ Disclosure with a target	■ Achievement of a set target
■ Disclosure without a target	■ Disclosure with a target and intermediate targets	



## DISCLOSURES BY COUNTRY

Last year's edition of the Fixing the Business of Food Report highlighted how "Companies generally do not report in detail on their supply chains by product line and source regions. Companies offer little disaggregation by source country or product line" (p. 13). In accordance with previous results we have further explored the grade of disaggregation of the information communicated by firms, monitoring if, for the most relevant topics of our Framework, there was a focus by product, country and supply chain. Within such focus, findings are shown in [Figure 8](#), [Figure 9](#), and [Figure 10](#), where results for the 2018 and 2019 analysis are cumulated.

The analysis of the disclosure by country was conducted for all the 18 Topics across the four Pillars.

As [Figure 8](#) shows, the highest level of information provided on the matter was found on Topic 1 (Developing Healthy and sustainable product portfolio), 2 (Healthy eating and lifestyle promotion) and 3 (Undernutrition), with values between 54% and 79%.

These three topics primarily belong to Pillar 1 (Contribution to healthy and sustainable dietary patterns through products and strategies), and the results are aligned with the needs (and in some cases the obligation) for companies that operates in heterogeneous markets to offer deeper and disaggregate information of their product portfolio.

Topics 5 to 12, mainly centered on the aspects of Pillar 2 (Social and environmental sustainability of companies' internal processes), are all disclosed by country with the exception of Topic 10 (Animal welfare) which is underrepresented, with only 13% of companies disclosing any information on it across the two years considered.

Topics 13 and 14, mainly related to the area of interest of Pillar 3 (Social and environmental sustainability of companies' supply chains), were disclosed by country with percentages of only 29% and 42% respectively, demonstrating a rather low attention for geographical aspects concerning living income for smallholder, family, and community farming.

Lower results were registered for Pillar 4 (Corporate Citizenship) with a total lack of data by country for Topics 17 and 18 and only 8% for Topic 16. These results are in line with the general lack of information in Pillar 4.

## DISCLOSURE BY PRODUCT LINE

The analysis of the disclosure by product line (e.g. categories, brands) was for all the topics of Pillar 1 (Contribution to healthy and sustainable dietary patterns through products and strategies) and Pillar 2 (Social and environmental sustainability of companies' internal processes), considering the low relevance of crossing disclosures by product line with the supply chain and good corporate citizenship issues.

Looking at the graph in [Figure 9](#), it emerges that Topic 1 and 2 are both disclosed by 88% of companies. Such results can be easily associated with the firms' necessity to directly inform consumers about the ingredients and nutritional profiles of products (Topic 1). In this sense, marketing campaigns and labelling and traceability activities go hand in hand. As a further step, more should be investigated on the real usefulness of information being disclosed.

It is harder to find a disaggregation by "product line" for topics in Pillar 2. Only Topic 9 has a frequency close to 50%, probably because packaging information is reported directly on products.

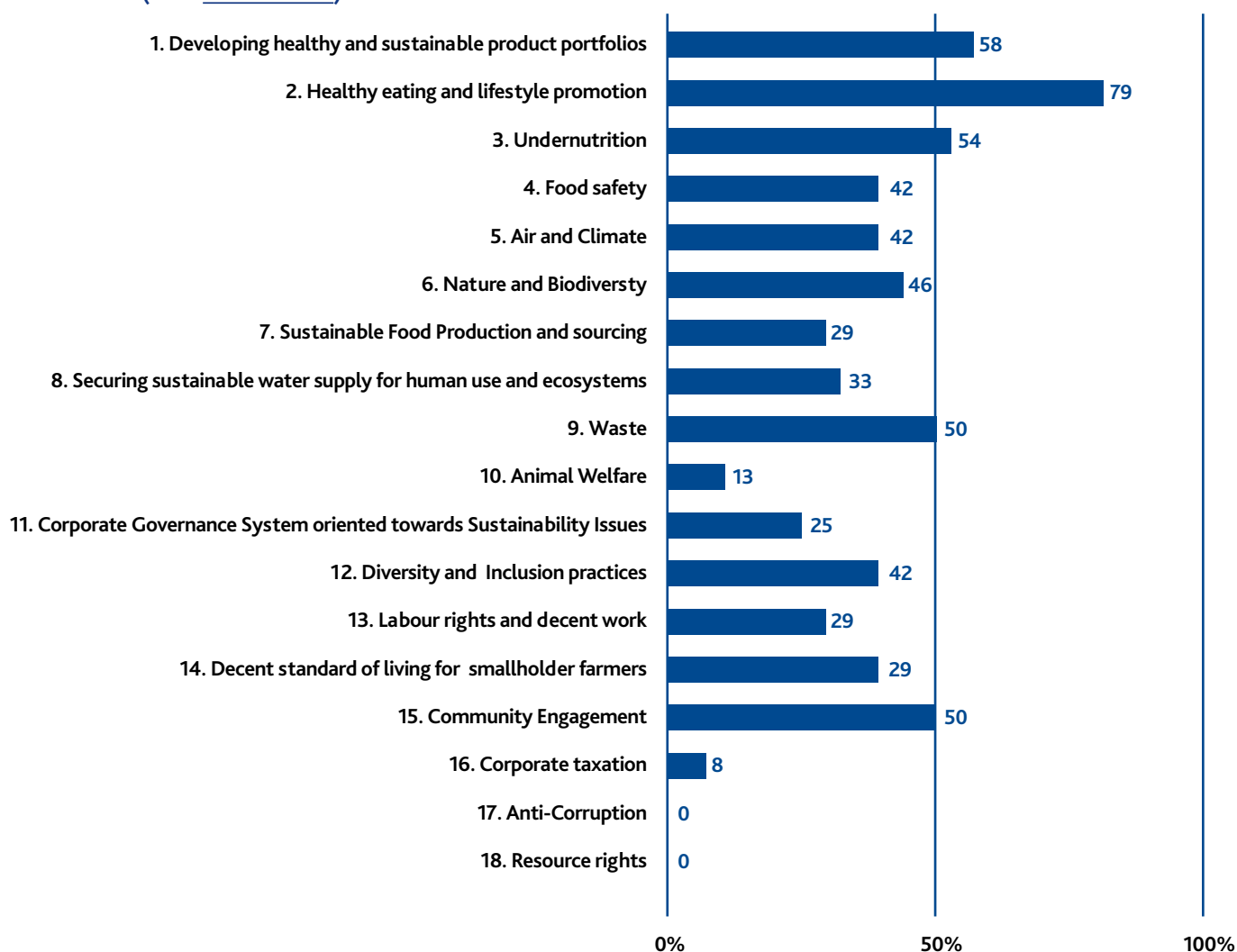
## DISCLOSURE BY SUPPLY CHAIN

The analysis of topics disclosed by supply chain was conducted on Topics 2 (Healthy eating and lifestyle promotion), 3 (Undernutrition), 4 (Food safety) and 5 (Air and Climate) and is reported in [Figure 10](#) as a cumulative result for the 2018 and 2019 years analysis.

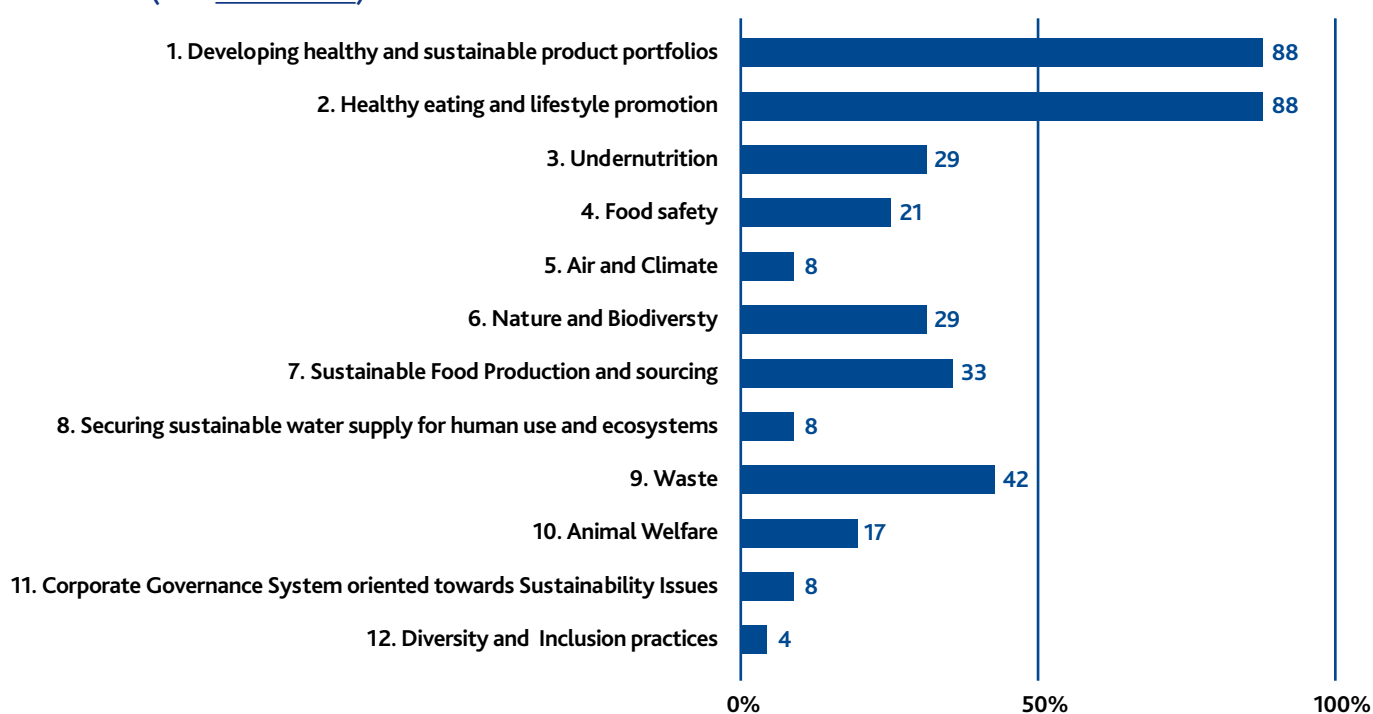
The choice was made with the rationale of offering a view of how our companies, leaders in their respective market domains, disclose this information on the key aspects related to the contribution to healthy and sustainable dietary patterns and air and climate.

The promotion of healthy foods (Topic 2), was found to be the most disclosed among those belonging to Pillar 1, pointing to the relevance that traceability, labelling, and marketing practices occupy in companies' sustainability reports.

**FIGURE 8: PERCENTAGE OF COMPANIES DISCLOSING TOPICS BY COUNTRY IN 2018 AND 2019 (SEE ANNEX D)**

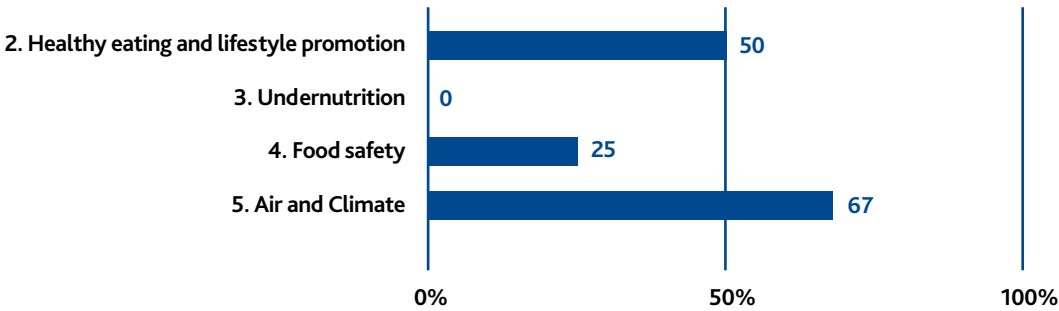


**FIGURE 9: PERCENTAGE OF COMPANIES DISCLOSING TOPICS BY PRODUCT LINE IN 2018 AND 2019 (SEE ANNEX D)**

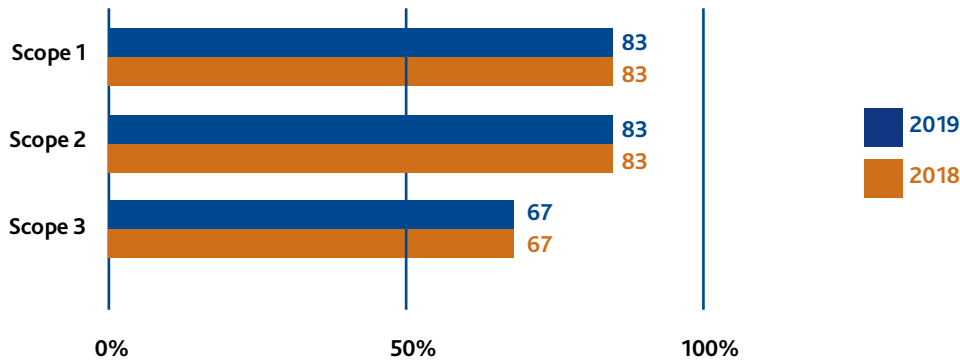




**FIGURE 10: PERCENTAGE OF COMPANIES DISCLOSING TOPICS BY SUPPLY CHAIN IN 2018 AND 2019 (SEE ANNEX D)**



**FIGURE 11: PERCENTAGE OF COMPANIES DISCLOSING GHG EMISSION BY SCOPE (2018 & 2019)**



Concerning Topic 3 (Undernutrition), no disclosure was found across companies, indicating a space of improvement for the aspects of a thorough disclosure of matters related to the affordability and accessibility of products in geographies where companies operate, and undernutrition is a relevant issue. Topic 4, focused on the disclosure on food safety, was found to be disclosed in 25% of cases and it could reasonably be more disclosed with the adoption of digital solutions for the improvement of traceability and food safety assurance.

The disclosure by supply chains communicated for Topic 5 (Air and Climate) involves 67% of the sample.

Considering the importance of Topic 5 (Air and Climate) in our study, we have also reported the percentage of companies that report specific information concerning GRI Scope 1 (Direct GHG emissions), Scope 2 (Energy indirect GHG emissions) and Scope 3 (Other indirect GHG emissions) disclosure. As reported in **Figure 11**, findings showed that ten out of twelve companies of our sample (83%) for both the years 2018 and 2019, report Scope 1 and Scope 2.

Scope 3 or indirect GHG emissions are those that are a consequence of an organization's activities but occur from sources not owned or controlled by the organization. This topic is reported by 67% of our companies showing how although more than half of the sample has implemented an internal accounting system that takes into account the operations' effects even beyond the organization's boundaries, a significant percentage of companies that continue to not monitor their indirect impacts in terms of GHG emissions still remains.

## DISCUSSION OF THE RESULTS

The present study analyzed the sustainability disclosures published by twelve international food companies in 2018 and 2019. The most important findings and results can be summarised in the following discussion.

### 1. There are still major gaps in sustainability disclosures

Even when companies are asked to disclose their non-financial performance, as in the case of companies traded at Stock Exchanges or obliged to follow the European Non-Financial Disclosures Directive, our analysis confirms the existence of gaps in terms of sustainability reporting and corporate transparency.

Issues related to healthy and sustainable diets through products and strategies are those with a higher degree of disclosure. However, with a few virtuous exceptions, such disclosures are mainly related to the description of products, ingredients and procedures, more than actively promoting healthy and sustainable diets. Information about the sustainability of internal production processes is highly disclosed, partly because of the consolidation of so-called "environmental accounting". However, the proliferation of external accountability mechanisms, standards, and frameworks does not help in terms of comparability.

Information related to the sustainability of the supply chain and the good corporate citizenship (Pillars 3 and 4) is scarce. More attention to the supply chain is to be found only in terms of impacts on air quality and climate (GHG Emissions).

### 2. Companies tend not to disclose targets

Disclosed information is not supported by adequate targets and baselines. Therefore, it is difficult to understand a company's journey and its real commitment to sustainable development.

On average, targets were defined only for about 21% of the topics analyzed. Moreover, when measurable targets exist, it is not always clear which methodologies they have been developed in accordance with. Often, companies set a medium-long term deadline, between five and ten years, without defining intermediate targets. The achievement of set targets is presented in only 2% of the 2018 and 2019 disclosures.

### 3. Companies' materiality assessments show gaps vis à vis the Four Pillar Framework, especially with reference to corporate citizenship

Our analysis shows a weak consistency between the relevant topics the companies stated in their materiality assessments and the information we collected through our Four Pillar Framework. Major gaps were detected in terms of disclosure on Corporate Taxes and Resource Rights, where little information was reported even as materiality was high. This sheds light on the necessity to strengthen these topics, only mildly recognized as material by companies, and scantily reported, when they are crucial for achieving the SDGs.

Our analysis also found a good alignment of the Four Pillar Framework with the materiality analysis proposed by the Sustainability Accounting Standards Board (SASB) even if some exceptions exist, as in the case of taxation. This means that sustainability performances monitored by companies using our framework could be in line with requirements by investors.

### 4. Critical issues relevant to supply and value chains still need to be disclosed

The analysis of disclosures by supply chain for undernutrition and promotion of healthy eating and food safety shows that direct and indirect impacts are not adequately reported. Furthermore, supply chain topics defined in Pillar 3 are deemed as moderately material by the vast majority of the companies analyzed. Future research should focus on understanding how material topics within the supply and value chains can be more comprehensively and consistently measured and reported.

### 5. Companies suffer the lack of a consistent and more comprehensive framework for sustainability reporting

Many companies seem to have understood the importance of implementing sustainable practices and communicating their sustainability performance and, in some cases, started following an integrated approach. All analyzed companies publish their sustainability report in accordance with the Global Reporting Initiative (GRI) and declare — all but one — to have adopted the SDGs within their management system. The flexible nature of GRI framework allows it to be a useful tool in supporting companies in their reporting processes. However, such flexibility allows companies to use different standards and metrics developed by several initiatives and organizations, making more difficult comparability and usability of information and data to measure SDG achievement.



**Changes in EU regulatory context ask for a greater attention to be given to innovative business models and sustainable business strategies**

A radical transformation is needed to cope with the environmental, social, and economic challenges of agri-food systems, at the global and local levels. In 2020, the COVID-19 pandemic has exacerbated global development challenges especially for the most vulnerable communities around the globe. The European Union is promoting such a transformation through the European Green Deal and the Farm to Fork Strategy, aiming to make European food 'the global standard for sustainability'.

In this new regulatory context, food companies are considered actors of primary relevance. Companies are required to move beyond "business as usual", aligning their strategic objectives and initiatives with Agenda 2030, adopting innovative business models and defining, monitoring and disclosing indicators and targets that are aligned with the achievement of SDGs.

More in general this evolution is coherent with the growing relevance that investors and consumers are also placing on sustainability. It is often seen by smaller businesses as a threat. From our analysis we conclude that the Four Pillar Framework has a great level of coherence with the goals and targets of the European 'Farm to Fork' Strategy. Therefore, it could be useful to further refine our proposed Framework and make it a tool to support companies in the transition towards more sustainable agri-food systems.





6

# TOWARDS AN SDG INDICATOR FRAMEWORK FOR BUSINESS







In this section, given the conclusions of our analyses, we introduce an indicator framework for business that is based on the SDGs and the Four Pillar framework. We start by describing the principles that guide the design of our proposed indicator framework for the food and agriculture sector. We then apply these principles to the issue of greenhouse gas emissions (related to the Topic on air and climate). Based on feedback received on this indicator framework, we will then develop frameworks for most environmental and nutrition Topics introduced in **Section 3**.

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## PRINCIPLES

The aim of the Indicator Framework is to help companies orient their business activities towards achieving the SDGs through monitoring and reporting for each Topic. Based on extensive consultations with stakeholders, we have identified key issues that each indicator framework needs to tackle. They are outlined in this section.

### MAJOR CONTRIBUTORS TO A TOPIC FROM THE FOOD AND AGRICULTURE SECTOR AND ABATEMENT OPTIONS

For each Topic, we identify the major drivers of change coming from the food and agriculture sector. We also consider abatement options or other strategies to curb the drivers of unsustainable business action. The discussion does not aim to be exhaustive, but instead focuses on the major drivers, which companies need to tackle to support the achievement of the SDGs and the objectives of the Paris Climate Agreement (PCA).

Both drivers and abatement options inform the identification of business indicators and associated targets to make them operational and easy to implement. Where possible, the proposed indicator framework seeks to enable companies to directly monitor and manage the drivers of sustainable and unsustainable business behavior.

### COMPANY REPORTING TODAY

The current state of the art of ESG reporting regarding the particular Topic is described in this section. We outline key accounting methodologies and gaps from corporate reporting frameworks, standards, and certifications. We discuss the extent to which companies currently report on this Topic; if this reporting covers all the drivers mentioned above; and where possible, we recommend the most promising methodologies from corporate frameworks or from research.

### SUGGESTED BUSINESS INDICATORS WITHIN THE FOUR PILLAR FRAMEWORK

The Four Pillar Framework proposed by Fixing the Business of Food analyzes business contributions to the 2030 Agenda and the Paris Climate Agreement (PCA), in terms of:

- **Pillar 1:** Beneficial products and strategies contributing to healthy and sustainable dietary patterns
- **Pillar 2:** Sustainable business operations and internal processes
- **Pillar 3:** Sustainable supply and value chains
- **Pillar 4:** Good corporate citizenship

These four Pillars are applied for each food and agriculture sub-sector (**Figure 2**) as defined by the WBA's 2019 scoping report. Depending on where a sub-sector operates within the value chain, a particular issue may be assigned to a different Pillar. For example, for production companies, greenhouse gas emissions from rice cultivation, would be considered under "Pillar 2 – production processes", whereas for processing companies, these emissions would be under "Pillar 3 – value chain".

For each driver of change, we propose company indicators. Our aim is to make the indicators as operational as possible by targeting actions that companies can measure easily and control. In some cases, we therefore propose proxy indicators that are more directly aligned with company actions. For example, it is extremely hard to measure annual greenhouse gas emissions from land-use change by a company, and such an indicator would only link indirectly to business activities. A better metric, we believe, would be to track land loss, i.e. the area of land converted by the company (e.g. removing forest to expand agricultural production). Such an indicator could serve as a proxy for greenhouse gas emissions from land-use change and could be measured more easily.



## SUGGESTED BUSINESS TARGETS

For each business indicator, companies need to set targets that correspond to the achievement of the SDGs. With the aim to be as operational as possible, the targets we recommend are framed in technological or physical terms that directly affect the proposed indicators. This approach aims to help companies understand and monitor actions to achieve the SDGs and the Paris Climate Agreement (PCA). The intention of this section is not to be exhaustive, but rather to focus on needed key changes to food systems.

## GAPS AND AREAS FOR FUTURE WORK

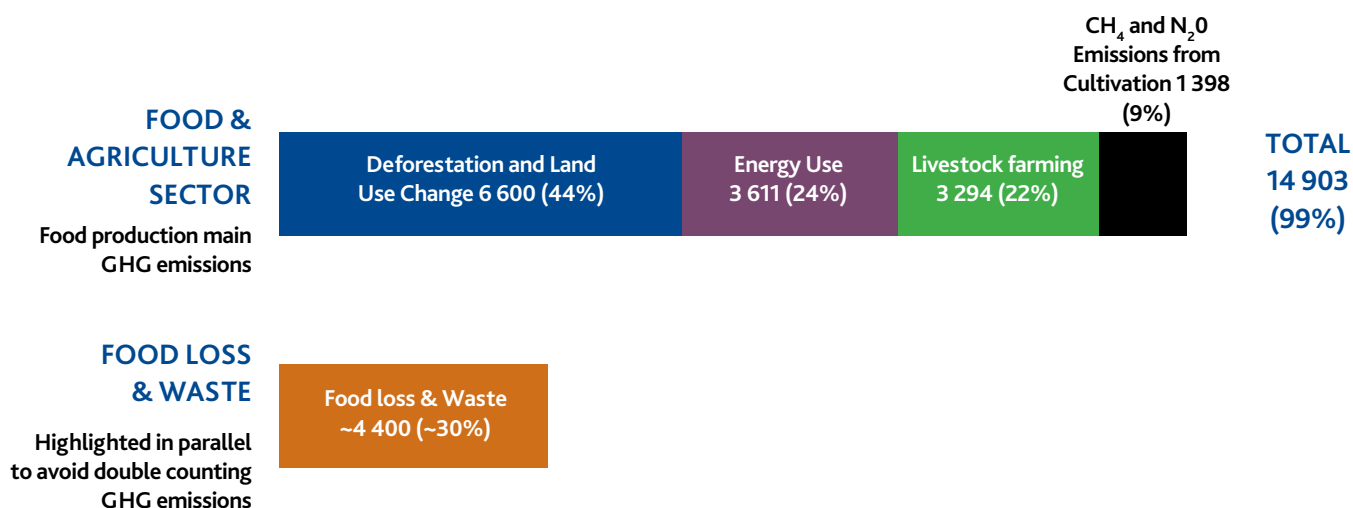
The indicator framework presented in this report is preliminary and incomplete in many areas. In particular, business targets aligned with the SDGs and effective metrics require further discussion and improvement. We therefore outline key gaps and areas for future work for each topic.



# PROPOSED BUSINESS INDICATOR FRAMEWORK FOR GREENHOUSE GAS (GHGs) EMISSIONS

**FIGURE 12: FOOD AND AGRICULTURE GHG EMISSIONS MAIN SOURCES (IN MILLION TONS OF CO<sub>2</sub>EQ. PER YEAR)**

Authors estimates from several sources<sup>90</sup>:



## MAJOR CONTRIBUTORS TO GHG EMISSIONS FROM THE FOOD AND AGRICULTURE SECTOR AND ABATEMENT OPTIONS

The largest contributors to greenhouse gas (GHG) emissions from the food and agriculture sector are shown in **Figure 12** above.

**1. Deforestation and other land-use change:** Land-use change, such as land clearing, accounts for 30-50% of greenhouse gas emissions from the food and agriculture sector (4-14% of global emissions).<sup>91</sup> Over the coming decades, GHG emissions from land-use change will have to become net negative<sup>92</sup> in order to reach the Paris Climate Agreement (PCA), SDG 13 on Climate Action, and SDG 15 on Life on Land. To curb this source of emissions, companies need to stop the expansion of new agricultural land, particularly the conversions of ecosystems with high carbon stock like tropical forests. GHG emissions from land use, e.g. through the loss of soil carbon, are difficult to curb entirely. However, practices such as reforestation, cover crops, zero tillage farming, mulching, minimizing the burning of crop residues, and other techniques can reduce GHG emissions from productive land.

**2. Energy use:** The food and agriculture sector releases GHGs through the use of thermal energy and electrical power generated from fossil fuels. A big source of this energy use is related to the synthesis of nitrogen fertilizers, a highly energy-intensive process and some of it is on-farm use. The manufacture of fertilizers is responsible for about 4% of emissions in the sector.<sup>93</sup> Post-production activities are also drivers of fossil energy and GHG emissions. Six main activities are: first, refrigeration (food cold chain) emitting 490Mt CO<sub>2</sub>eq per year; second, storage, packaging and transport emitting 396Mt CO<sub>2</sub>eq per year, and third, retail activities emitting 224Mt CO<sub>2</sub>eq per year, are the largest GHG emissions sources among post-production activities. Finally, primary and secondary processing emit more than 192Mt CO<sub>2</sub>eq per year, catering and domestic food management emit an almost equal amount of 160Mt CO<sub>2</sub>eq per year, and waste disposal activities emit more than 70Mt CO<sub>2</sub>eq per year. Abatement 160Mt CO<sub>2</sub>eq per year, and waste disposal activities emit more than 70Mt CO<sub>2</sub>eq per year.<sup>94</sup> Abatement options in this category require energy efficiency measures and decarbonization of energy supplies, for example through renewable power.<sup>95</sup>



**3. Livestock farming:** Ruminants' stomachs produce enteric methane emissions, a GHG that has more than 20 times the global warming potential of CO<sub>2</sub>. In addition, the anaerobic decomposition of livestock manure emits methane, but also nitrous oxide (N<sub>2</sub>O), another potent GHG. A critical way to reduce this large source of GHG emissions is to promote plant-based diets through their products and marketing strategies. Companies involved in livestock farming also need to explore improvements in ruminant feed and additives that can reduce enteric methane, and improvements in locally appropriate techniques to reduce GHG emissions from manure, for example by using it as an energy source.<sup>96</sup>

**4. Methane (CH<sub>4</sub>) and Nitrous Oxide (N<sub>2</sub>O) Emissions from Cultivation:** Half of the nitrogen applied to farms worldwide is not absorbed by crops, turning into nitrogen runoff that pollutes water and generates nitrous oxide (N<sub>2</sub>O), which is a potent GHG.<sup>97</sup> Although it is difficult to separate precisely the GHG emissions from the manufacture of fertilizers and from their use, about one third of associated GHG emissions comes from fertilizer application (i.e. some 278 million CO<sub>2</sub>e per year.<sup>98</sup> Under some conditions, nitrification inhibitors can reduce the release of nitrous oxide.<sup>99</sup> Other environmental impacts relating to the release of reactive nitrogen will be considered in subsequent versions of the SDG indicator framework. The other major non-CO<sub>2</sub> GHG generated by agriculture is methane (CH<sub>4</sub>) – chiefly from livestock manure (see above) and flooded rice cultivation, which accounts for some 8% of agricultural GHG emissions. Adapting rice cultivation where possible and planting varieties that emit less methane can have the triple benefit of reducing GHG emissions and water use while generating higher yields. For example, according to research, drawdowns in some fields could reduce methane emissions by up to 90% and increase yields.<sup>100</sup>

**5. Food loss and waste:** Food loss relates to the loss of agricultural products at the production stage (up to the farm gate), while food waste describes losses between the farm gate and final consumption. Between 30% and 40% of food produced worldwide is lost or wasted across the supply chain, which in turn accounts for a high share of GHG emissions.<sup>101</sup> Accounting for these GHG emissions creates the risk of double counting emissions from production and from food loss and waste with the latter being particularly hard to manage and to track.

Ultimately, reductions in food loss and food waste will lead to lower demand for agricultural products and will therefore reduce production. For this reason, we propose an indicator framework that focuses on GHG emissions from the production and distribution of food. We therefore present emissions from food loss and waste “below the line” in [Figure 12](#).

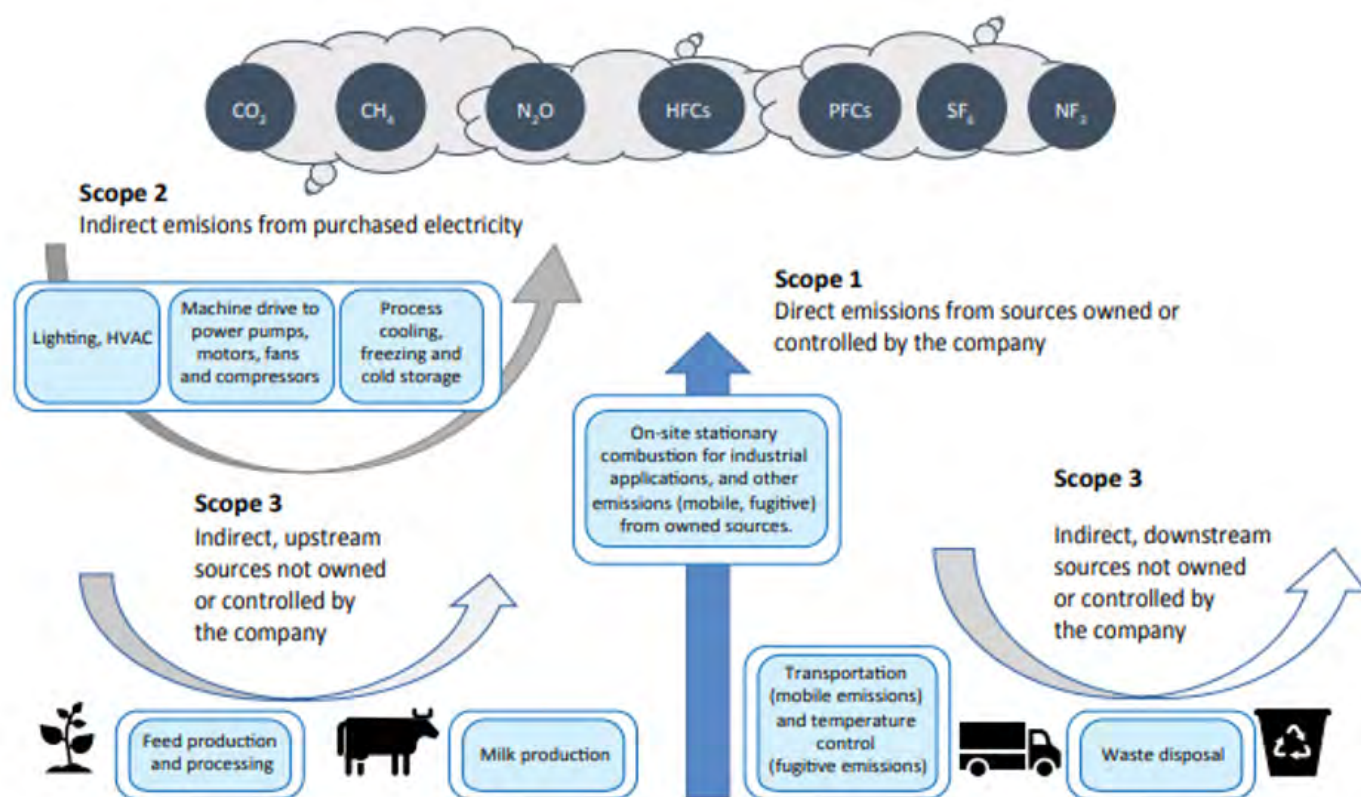
### COMPANY REPORTING ON GHG EMISSIONS TODAY

Today, most companies report only their direct GHG emissions, which are called Scope 1 and Scope 2 in the GHG Protocol. Scope 1 refers to emissions that are controlled by the company, such as combustion for industrial applications or emissions from company-owned vehicles. Scope 2 refers to indirect emissions usually related to the purchase of electricity. Most companies do not report their Scope 3 GHG emissions, which cover emissions in the value chain (“upstream sources not owned or controlled by the company”), such as emissions embodied in inputs purchased by the company. Scope 3 also covers downstream emissions, including transportation and even emissions from waste disposal over the product life cycle. [Figure 13](#) illustrates the GHG Protocol Scopes 1, 2, and 3 in the dairy processing industry.

TABLE 17: GHG INDICATORS PER PILLAR FOR FOOD & AGRICULTURE COMPANIES

PILLARS	PILLAR 1 Beneficial products and strategies contributing to healthy & sustainable dietary patterns	PILLAR 2 Sustainable Business Operations and Internal Processes	PILLAR 3 Sustainable Supply and Value Chain	PILLAR 4 Good Corporate Citizenship
Proposed GHG indicators per Pillar for Food & Ag companies	Not applicable for this indicator framework	Proxy indicators for major emission drivers corresponding to Scope 1 & Scope 2 GHG emissions (following GHG Protocol)	Proxy indicators for major emission drivers corresponding to Scope 3 GHG emissions (following GHG Protocol)	To be determined at a later stage

**FIGURE 13: GHG PROTOCOL SCOPES FOR THE DAIRY SECTOR (EXAMPLE)<sup>102</sup>**



For many sub-sectors in food and agriculture, GHG emissions come overwhelmingly from the upstream end of value chains (e.g. Scope 3 for food processors and retailers). It is therefore critical that these actors track and report their Scope 3 GHG emissions.

The life-cycle approach is another method for GHG accounting. It evaluates the GHG “footprint” of a specific material or product. Analyses extend from the raw materials for products (e.g. the steel that was produced to make a plough), to their processing, manufacture, transportation, and disposal. This approach uses a systems perspective and can help identify parts of value chains where GHG emissions are high. Companies can use the life cycle methodology to compare different practices or materials that could reduce GHG emissions. A disadvantage is that the life cycle approach does not provide emissions for a specific year. It is also less suited to establishing baselines and emission reduction targets, and lifecycle approaches make it difficult to compare performance across organizations.<sup>103</sup> The life-cycle approach can help companies identify options for reducing GHG emissions. In turn the GHG Protocol strikes us as best suited to track year-on-year GHG emissions by a company.

## SUGGESTED INDICATORS FOR GHG EMISSIONS USING THE FOUR PILLAR FRAMEWORK

As described in this report, the Four Pillar Framework can be used to analyze the SDG performance of any type of company. Taking account of the scopes of the GHG Protocol, indicators for GHG emissions can be assigned to the four Pillars ([Table 17](#)).

For each driver of change, we propose company indicators. Our aim is to make the indicators as operational as possible by targeting actions that will focus companies on the most effective and biggest efforts to transform to a sustainable food system. In some cases it may be better to track an “input” or “action”, such as certified zero deforestation commodities, than to measure associated greenhouse gas emissions, since the latter are hard and costly to measure and do not relate directly to company actions. By focusing directly on the changes that companies need to make in their practices (e.g. stop sourcing products coming from deforestation and land conversion), the reporting against proxy indicators can facilitate the setting of corporate objectives and their monitoring.



We recognize that there is a strong link between healthy diets and the climate. As shown in the double food and environmental pyramid model developed by the BCFN Foundation, for a healthy diet, one should have a predominantly plant-based diet, which, is also a sustainable diet.<sup>104</sup> However, due to the design of this indicator framework, and to avoid double counting emissions, no GHG emissions should be calculated from a Pillar 1 perspective, as we have defined Pillar 1, since all GHG emissions are generated during production or sourcing of inputs.

In any case, a strong commitment and a clear, rigorous path to carbon neutrality can be an important starting point to accelerate a corporate transition to a more sustainable pathway. Carbon neutrality starts with the quantification of GHG emissions.

The sub-sector a company belongs to determines in parts how GHG emissions are assigned across the four Pillars (Table 18).

**TABLE 18: FOUR PILLAR FRAMEWORK PER SUB-SECTOR AND GHG EMISSION SOURCE**

MAJOR GHG EMISSIONS CONTRIBUTORS	PROXY INDICATORS FOR GHG EMISSIONS DRIVERS	FOOD AND AGRICULTURE SUB-SECTORS				
		Inputs (Engineering and chemical firms)	Production (Growers and farmers)	Trade (Wholesalers and suppliers)	Processing (Manufacturers and processors)	Distribution (Retailers, caterers, restaurants)
Deforestation and land use change	Percentage of agricultural inputs from certified Zero Deforestation sources  (certified no deforestation since minimum 2014 <sup>105</sup> ) <sup>106</sup>  as proxy indicators for Deforestation and Land Use Change	Pillar 3: Sustainable value chain	Pillar 2: Sustainable production processes	Pillar 3: Sustainable value chain	Pillar 3: Sustainable value chain	Pillar 3: Sustainable value chain
Energy use	Percentage of all company power consumption emitting zero GHG emissions  as a proxy indicator for Energy Use	Pillar 2: Sustainable production processes	Pillar 2: Sustainable production processes	Pillar 2: Sustainable production processes	Pillar 2: Sustainable production processes	Pillar 2: Sustainable production processes
Livestock farming	[Percentage of products sold containing animal-based protein inputs]  For livestock producing companies specifically:  Percentage of feed with methane reduction properties  Percentage of manure managed to reduce GHGs  as proxy indicators for Livestock Farming <sup>107</sup>	Pillar 3: Sustainable value chain	Pillar 2: Sustainable production processes	Pillar 3: Sustainable value chain	Pillar 3: Sustainable value chain	Pillar 3: Sustainable value chain
Methane (CH <sub>4</sub> ) and Nitrous Oxide (N <sub>2</sub> O) Emissions from Cultivation	Percentage of agricultural inputs sourced from production using methane reducing techniques  <i>Indicators on Nitrogen Use Efficiency &amp; N<sub>2</sub>O emissions to be developed</i>	Pillar 3: Sustainable value chain	Pillar 2: Sustainable production processes	Pillar 3: Sustainable value chain	Pillar 3: Sustainable value chain	Pillar 3: Sustainable value chain
Food loss and waste	Percentage of Food Lost and/or Wasted	Pillar 3: Sustainable value chain	Pillar 2: Sustainable production processes	Pillar 2: Sustainable production processes	Pillar 2: Sustainable production processes	Pillar 2: Sustainable production processes

## **Pillar 1 – Beneficial Products and Strategies**

### **Contributing to Healthy and Sustainable Dietary**

**Patterns:** All major emission drivers are assigned to Pillars 2 and 3 ([Table 18](#)). To avoid double counting of GHG emissions, no additional indicators are needed for GHG emissions under Pillar 1 ([Table 17](#)).

## **Pillar 2 – Sustainable Business Operations and Internal**

**Processes:** Direct company emissions (Scope 1) should be considered under this Pillar since production processes are necessarily the direct sources of any company's emissions. Energy use (Scope 2) should also be assigned to Pillar 2 for any kind of company because it is an essential element of production processes ([Table 17](#)).

## **Pillar 3 – Sustainable Supply and Value Chains:**

Indirect emissions (Scope 3) should be placed under Pillar 3. The reporting of these GHG emissions is critical for companies and all stakeholders to make sure the industry is working on the fundamental aspects of GHG emissions reductions. Scope 3 reporting will allow supply chain members to work together on strategies that will help all companies reduce their individual emissions ([Table 17](#)).

**Pillar 4 – Good Corporate Citizenship:** In addition to emitting GHGs, companies also have a critical role in shaping legislation and lobbying related to climate change. Both need to be aligned and consistent with commitments to achieve the SDGs and the objectives of the Paris Climate Agreement (PCA). Appropriate business indicators would need to be developed in due course.

The proposed proxy indicators align with the major GHG emission contributors ([Table 18](#)) described above.

### **1. Deforestation and land-use change:**

The proxy indicator for the biggest GHG emissions driver in the food and agriculture sector that we propose is for companies to track the percentage of agricultural inputs from certified Zero Deforestation sources, particularly for downstream companies which should report these against Pillar 3.

Companies that produce agricultural commodities should monitor land-conversion and diversified cropping systems under Pillar 2 (sustainable production processes) through the use of independent Zero-Deforestation certification programs, such as the Roundtable for Sustainable Palm Oil (RSPO) or others. In line with the Rainforest Alliance's new certification program,<sup>108</sup> we recommend that companies use 2014 as the baseline year from which there should not be any deforestation. Any changes after this date should be tracked and reported as land conversion. Future versions of this indicator framework will recommend certification schemes for major commodities.

### **2. Energy use:**

All food and agriculture companies should report the GHG emissions from their power consumption and aim to bring these to zero. In most cases, GHG emissions from energy use fall under Pillar 2 (sustainable production processes). Such emissions can be reduced through greater energy efficiency and sourcing power from renewable and other zero-carbon providers.

### **3. Livestock farming:**

We propose an indicator on the share of products containing animal-based proteins. Companies producing or dealing with ruminant meat (cattle, sheep, goat) should also report on the percentage of feed that has methane reduction properties. As one example, the feed additive 3-nitrooxypropan (3-NOP) has been shown to reduce enteric methane by 30% in cattle and sheep.<sup>109</sup>

All livestock companies should also report on the percentage of manure that is managed to reduce GHGs. A key intervention for reducing GHG emissions from manure on animal farms, is to separate liquids from solids and to let the solid portion dry. The remaining liquid part has a lower carbon content, which in turn reduces methane emissions. A study of pig farms in China found that emissions could be reduced by more than 60% compared to storing manure in a deep pit.<sup>110</sup> These and other approaches to sustainable manure management generate co-benefits through lower pollution of water and air.



#### 4. Methane (CH<sub>4</sub>) and Nitrous Oxide (N<sub>2</sub>O) Emissions from Cultivation:

For the issue of methane and nitrous oxide emissions arising from cultivation, we propose that companies track the percentage of agricultural inputs sourced from production using methane reducing techniques. For example, companies in the rice supply chain could produce with Alternate Wetting and Drying (AWD) practices that reduce methane emissions. According to the International Rice Research Institute, "Alternate wetting and drying (AWD) is a simple and inexpensive way of reducing water consumption in rice production by 30%, thus, enabling farmers to cut down on production cost without yield penalty. AWD entails periodic draining of the field to a certain threshold, usually 15cm below the soil surface, and re-flooding. A perforated tube placed in the soil enables the farmer to monitor the water level below the soil surface to determine when to irrigate." AWD and its variations reduce the amount of anaerobic decomposition of organic matter, mitigating methane emissions by 30% to 70% without causing yield reductions<sup>111</sup>. Nevertheless, research shows the need to be careful about the trade-off between methane and nitrous oxide emissions that can occur.<sup>112</sup>

Around 95% of rice is produced by smallholder farmers, and 85% to 90% of rice produced is consumed locally with China and India being the two largest producers and consumers.<sup>113</sup> Rice buyers should support efforts to monitor AWD and other GHG-emission reduction approaches throughout the supply chain as part of Pillar 3 by sourcing their inputs from producers that can prove they use a method to reduce these types of emissions.

Indicators on Nitrogen Use Efficiency & N<sub>2</sub>O emissions will be developed in future versions of the SDG indicator framework.

#### 5. Food loss and waste:

As describe above, there is a risk of double-counting GHG emissions from a production perspective and a food-loss-and-waste lens. Moreover, food loss and waste and associated emissions are highly complex to measure with accuracy. We therefore do not propose at this stage indicators related to greenhouse gas emissions from food loss and waste.

A great variety of interventions need to occur throughout the supply chain to reduce food loss and waste. They typically form part of better processes (Pillar 2) and products (Pillar 1), including through food dates' labeling practices or reducing portion sizes.

### SUGGESTED BUSINESS TARGETS FOR GHG EMISSIONS

To determine companies' contributions to the SDGs and track distance to targets, companies need to set targets for each business indicator. One option is to set quantitative targets for GHG emissions (expressed in tCO<sub>2</sub>eq), but some emissions (e.g. from livestock or land-use change) are hard to measure. With the aim to be as operational as possible, the targets we recommend are framed in technological or physical terms that have a direct effect on the proposed indicators. They align with the proxy indicators described above.

This approach is intended to help companies track actions that are needed to achieve the SDGs and the Paris Climate Agreement (PCA). As throughout this indicator framework, we propose focusing on the most important GHG emissions sources without being exhaustive. **Table 19** summarizes the suggested targets for each driver of GHG emissions:

**TABLE 19: PROPOSED COMPANY TARGETS FOR EACH DRIVER OF GHG EMISSIONS**

	FOOD AND AGRICULTURE GHG EMISSION MAIN DRIVERS	GHG EMISSIONS (million tons CO <sub>2</sub> eq./year)	GHG EMISSIONS GLOBAL TARGETS FOR 2030-2050 (million tons CO <sub>2</sub> eq./year)	COMPANY INDICATORS	COMPANY TARGETS
1	Deforestation and Land Use Change (44%)	6 600 <sup>114</sup>	0 or negative <sup>115</sup>	Percentage of agricultural inputs from certified Zero Deforestation sources (Certified no deforestation since minimum 2014 <sup>116</sup> ) <sup>117</sup>	100% certified Zero Deforestation inputs
2	Energy use (24%)	3 611 <sup>118</sup> Including Post-Production activities: 1 534 Energy use: 1 502 Fertilizer manufacture: 575	4 000 <sup>119</sup>	Percentage of all company power consumption emitting zero GHG emissions	Zero GHG emissions from power consumption
3	Livestock farming (22%)	3 294 <sup>120</sup> Including Ruminant enteric fermentation: 2 260 Manure: 1 034 <sup>121</sup>		[Percentage of products sold containing animal-based protein inputs]  For livestock producing companies specifically:  Percentage of feed with methane reduction properties (including additives)  Percentage of manure managed to prevent GHG emissions <sup>122</sup>	Sharply decreasing tendency  For livestock producing companies specifically:  100% of feed with methane reduction properties  100% of manure managed to reduce GHG emissions
4	Methane (CH <sub>4</sub> ) and Nitrous Oxide (N <sub>2</sub> O) Emissions from Cultivation (9%)	1 398 <sup>123</sup> Including Rice Cultivation 1 120 Fertilizer application : 278 <sup>124</sup>		Percentage of agricultural inputs sourced from production using methane reducing techniques  Indicators on Nitrogen Use Efficiency & N <sub>2</sub> O emissions to be developed	100% inputs produced with reduced methane emissions
	TOTAL 100%	14 903 <sup>125</sup>	4 000 (-73%)		
5	Food Loss and Waste (FLW) <sup>126</sup>	4 400 <sup>127</sup>		Percentage of Food Lost and/or Wasted	-50% reduction in FLW (SDG 12)

### 1. Deforestation and Land-use Change:

All companies in the sector should achieve 100% certified Zero-Deforestation inputs that is consistent with zero agricultural land expansion compared to 2014,<sup>128</sup> unless local regulation mandates a different base year.

### 2. Energy Use:

All companies should target zero greenhouse gas emissions from power consumption.

### 3. Livestock Farming:

All downstream food companies should reduce the share of products containing animal-based protein inputs.

All companies in the livestock supply chain should work to improve their practices and target towards 100% use of feed with methane-reducing properties for ruminants and towards 100% use of manure management practices to reduce GHGs.

### 4. Methane (CH<sub>4</sub>) and Nitrous Oxide (N<sub>2</sub>O) Emissions from Cultivation:

All companies should produce and source products using methane reducing techniques. For example, companies in the rice supply chain should target 100% of rice to be produced with Alternate Wetting and Drying (AWD) practices that reduce methane emissions or any other proven method.

Nitrogen Use Efficiency and N<sub>2</sub>O Emissions indicators and targets will be included in future versions of the indicator framework.

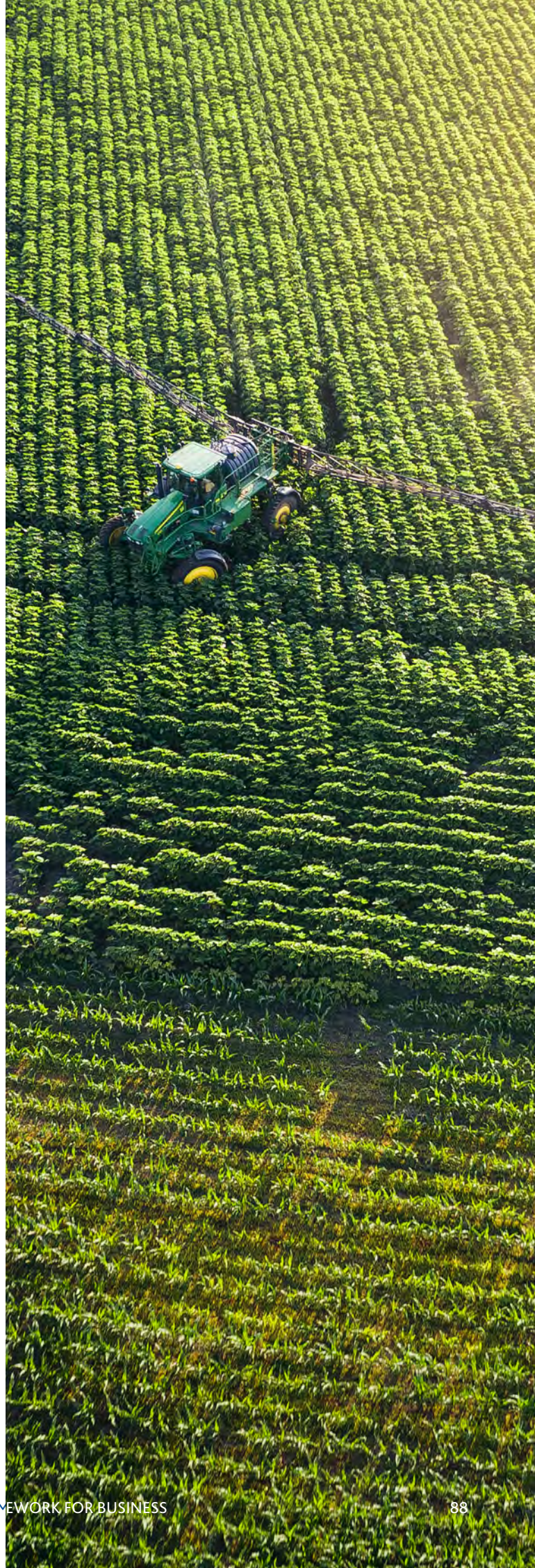
### 5. Food Loss and Waste:

All companies in the food and agriculture sector should achieve a 50% reduction in food loss and waste by 2030, as stated by SDG 12 on Responsible Consumption and Production.



## GAPS AND AREAS FOR FUTURE WORK

We describe a first attempt at a business reporting framework for GHG emissions that is consistent with the SDGs. Several gaps need to be filled, and the analysis must be deepened in several areas. They include GHG indicators related to fertilizer application and use, food loss and waste, and corporate citizenship. We will consult with companies, certification bodies, and other experts to tackle some of these issues. This is an emerging proposal that we will aim to refine and simplify further.





# 7 RECOMMENDATIONS







A more sustainable food system requires greater and more focused commitments by businesses; a more comprehensive and coherent framework to align corporate practice, measurement, and reporting to the SDGs; and the creation of more precise SDG-aligned metrics.

Given the depth of the transition required, the support of international and national institutions and investors to agri-food companies is imperative. The Four Pillar Framework aims at supporting businesses to confidently contribute to the realization of the SDGs, and to be recognized for their critical contributions to that end.

With those objectives in mind, we recommend:

**SUSTAINABILITY STANDARDS**, frameworks, certifications, and accounting mechanisms should update and review their reporting requirements to help companies better align to the SDGs and the PCA, which are time-bound, quantitative agendas. To do this, monitoring systems should first of all, guide companies' focus on the key topics described in this report. Second, they should define clear and comparable quantitative targets, that can allow all stakeholders to see the progress companies are making, rewarding the most innovative and committed companies and more clearly showing the laggards. We propose a first attempt of an SDG indicator framework for GHG emissions, which can be useful for standards, frameworks, and certifications that wish to align their own indicators to quantitative achievement of the SDGs. Lastly, we encourage reporting and monitoring mechanisms to use the Four Pillar Framework to guide companies to become more sustainable. Indeed, we propose four lenses to analyze a company's performance: by the products it sells, its production processes, its impact and relations with its supply and value chains and the broader ecosystem it impacts, and its behavior as a corporate citizen. Harmonization among the Four Pillars, the key topics, and the quantitative metrics and targets should bring reliable, comparable results to aid in the transformation of companies in this sector to form a sustainable food system.

## **COMPANIES IN THE FOOD AND AGRICULTURE SECTOR**

should also use the Four Pillar Framework, once finalized, as well as an SDG indicator framework, to measure and report their impact on the SDGs. This tool, and particularly the proxy indicators to monitor alignment to the time-bound, quantitative targets of the SDGs and the PCA, will help to focus efforts and resources on the right approaches to transform the currently unsustainable food system. As shown in our company analysis, even though companies report on some of the key topics, there are still major gaps on what is being measured and reported, particularly in terms of targets. Businesses in the food and agriculture value chain should more systematically disclose their strategies, practices, and achievement or non-achievement of targets. There is a clear need for a set of indicators, targets and benchmarks to measure the adaptation of companies' strategies both to Agenda 2030 and to the 'Farm to Fork' strategy in the EU context.

**POLICY MAKERS** should support more ambitious regulation, emphasizing more forceful alignment of business practices with the SDGs and the PCA, as well as robust and rigorous measurement and reporting of such alignment. Policy makers should call on reporting frameworks to align to the SDGs using the Four Pillar Framework as a useful analytical tool and by including indicators in line with our proposed SDG indicator framework for business. This indicator framework should be useful for policy makers to include targets that will significantly accelerate the needed transformation in the food and agriculture sector to meet Agenda 2030.

**INVESTORS** in the food and agriculture sector should closely monitor companies' performance on issues covered by all four Pillars of the Framework, and should make investment and engagement decisions accordingly. Depending on the investor's approach to sustainability, this may include making decisions to invest or not invest based on performance against the Pillars, and/or proactively engaging with companies regarding their performance and ways to improve. Investors are encouraged to consider the issues covered by the four Pillars as part of a holistic strategy to ensure overall sustainability of their portfolios and the companies in which they are invested, and not simply as part of company or portfolio risk assessments.

Finally, the creation of a community of businesses sharing practices and experiences could help illuminate the implications of the transition to an SDG aligned sector, showcase effective business models and practices, support businesses in aligning with the post-Covid 19 context, and gather useful feedback from regulators, investors, institutions and experts.

The Fixing the Business of Food Initiative has initiated a focused framework for business alignment with the SDGs. The next step is to refine and elaborate this framework, capturing the broader set of business products and activities that impact the SDGs, specifically in the food and agriculture sector, with actionable standards for business and robust indicators and targets by which business stakeholders can assess alignment. This work to refine and elaborate the framework will reflect feedback from relevant stakeholders and experts, with an ultimate goal of finalizing an effective framework with actionable standards that help companies contribute effectively to achievement of the SDGs.



# 8 GLOSSARY





## TOPIC

A topic is one environmental, nutrition, social, or governance issue that companies in the food and agriculture sector need to tackle in order to achieve the SDGs. Topics have been identified by the Fixing the Business of Food initiative, the World Benchmarking Alliance, and/or the Food Foundation.

## PILLAR

Part of the Four Pillar framework proposed by the Fixing the Business of Food initiative, a Pillar is a lens of analysis through which any company can tackle its sustainability and alignment with the Sustainable Development Goals. The Four Pillars Framework proposed aims to analyze the alignment of businesses with the 2030 Agenda and the Paris Climate Agreement (PCA), in terms of:

**Pillar 1:** Beneficial products and strategies contributing to healthy and sustainable dietary patterns

**Pillar 2:** Sustainable business operations and internal processes

**Pillar 3:** Sustainable supply and value chains

**Pillar 4:** Good corporate citizenship

## SUB-SECTOR

A part of the Food and agriculture sector as described below:

1. **INPUTS:** mostly engineering and chemistry firms (e.g. Agricultural & Farm Machinery, Seeds & Agrochemicals, Fertilizer producing companies, etc.)
2. **PRODUCTION:** Growers, farmers, aquaculture, and fisheries (e.g. Producing Cocoa, Sugar, Fruit & Vegetables, Grains & Oilseeds, Dairy, Animal Feed, Livestock & Poultry, Seafood, etc.)
3. **TRADE:** Wholesalers and suppliers (e.g. Agricultural commodity traders)
4. **PROCESSING:** Manufacturers and food processors (e.g. Ingredients, Food Processors, Beverage, Confectionaries, etc.)
5. **DISTRIBUTION:** Retailers, caterers, restaurants (e.g. Food Retail, Food Service, Restaurants, etc.)







9 FIGURES



<b>Figure 1:</b> Pillars and Topics for a Food Processing/Distribution Company.....	39
<b>Figure 2:</b> Five sub-sectors of the food and agriculture sector.....	46
<b>Figure 3:</b> Key topics predominance in the five food and agriculture sub-sectors.....	47
<b>Figure 4:</b> Analysis of percentage of topics disclosure in Pillar 1 (2018-2019).....	67
<b>Figure 5:</b> Analysis of percentage of topics disclosure in Pillar 2 (2018-2019).....	69
<b>Figure 6:</b> Analysis of percentage of topics disclosure in Pillar 3 (2018-2019).....	70
<b>Figure 7:</b> Analysis of percentage of topics disclosure in Pillar 4 (2018-2019).....	71
<b>Figure 8:</b> Percentage of companies disclosing topics by country in 2018 and 2019.....	73
<b>Figure 9:</b> Percentage of companies disclosing topics by product line in 2018 and 2019.....	73
<b>Figure 10:</b> Percentage of companies disclosing topics by supply chain in 2018 and 2019.....	74
<b>Figure 11:</b> Percentage of companies disclosing GHG emission by scope (2018 and 2019).....	74
<b>Figure 12:</b> Food and agriculture GHG emissions main sources.....	81
<b>Figure 13:</b> GHG Protocol scopes for the dairy sector (example).....	83



10 TABLES



<b>Table 1:</b> Percentage of ESG indicators classified in Four Pillar Framework.....	50
<b>Table 2:</b> Number and percentage of ESG indicators classified in Four Pillar Framework.....	51
<b>Table 3:</b> Percentage of indicator categories in reporting standards, frameworks, and certifications.....	52
<b>Table 4:</b> The Four Pillars and Key Topics.....	56
<b>Table 5:</b> The analysis of the framework's financial materiality adopting SASB's perspective.....	59
<b>Table 6:</b> The analysis of the non-financial relevance of the framework according to the materiality assessments carried out by the 12 companies.....	61
<b>Table 7:</b> The relevance of the framework in relation to the Farm to Fork strategy.....	63
<b>Table 8:</b> Composition of the Sample for the companies' analysis.....	65
<b>Table 9:</b> Percentage of companies disclosing in Pillar 1.....	67
<b>Table 10:</b> Analysis of topics disclosure across companies in Pillar 1 (2018-2019).....	67
<b>Table 11:</b> Percentage of companies disclosing Pillar 2.....	68
<b>Table 12:</b> Analysis of topics disclosure across companies in Pillar 2 (2018-2019).....	69
<b>Table 13:</b> Percentage of companies disclosing in Pillar 3.....	70
<b>Table 14:</b> Analysis of topics disclosure across companies in Pillar 3 (2018-2019).....	71
<b>Table 15:</b> Percentage of companies disclosing in Pillar 4.....	71
<b>Table 16:</b> Analysis of topics disclosure across companies in Pillar 4 (2018-2019).....	71
<b>Table 17:</b> GHG indicators per Pillar for food & agriculture companies.....	84
<b>Table 18:</b> Four Pillar Framework per Sub-sector and GHG emission source.....	85
<b>Table 19:</b> Proposed company targets for each driver of GHG emissions.....	88



# 11 ANNEX



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# ANNEX A: LIST OF STANDARDS, FRAMEWORKS, AND CERTIFICATIONS ANALYZED

## 1. GRI

### Global Reporting Initiative

(GRI 200 Economic Standards were not included in this analysis. Only indicators from the Universal Standards (GRI 101,102,103), the Environmental (GRI 300) and Social (GRI 400), Topic-specific Standards, and the Food Processing G4 Sector Disclosures were included)

<https://www.globalreporting.org/standards/gri-standards-download-center/>

### Global Reporting Initiative - Specific Standard Disclosures for the Food Processing Sector

<https://www.globalreporting.org/Documents/ResourceArchives/GRI-G4-Food-Processing-Sector-Disclosures.pdf>

## 2. DOW JONES SUSTAINABILITY INDEX

### DJSI - RobecoSAM - Corporate Sustainability Assessment

[https://www.robecosam.com/media/e/b/3/eb31fe448f71bcd06da1c5879b1c8261\\_sample-questionnaire-diversified-consumer-services\\_tcm1016-14699.pdf](https://www.robecosam.com/media/e/b/3/eb31fe448f71bcd06da1c5879b1c8261_sample-questionnaire-diversified-consumer-services_tcm1016-14699.pdf)

## 3. CDP

### CDP Climate Change 2020 Questionnaire Minimum Version

<https://www.cdp.net/en/guidance/guidance-for-companies>

### CDP Forest 2020 Questionnaire Minimum Version

<https://www.cdp.net/en/guidance/guidance-for-companies>

### CDP Water Security 2020 Questionnaire Minimum Version

<https://www.cdp.net/en/guidance/guidance-for-companies>

## 4. UN GLOBAL COMPACT

### UNGC FAB Principles

[https://www.unglobalcompact.org/docs/issues\\_doc/agriculture\\_and\\_food/FABPs\\_Flyer.pdf](https://www.unglobalcompact.org/docs/issues_doc/agriculture_and_food/FABPs_Flyer.pdf)

### UNGC Soil Management Principles

[https://www.unglobalcompact.org/docs/issues\\_doc/agriculture\\_and\\_food/soil-principles.pdf](https://www.unglobalcompact.org/docs/issues_doc/agriculture_and_food/soil-principles.pdf)

### UNGC Ten Principles

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

## 5. B CORP

### B Corp Assessment

<https://bcorporation.net/directory>

## 6. RSPO

### Roundtable for Sustainable Palm Oil

<https://rspo.org/resources/certification/rspo-principles-criteria-certification>



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## ANNEX A: LIST OF STANDARDS, FRAMEWORKS, AND CERTIFICATIONS ANALYZED

### 7. WBCSD

#### WBCSD CEO Guide to Food System Transformation

<https://www.wbcsd.org/Programs/Food-and-Nature/Food-Land-Use/Resources/CEO-Guide-to-Food-System-Transformation>

### 8. FSC

#### Forest Stewardship Council

<https://fsc.org/en/document-centre/documents/resource/262>

### 9. OECD-FAO

#### OECD-FAO Guidance for Agricultural Supply Chains

<http://mneguidelines.oecd.org/Brochure-How-the-OECD-FAO-Guidance-can-help-achieve-the-Sustainable-Development-Goals.pdf>

### 10. WBA

#### World Benchmarking Alliance Food and Agriculture Benchmark Scoping Report

<https://www.worldbenchmarkingalliance.org/wp-content/uploads/2019/06/WBA-Food-and-Agriculture-Benchmark-scoping.pdf>

### 11. ATNI

#### Access to Nutrition Index

<https://www.accesstonutrition.org/global-index/methodology/2016-index/categories/category-governance>

### 12. SASB

#### Sustainability Accounting Standard for Processed Foods

<https://www.sasb.org/standards-overview/download-current-standards-2/>

## ANNEX B: STANDARDS, FRAMEWORKS, AND CERTIFICATIONS SELECTION CRITERIA

	Particularly Relevant for Food & Agriculture Sector	Number of companies using it	USE IN DIFFERENT REGIONS (HQ OF COMPANIES)					
			North America	Latin America	Europe (incl. Russia)	Middle East and Africa	China	Rest of Asia (incl. Oceania)
STANDARDS								
United Nations Global Compact (UNGC)		> 10,000	10%	25%	22%	26%	4%	11%
OECD FAO Guidance for Responsible Agricultural Supply Chains	X	< 1,000	9%	9%	57%	9%		17%
WBCSD CEO Guide [to Food Systems Transformation]	X	< 1,000	38%	6%	38%	0%	0%	18%
World Benchmarking Alliance	X	< 1,000	27%	6%	35%	4%	4%	0%
FRAMEWORKS								
Global Reporting Initiative (GRI)		> 10,000	100 countries (no indication on percentage of companies in each country)					
Carbon Disclosure Project (CDP)		< 10,000	> 90 countries (no indication on percentage of companies in each country)					
Dow Jones Sustainability Index (DJSI)		< 5,000	18%	19%	19%	3%	5%	35%
Certified B Corporation		< 10,000	60%	10%	22%	1%	0%	6%
SASB for processed foods	X	< 1,000	> 170 countries (no indication on percentage of companies in each country)					
Global Access to Nutrition Index (ATNI)	X	< 100	40%	9%	32%	0%	5%	14%
CERTIFICATIONS								
FSC (Forest Stewardship Council)		< 5,000	16%	33%	23%	15%	1%	11%
RSPO (Roundtable for Sustainable Palm Oil)	X	< 5,000	15%	3%	59%	1%	1%	16%



## ANNEX C: STANDARDS, FRAMEWORKS AND CERTIFICATIONS

### QUESTION CATEGORIES CLASSIFIED INTO THE FOUR PILLAR FRAMEWORK (DETAIL FROM TABLE 2)

Total lines for each category and sub-category are above (darker color)

CATEGORIES	1. Products	2. Processes	3. Value Chain	4. Corporate Citizenship	TOTAL
<b>Environmental</b>	<b>18</b>	<b>330</b>	<b>51</b>	<b>21</b>	<b>420</b>
<b>Animal Husbandry</b>		<b>5</b>			<b>5</b>
Animal Welfare		1			1
Species		2			2
Veterinarian Treatments		1			1
Incidents of Non-Compliance		1			1
<b>Biodiversity, Ecosystem Services, &amp; Land Use</b>	<b>9</b>	<b>143</b>	<b>16</b>	<b>5</b>	<b>173</b>
Species		5			5
High Conservation Values		27			27
Soil Health	5	11	1		17
Ecosystem Services	1	14			15
Pest Control		13			13
Peat		6			6
Biodiversity Management	3	64	5	5	77
Supply Chain Practices			10		10
Agrobiodiversity & resilience		3			3
<b>Energy</b>	<b>1</b>	<b>17</b>	<b>1</b>		<b>19</b>
Energy Efficiency	1	4			5
Energy Consumption		13	1		14
<b>Environmental Management System</b>	<b>25</b>				<b>25</b>
Fines and Sanctions	1				1
Environmental Policy	9				9
Environmental Reporting	6				6
Environmental Audits	1				1
Environmental Standards and Certificates	5				5
Environmental Efficiency and Improvements	3				3
<b>GHG &amp; Other Emissions</b>	<b>50</b>		<b>19</b>	<b>11</b>	<b>80</b>
Carbon Intensity	4				4
Ozone	1				1
Other Pollutants & GHG	2				2
GHG Emissions - direct (Scope 1)	6		2		8
GHG Emissions - energy (Scope 2)	5				5
GHG Emissions - other indirect (Scope 3)	2		3		5
GHG & Climate Strategy	11		14	11	36
Carbon Offsets	2				2
GHG Reduction Targets & Performance	12				12
Carbon Stock, Deforestation & Fires	5				5

Total lines for each category and sub-category are above (darker color)

CATEGORIES	1. Products	2. Processes	3. Value Chain	4. Corporate Citizenship	TOTAL
<b>Environmental</b>	<b>18</b>	<b>330</b>	<b>51</b>	<b>21</b>	<b>420</b>
<b>Technology, Innovation &amp; New Business Models (Including circular economy)</b>	<b>4</b>	<b>9</b>	<b>3</b>		<b>16</b>
Recalls		1			1
Technology Transfer			3		3
New Business Models		1			1
Material Types	1	4			5
Materials Life Cycle	3	3			6
<b>Waste</b>		<b>33</b>	<b>2</b>		<b>35</b>
Spills		1			1
Food Loss and Waste		1	1		2
Waste Management		20			20
Chemicals & Toxins Management		11	1		12
<b>Water</b>		<b>48</b>	<b>7</b>	<b>5</b>	<b>60</b>
Water Access		2			2
Fines and Sanctions		2			2
Water-Related Risks & Opportunities		12	7	1	20
Water Management & REporting		28		1	29
Water for Ecosystems		1			1
Water Policy		3		3	6
<b>Environmental Practices in the Supply Chain</b>	<b>4</b>		<b>3</b>		<b>7</b>
Supplier ESG Screening	4		1		5
Impacts in the Supply Chain Handling			1		1
<b>Social</b>	<b>39</b>	<b>300</b>	<b>131</b>	<b>5</b>	<b>475</b>
<b>Career Development &amp; Training</b>		<b>49</b>			<b>49</b>
Training & Education		13			13
Talent Attraction, Retention & Engagement		13			13
Professional Development Policies and Practices		4			4
Employment Policy & Benefits		12			12
OHS Management System & Metrics		7			7
<b>Community Relations &amp; Human Rights</b>		<b>56</b>	<b>42</b>		<b>98</b>
Gender Equality			3		3
Human Rights Policy & Management		33	6		39
Equitable Value Distribution, Benefit Sharing & Compensation		1	6		7
Stakeholder Consultation, Participation & Access to Information		1	14		15
Community Relations Policy & Management		21	4		25
Land Rights & Conflicts Disclosure			9		9
<b>Diets, Nutrition, &amp; Marketing</b>	<b>33</b>	<b>3</b>			<b>36</b>
Product Labeling	6	1			7
Product Formulation & Nutrient Profile	7				7
Marketing Policy	6	1			7
Food Security & Nutrition Access	2				2
Healthy Diets Promotion & Awareness	6	1			7
Nutrition Policy	5				5
Policy Audits & Compliance	1				1



Total lines for each category and sub-category are above (darker color)

CATEGORIES	1. Products	2. Processes	3. Value Chain	4. Corporate Citizenship	TOTAL
<b>Social</b>	<b>39</b>	<b>300</b>	<b>131</b>	<b>5</b>	<b>475</b>
<b>Food Safety</b>	<b>1</b>	<b>4</b>	<b>1</b>		<b>6</b>
Food Safety Management	1	1			3
Food Safety Audits		2			2
Food Safety Recalls		1			1
<b>Health, Wellness, &amp; Safety</b>	<b>1</b>	<b>70</b>	<b>1</b>		<b>72</b>
OHS Management System & Metrics	1	60			61
Healthcare & Benefits		3			3
OHS Audits		2			2
Supply Chain OHS & Impact Assessments		5	1		6
<b>Labor Practices</b>	<b>1</b>	<b>114</b>	<b>30</b>		<b>145</b>
Gender Equity		16	7		23
Sexual Harassment		2			2
Non-discrimination & Equal Opportunity Policy & Management		8	1		9
Child Labor, Forced Labor & Migrant Work		17	3		20
Parenthood & Care	1	10			11
Pay Equity & Financial Security		20	1		21
Freedom of Association, Grievances & Dispute Resolutions		16			16
Hiring Practices & Working Conditions		19	3		22
Diversity & Inclusion Policy and Management		5	9		14
Value Sharing with Employees & Local Stakeholders		1	6		7
<b>Philanthropy</b>			<b>5</b>	<b>3</b>	<b>8</b>
Corporate Philanthropy Philosophy			3	2	5
Corporate Philanthropy Contributions			2	1	3
<b>Product Pricing &amp; Availability</b>	<b>3</b>				<b>3</b>
Product Distribution & Availability	2				1
Product Pricing	1				2
<b>Value Sharing</b>			<b>1</b>		<b>1</b>
Benefit Sharing			1		1
<b>Social Practices in the Supply Chain</b>		<b>4</b>	<b>51</b>	<b>2</b>	<b>57</b>
Sourcing Policy & Supplier ESG Screening		1	16		17
Support for Small-Scale or Undeserved Suppliers			15		15
Fair Wages, Contract Terms and Prices			8		8
Sourcing Practices, Verification, & Disclosure		1	5	1	7
Stakeholder Communication, Training, Consultation & Grievances		2	5	1	8
Diversity, Equity, and Inclusion in the Supply Chain			2		2
<b>Governance</b>	<b>24</b>	<b>104</b>	<b>5</b>	<b>110</b>	<b>243</b>
<b>Compliance with Laws &amp; Regulations</b>		<b>45</b>	<b>1</b>	<b>28</b>	<b>74</b>
Fines and Sanctions		1			3
Traceability		1	1		2
Legal Requirements				26	26
Management Activities in Line with Policies					40
Contracts					3

Total lines for each category and sub-category are above (darker color)

CATEGORIES	1. Products	2. Processes	3. Value Chain	4. Corporate Citizenship	TOTAL
<b>Governance</b>	<b>24</b>	<b>104</b>	<b>5</b>	<b>110</b>	<b>243</b>
<b>Corporate Strategy, Governance &amp; Management</b>	<b>7</b>	<b>39</b>	<b>3</b>	<b>46</b>	<b>95</b>
Company Policies		2		12	14
Company Transparency		3	1	3	7
Governance Structure & Oversight	2	3		21	26
Management Planning, Monitor, and Assessment	2	28		3	33
Company Strategy	3	2		2	7
Risk Culture				5	5
Stakeholder Engagement & Benefit Sharing		1	2		3
<b>Customer Relations</b>	<b>6</b>	<b>2</b>		<b>3</b>	<b>11</b>
Customer Relations Management	2	1		3	6
Product Citizenship	4	1			5
<b>Engagement with Policymakers &amp; Other Stakeholders</b>		<b>1</b>		<b>7</b>	<b>8</b>
Lobbying Spending		1		3	4
Lobbying Activities				4	4
<b>Tax Strategy &amp; Other Disclosures</b>	<b>10</b>	<b>13</b>	<b>1</b>	<b>18</b>	<b>42</b>
Tax Policy		1		5	6
Tax Rate				1	1
Disclosure Outcomes & Penalties		11		1	12
Disclosure of Sensitive Business Types, Practices, Impacts, or Risks	10	1	1	11	23
<b>TOTAL</b>	<b>81</b>	<b>734</b>	<b>187</b>	<b>136</b>	<b>1138</b>



## ANNEX D: PERCENTAGE OF COMPANIES (BOTH FOR 2018 AND 2019 AND AVERAGE AMONG THE TWO YEARS) DISCLOSING INFORMATION ON EACH OF THE TOPICS

### DISCLOSURE BY PRODUCT LINE

TOPIC	2018	2019	AVERAGE 2018 & 2019
1. Developing healthy and sustainable product portfolios	83	92	88
2. Healthy eating and lifestyle promotion	83	92	88
3. Undernutrition	25	33	29
4. Food safety	17	25	21
5. Air and Climate	8	8	8
6. Nature and Biodiversity7. Sustainable Food Production and Sourcing	33	25	29
7. Sustainable Food Production and Sourcing	25	42	33
8. Securing sustainable water supply for human use and ecosystems	8	8	8
9. Waste	42	42	42
10. Animal Welfare	25	8	17
11. Corporate Governance System oriented towards Sustainability Issues	8	8	8
12. Diversity and Inclusion practices	0	8	4

### DISCLOSURE BY COUNTRY

TOPIC	2018	2019	AVERAGE 2018 & 2019
1. Developing healthy and sustainable product portfolios	58	58	58
2. Healthy eating and lifestyle promotion	83	75	79
3. Undernutrition	58	50	54
4. Food safety	50	33	42
5. Air and Climate	42	42	42
6. Nature and Biodiversity7. Sustainable Food Production and Sourcing	42	50	46
7. Sustainable Food Production and Sourcing	33	25	29
8. Securing sustainable water supply for human use and ecosystems	33	33	33
9. Waste	50	50	50
10. Animal Welfare	8	17	13
11. Corporate Governance System oriented towards Sustainability Issues	25	25	25
12. Diversity and Inclusion practices	42	42	42
13. Labor rights and decent work	33	25	29
14. Decent Standard of living for smallholder farmer	33	50	42
15. Community Engagement	50	50	50
16. Corporate Taxation	8	8	8
17. Anti-Corruption	0	0	0
18. Resource Rights	0	0	0

### DISCLOSURE BY SUPPLY CHAIN

TOPIC	2018	2019	AVERAGE 2018 & 2019
5. Air and Climate	67	67	67
4. Food safety	25	25	25
3. Undernutrition	0	0	0
2. Healthy eating and lifestyle promotion	42	58	50

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- <sup>2</sup> The most critical human rights violations are related to labor rights through forced labor, child labor, degrading treatment, human trafficking, discrimination, lack of access to social security, and excessive overtime working schedules, among other problems. Besides labor issues, business operations in the food sector include human rights violations such as abuses towards migrant workers, pervasive gender-based violence and discrimination, harm to indigenous communities, forced displacement, and extremely high usage of clean water (nearly 70%), affecting its availability for other human needs FoodPrint, "Labor and Workers in the Food System," FoodPrint, 2020, <https://foodprint.org/issues/labor-workers-in-the-food-system/>; OECD and FAO, "OECD-FAO Guidance for Responsible Agricultural Supply Chains: How It Can Help Achieve the Sustainable Development Goals.," 2020, <http://mneguidelines.oecd.org/How-the-OECD-FAO-Guidance-can-help-achieve-the-Sustainable-Development-Goals.pdf>.
- <sup>3</sup> Elements of a decent standard of living include food, water, housing, education, health care, transport, clothing, and other essential needs including provision for unexpected events" Global Living Wage Coalition, "What Is a Living Wage?," 2018, <https://www.globallivingwage.org/about/what-is-a-living-wage/>.
- <sup>4</sup> Walter Willett et al., "Food in the Anthropocene: The EAT–Lancet Commission on Healthy Diets from Sustainable Food Systems," *The Lancet* 393, no. 10170 (February 2019): 447–92, [https://doi.org/10.1016/S0140-6736\(18\)31788-4](https://doi.org/10.1016/S0140-6736(18)31788-4).
- <sup>5</sup> Corporate tax strategies are heavily influenced by the tax frameworks set by governments. In recognition that existing frameworks limit governments' ability to address their development needs, there have been ongoing efforts at the international level focused on how governments can strengthen tax frameworks to meet their needs. (See for instance the OECD/G20 Inclusive Framework on BEPS). As this report focuses on corporate alignment with the SDGs, we emphasize here the role that companies can proactively play to help strengthen tax bases that support achievement of the SDGs.
- <sup>6</sup> Companies should also disclose pertinent information regarding other legal actions that stand to affect the public interest, including submission of amicus curiae; challenges to laws, rules or administrative decisions; and settlements related to matters of public interest.
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- <sup>12</sup> FABLE, "Pathways to Sustainable Land-Use and Food Systems. 2019 Report of the FABLE Consortium."
- <sup>13</sup> Proxy indicators and targets for fertilizer application and use are not included in this section and will be detailed in the next edition
- <sup>14</sup> Searchinger et al., "World Resources. Creating a Sustainable Food Future. A Menu of Solutions to Feed Nearly 10 Billion People by 2050."
- <sup>15</sup> Including both manure management in confined settings and on pastures
- <sup>16</sup> Searchinger et al., "World Resources. Creating a Sustainable Food Future. A Menu of Solutions to Feed Nearly 10 Billion People by 2050."
- <sup>17</sup> Searchinger et al.; Vermeulen, Campbell, and Ingram, "Climate Change and Food Systems."
- <sup>18</sup> Estimated by removing the higher-bound estimate of 575 million tons CO<sub>2</sub>eq. per year GHG emissions from fertilizer manufacture by Vermeulen, Campbell, and Ingram, "Climate Change and Food Systems." from the 853 million tons CO<sub>2</sub>eq. per year GHG emissions from soil fertilization by Searchinger et al., "World Resources. Creating a Sustainable Food Future. A Menu of Solutions to Feed Nearly 10 Billion People by 2050." that included the manufacture, transportation and application.
- <sup>19</sup> According to J. Poore and T. Nemecek, "Reducing Food's Environmental Impacts through Producers and Consumers," *Science* 360 (2018): 987–92. Food Supply Chain GHG emissions (13 700 Mt CO<sub>2</sub>eq/year) and Non-Food Agriculture GHG emissions (2 800 Mt CO<sub>2</sub>eq/year) create about 16 500 Mt CO<sub>2</sub>eq/year.
- <sup>20</sup> To avoid double counting, food loss and waste is presented separately from other GHG emission drivers
- <sup>21</sup> Searchinger et al., "World Resources. Creating a Sustainable Food Future. A Menu of Solutions to Feed Nearly 10 Billion People by 2050."
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<sup>35</sup>The most critical human rights violations are related to labor rights through forced labor, child labor, degrading treatment, human trafficking, discrimination, lack of access to social security, and excessive overtime working schedules, among other problems. Besides labor issues, business operations in the food sector include human rights violations such as abuses towards migrant workers, pervasive gender-based violence and discrimination, harm to indigenous communities, forced displacement, and extremely high usage of clean water (nearly 70%), affecting its availability for other human needs FoodPrint, "Labor and Workers in the Food System"; OECD and FAO, "OECD-FAO Guidance for Responsible Agricultural Supply Chains: How It Can Help Achieve the Sustainable Development Goals."

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<sup>42</sup>Some of the standards and reporting initiatives that include these types of indicators are: RSPO, B Corp and FSC.

<sup>43</sup>The expansion of the food sector to meet increasing global demands has led to more complex value chain dynamics, characterized by the multiplication of business relationships between market actors, across different geographies. The increase of market interactions and firms' pursuit of higher competitiveness have brought along social and environmental issues throughout value chains (Human rights and labor rights issues have been found in the Thai Shrimp supply chain, Bangladesh shrimp sector, Fish Supply Chain in Indonesia, and other commodities supply chains (Verité, 2016) (Verité, 2012) (Verité, 2012)). In this interconnected ecosystem, despite the efforts a company individually undertakes to address these issues in its business operations, and in its products and services, these issues persist across value chains if more strict standards are not enforced between market actors.

<sup>44</sup>The framework for WBA's Food and Agriculture Benchmark will be used by WBA to analyze and benchmark global food companies. It is the outcome of a joint effort among experts in the field, which sees the contribution also of the Fixing the Business of Food Initiative.

<sup>45</sup>Poore and Nemecek, "Reducing Food's Environmental Impacts through Producers and Consumers."

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<sup>60</sup>Ashkan Afshin et al., "Health Effects of Dietary Risks in 195 Countries, 1990–2017: A Systematic Analysis for the Global Burden of Disease Study 2017," *The Lancet* 393, no. 10184 (April 2019): 1958–72, [https://doi.org/10.1016/S0140-6736\(19\)30041-8](https://doi.org/10.1016/S0140-6736(19)30041-8).

<sup>61</sup>FABLE, "Pathways to Sustainable Land-Use and Food Systems. 2019 Report of the FABLE Consortium."

<sup>62</sup>WWF et al 2020; Valentini et al. 2019; BCFN 2016

<sup>63</sup>UNICEF, "Malnutrition in Children," *UNICEF DATA*, 2019, <https://data.unicef.org/topic/nutrition/malnutrition/>.

<sup>64</sup>WHO, "Food Safety," 2020, <https://www.who.int/news-room/fact-sheets/detail/food-safety>.

<sup>65</sup>World Benchmarking Alliance is in the process of defining the list of topics of this part through a consultation of their Advisory Board. We have included in our analysis only those considered most relevant for the agri-food sector. A future alignment will be taken into consideration.

<sup>66</sup>"Workers" include all employees (contracted and contingent) and non-employees (temporary, seasonal, wage and migrant) that are either under the direct control or not under the direct control of the company

<sup>67</sup>A living wage is sufficient to cover food, water, clothing, transport, education, health care and other essential needs for workers and their family based on a regular work week not including overtime hours (CHRB)

<sup>68</sup>Work that deprives children of their childhood, their potential and their dignity, and that is harmful to physical and mental development (ILO)

<sup>69</sup>(UNCHR, 2015)

<sup>70</sup>(Kotler and Lee, 2004); (Bowen et al., 2010)

<sup>71</sup>WBA, "Food and Agriculture Benchmark - Draft Industry and Company Scope," June 2019, <https://www.worldbenchmarkingalliance.org/wp-content/uploads/2019/06/WBA-Food-and-Agriculture-Benchmark-scoping.pdf>.

<sup>72</sup>European Commission, "COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS A Farm to Fork Strategy for a Fair, Healthy and Environmentally-Friendly Food System" (2020), [https://eur-lex.europa.eu/resource.html?uri=cellar:ea0f9f73-9ab2-11ea-9d2d-01aa75ed71a1.0001.02/DOC\\_1&format=PDF](https://eur-lex.europa.eu/resource.html?uri=cellar:ea0f9f73-9ab2-11ea-9d2d-01aa75ed71a1.0001.02/DOC_1&format=PDF).

<sup>73</sup>The WBA Framework will be used by WBA to analyze and benchmark global food companies. It is the outcome of a joint effort among experts in the field, which also sees the contribution of the Fixing the Business of Food Initiative.

<sup>74</sup>Norbert Taubken and Tim Y. Feld, "Impact Measurement and the Concept of Materiality—New Requirements and Approaches for Materiality Assessments," *NachhaltigkeitsManagementForum | Sustainability Management Forum* 26, no. 1–4 (December 2018): 87–100, <https://doi.org/10.1007/s00550-018-0483-x>.

<sup>75</sup>The parties involved in the Corporate Reporting Dialogue are, namely, Global Reporting Initiative (GRI), the International Integrated Reporting Council (IIRC), the Sustainable Accounting Standards Board (SASB), the Climate Disclosure Standards Board (CDSB), the Financial Accounting Standards Board (FASB), the Carbon Disclosure Project (CDP), the International Financial Reporting Standards (IFRS), and the International Organization for Standardization (ISO).

<sup>76</sup>AA.VV., "Corporate Reporting Dialogue, Statement of Common Principles of Materiality of the Corporate Reporting Dialogue," 2016, <https://corporatereportingdialogue.com/wp-content/uploads/2016/03/Statement-of-Common-Principles-of-Materiality.pdf>.

<sup>77</sup>European Commission, "CONSULTATION DOCUMENT ON THE UPDATE OF THE NON-BINDING GUIDELINES ON NON-FINANCIAL REPORTING," 2019, [https://ec.europa.eu/info/sites/info/files/business\\_economy\\_euro/banking\\_and\\_finance/documents/2019-non-financial-reporting-guidelines-consultation-document\\_en.pdf](https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/2019-non-financial-reporting-guidelines-consultation-document_en.pdf).

<sup>78</sup>Sustainable Accounting Standards Board, "SASB Conceptual Framework," 2017, <https://www.sasb.org/wp-content/uploads/2019/05/SASB-Conceptual-Framework.pdf>.

<sup>79</sup>Global Reporting Initiative Robecosam, "Defining Materiality What Matters to Reporters and Investors," 2015, <https://www.globalreporting.org/resourcelibrary/Defining-Materiality-What-Matters-to-Reporters-and-Investors.pdf>.

<sup>80</sup>Global Reporting Initiative, "Questions and Feedback," 2020, <https://www.globalreporting.org/standards/questions-and-feedback/materiality-and-topic-boundary/>.

<sup>81</sup>Sustainable Accounting Standards Board, "SASB, 2017."

<sup>82</sup>The four Accounting Metrics identified by SASB for the Disclosure Topic Food Safety are: *Global Food Safety Initiative (GFSI) audit (1) non-conformance rate and (2) associated corrective action rate for (a) major and (b) minor non-conformances; Percentage of ingredients sourced from Tier 1 supplier facilities certified to a Global Food Safety Initiative (GFSI) recognized food safety certification program; (1) Total number of notices of food safety violation received, (2) percentage corrected; (1) Number of recalls issued and (2) total amount of food product recalled.*

<sup>83</sup>Robecosam, "Defining Materiality What Matters to Reporters and Investors."

<sup>84</sup>By partial coverage, we herein intend that the topics that have been identified as non-financially relevant in the materiality assessments undertaken by companies relate to at least one of the described aims of the key topics. For example, if a company has declared only product (re) formulation to be relevant to its business according to its materiality analysis we have considered that the company's topic only partially aligns to the key topic of Developing healthy and sustainable product portfolios.

<sup>85</sup>By partial coverage, we herein intend that the topics that have been identified as non-financially relevant in the materiality assessments undertaken by companies relate to at least two of the described aims of the key topics. For example, if a company has declared product (re) formulation and Increase the relative share of healthy foods to be relevant to its business according to its materiality analysis we have considered that the company's topic moderately aligns to the key topic of Developing healthy and sustainable product portfolios.

<sup>86</sup>European Council European Parliament, "Regulation (EU) 2020/852 of the European Parliament and the Council," Pub. L. No. 2020/852 (2020), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32020R0852>.

<sup>87</sup>European Commission, "COM (2019) 640 Final" (2019): [https://eur-lex.europa.eu/resource.html?uri=cellar:b828d165-1c22-11ea-8c1f-01aa75ed71a1.0002.02/DOC\\_1&format=PDF](https://eur-lex.europa.eu/resource.html?uri=cellar:b828d165-1c22-11ea-8c1f-01aa75ed71a1.0002.02/DOC_1&format=PDF).

<sup>88</sup>A list of the major documents analyzed per each company is reported in the annexes.

<sup>89</sup>Meanwhile, Honest Tea was acquired by Coca Cola and therefore not included inside the present analysis

<sup>90</sup>Bager et al., "Food Emissions"; Searchinger et al., "World Resources. Creating a Sustainable Food Future. A Menu of Solutions to Feed Nearly 10 Billion People by 2050."; Vermeulen, Campbell, and Ingram, "Climate Change and Food Systems."

<sup>91</sup>Bager et al., "Food Emissions."

<sup>92</sup>FABLE, "Pathways to Sustainable Land-Use and Food Systems. 2019 Report of the FABLE Consortium."



- <sup>93</sup>Vermeulen, Campbell, and Ingram, "Climate Change and Food Systems."
- <sup>94</sup>Vermeulen, Campbell, and Ingram.
- <sup>95</sup>Searchinger et al., "World Resources. Creating a Sustainable Food Future. A Menu of Solutions to Feed Nearly 10 Billion People by 2050."
- <sup>96</sup>Searchinger et al.
- <sup>97</sup>Searchinger et al.
- <sup>98</sup>Searchinger et al.; Vermeulen, Campbell, and Ingram, "Climate Change and Food Systems."
- <sup>99</sup>Searchinger et al., "World Resources. Creating a Sustainable Food Future. A Menu of Solutions to Feed Nearly 10 Billion People by 2050."
- <sup>100</sup>Searchinger et al.
- <sup>101</sup>Project Drawdown, "The Drawdown Review 2020. Climate Solutions for a Decade," 2020, [https://drawdown.org/sites/default/files/pdfs/Drawdown\\_Review\\_2020\\_march10.pdf](https://drawdown.org/sites/default/files/pdfs/Drawdown_Review_2020_march10.pdf).
- <sup>102</sup>Abby Snyder, "Scope 1 & 2 GHG Inventory Guidance Use to Prepare a GHG Inventory and Quantify Emissions" (Innovation Center for U.S. Dairy, November 2019), [https://ghgprotocol.org/sites/default/files/Guidance\\_Handbook\\_2019\\_FINAL.pdf](https://ghgprotocol.org/sites/default/files/Guidance_Handbook_2019_FINAL.pdf).
- <sup>103</sup>EPA, "Life-Cycle GHG Accounting Versus GHG Emission Inventories" (Environmental Protection Agency (USA), March 2016), <https://www.epa.gov/sites/production/files/2016-03/documents/life-cycle-ghg-accounting-versus-ghg-emission-inventories10-28-10.pdf>.
- <sup>104</sup>BCFN, "Double Pyramid - Dissemination - BCFN Foundation," 2019, [https://www.barillacfn.com/en/dissemination/double\\_pyramid/](https://www.barillacfn.com/en/dissemination/double_pyramid/).
- <sup>105</sup>Rainforest Alliance, "2020 Certification Program."
- <sup>106</sup>Unless it differs from local regulation
- <sup>107</sup>"World Resources. Creating a Sustainable Food Future. A Menu of Solutions to Feed Nearly 10 Billion People by 2050."
- <sup>108</sup>Rainforest Alliance, "2020 Certification Program."
- <sup>109</sup>Searchinger et al., "World Resources. Creating a Sustainable Food Future. A Menu of Solutions to Feed Nearly 10 Billion People by 2050."
- <sup>110</sup>Searchinger et al.
- <sup>111</sup>IRRI, "GHG Mitigation in Rice - Alternate Wetting and Drying," 2019, <https://ghgmitigation.irri.org/mitigation-technologies/alternate-wetting-and-drying>.
- <sup>112</sup>Kritee Kritee et al., "High Nitrous Oxide Fluxes from Rice Indicate the Need to Manage Water for Both Long- and Short-Term Climate Impacts," *Proceedings of the National Academy of Sciences* 115, no. 39 (September 25, 2018): 9720–25, <https://doi.org/10.1073/pnas.1809276115>.
- <sup>113</sup>Glenn Denning, Conversation about rice GHG mitigation strategies, June 12, 2020.
- <sup>114</sup>Bager et al., "Food Emissions."
- <sup>115</sup>FABLE, "Pathways to Sustainable Land-Use and Food Systems. 2019 Report of the FABLE Consortium."
- <sup>116</sup>Rainforest Alliance, "2020 Certification Program."
- <sup>117</sup>Unless it differs from local regulation
- <sup>118</sup>Searchinger et al., "World Resources. Creating a Sustainable Food Future. A Menu of Solutions to Feed Nearly 10 Billion People by 2050."; Vermeulen, Campbell, and Ingram, "Climate Change and Food Systems."
- <sup>119</sup>FABLE, "Pathways to Sustainable Land-Use and Food Systems. 2019 Report of the FABLE Consortium."
- <sup>120</sup>Searchinger et al., "World Resources. Creating a Sustainable Food Future. A Menu of Solutions to Feed Nearly 10 Billion People by 2050."
- <sup>121</sup>Including both manure management in confined settings and on pastures
- <sup>122</sup>Searchinger et al., "World Resources. Creating a Sustainable Food Future. A Menu of Solutions to Feed Nearly 10 Billion People by 2050."
- <sup>123</sup>Searchinger et al.; Vermeulen, Campbell, and Ingram, "Climate Change and Food Systems."
- <sup>124</sup>Estimated by removing the higher-bound estimate of 575 million tons CO<sub>2</sub>eq. per year GHG emissions from fertilizer manufacture by Vermeulen, Campbell, and Ingram, "Climate Change and Food Systems." from the 853 million tons CO<sub>2</sub>eq. per year GHG emissions from soil fertilization by Searchinger et al., "World Resources. Creating a Sustainable Food Future. A Menu of Solutions to Feed Nearly 10 Billion People by 2050." that included the manufacture, transportation and application.
- <sup>125</sup>According to Poore and Nemecek, "Reducing Food's Environmental Impacts through Producers and Consumers." Food Supply Chain GHG emissions (13 700 Mt CO<sub>2</sub>eq/year) and Non-Food Agriculture GHG emissions (2 800 Mt CO<sub>2</sub>eq/year) create about 16 500 Mt CO<sub>2</sub>eq/year.
- <sup>126</sup>To avoid double counting, food loss and waste is presented separately from other GHG emission drivers
- <sup>127</sup>Searchinger et al., "World Resources. Creating a Sustainable Food Future. A Menu of Solutions to Feed Nearly 10 Billion People by 2050."
- <sup>128</sup>Rainforest Alliance, "2020 Certification Program."

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