



Materiality in corporate reporting - a White Paper focusing on the food and agriculture sector

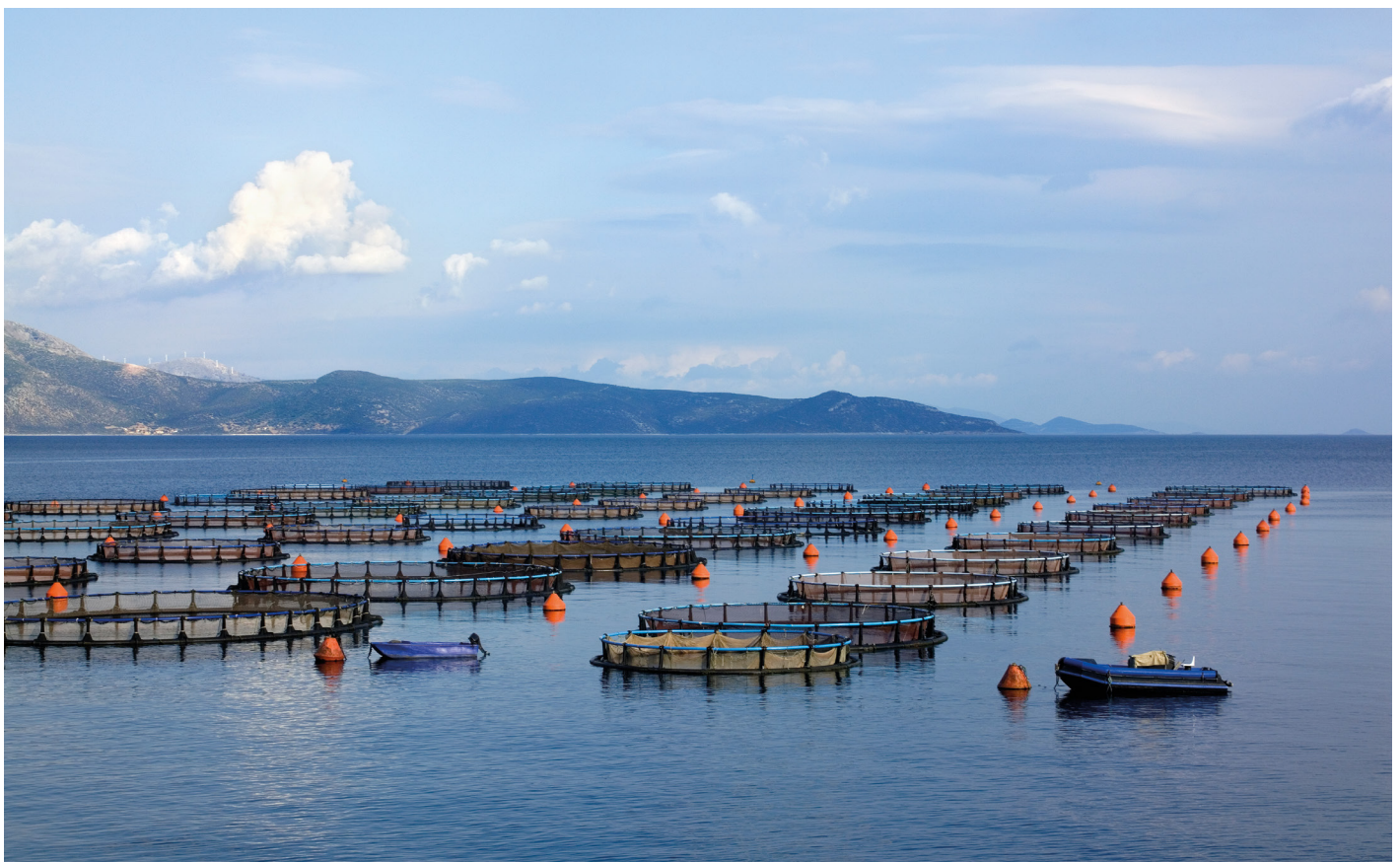
This White Paper represents a special contribution to WBCSD's "Purpose-Driven Disclosure" project.

Purpose-Driven Disclosure focuses on how external mainstream corporate reporting¹ to investors contributes to sustainable outcomes as expressed in public policy commitments such as the Sustainable Development Goals (SDGs) and the Paris Agreement. In particular, Purpose-Driven Disclosure considers the role of mainstream corporate reporting in influencing the decisions and actions of companies and investors.

The Purpose-Driven Disclosure project (PDD) is part of the Gordon and Betty Moore Foundation's Conservation and Financial Markets Initiative (CFMI) and WBCSD's Redefining Value program. Together these initiatives are designed to achieve a fundamental change in the way reporting, decision-making and financial allocation work to achieve sustainable outcomes.

This work is part of a collaboration between the Gordon and Betty Moore Foundation and other partners designed to reinforce corporate commitments to eliminate specific practices broadly recognized as problematic; and put in place systemic changes that will incentivize companies to be more proactive in addressing natural resource risks and opportunities. For more information see www.moore.org.

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Executive summary

This White Paper provides insight into the the role that materiality plays in facilitating the exchange of decision-useful environmental, social and governance (ESG) information between companies in the food and agriculture sector and investors.

Generally, the concept of materiality is intended to generate information that is useful for decision-making both by reporting companies and the intended audience. The general hypothesis on which this White Paper is based is that more effective application of the concept of materiality will lead to more decision-useful information passing between companies and investors, that will in turn support confident decisions and robust actions. Research ("the Research") conducted for the White Paper takes those general principles and applies them specifically to the concept of materiality, in so far as it is used by 56 publicly traded companies in the food and agriculture sector to identify material ESG information for public disclosure(s), and for use by investors in allocating capital and taking actions in support of sustainable outcomes, as expressed in public policy statements such as the Sustainable Development Goals and the Paris Agreement.

By way of background, the Research responds to two main general observations:

1. The scope, content and type of ESG information that companies consider for public disclosure is very wide ranging and, although various materiality evaluation approaches have been developed, the identification of material ESG information for public disclosure depends primarily on materiality.

2. Some new reporting recommendations and guidance - such as those offered by the Task Force on Climate-related Financial Disclosures (TCFD) and the Sustainability Accounting Standards Board (SASB) - focus on public disclosure of material ESG information through mainstream corporate reports. There is some evidence to suggest that this presents particular challenges that are distinct from the challenges of reporting ESG information through sustainability reports and voluntary channels.

In response to the first observation, the Research focused on the assessment and judgement processes that companies use to identify material ESG information. In particular, the Research focused on the disclosures specific to materiality process, materiality outputs and governance structures for identified material issues. The Research does not include a review of the definitions of materiality offered by different organizations as this has already been covered to some extent by the Corporate Reporting Dialogue². The Research simply records and evaluates practices used for the identification of material issues by the companies within scope of the Research. 37 out of the 56 companies reviewed describe a multi-stakeholder approach to identifying material ESG issues. The process for organizing and prioritizing issues was less clear with 23 of the 56 companies disclosing the matrix or other processes used for prioritization of material issues.

The results of the Research show:

- Some conformance with the recommendations and guidance offered by four organizations - the Food Administration Organization (FAO), Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB) and Task Force on Climate-related Financial Disclosures (TCFD) - on the type of ESG information that should be considered for disclosure by companies in the food and agriculture sector. GRI's was the most commonly referenced and used approach for disclosing ESG information with 28 out of 56 companies referencing GRI's standards.
- Other factors apart from the recommendations and guidance offered by the four organizations also appear to affect the identification of material ESG information for public disclosure. For example, 17 of the 56 companies mentioned that their reporting decisions were influenced by the SDGs. Other influences include the companies' risk tolerance, the time horizon over which materiality decisions are made, links to financial performance and impact, investor pressure for information and whether sustainability is understood as part of the fiduciary duty of the company.

In response to the second observation, the Research considers whether and how ESG information differs depending on the reporting "channel" through which it is published (i.e. through mainstream or voluntary channels). The 56 companies within scope of the Research cover one or more ESG issues in either or both their sustainability and financial reports using a wide range of tools and techniques. Overall fewer ESG issues are reported in the mainstream report compared with the sustainability report and this reflects the conclusions of other studies that also find gaps between the ESG information found in mainstream and sustainability reports respectively.

For example, the Research found that almost 50% of the companies that report on GHG emissions and water management as material in their sustainability report do not include the same or similar information in their mainstream report. In contrast, data security and employee compensation are listed more frequently as material in the mainstream financial report.



A definitive reason for the gap was not found. However, the materiality processes used in sustainability disclosure remain, for the most part, unaligned with the materiality processes undertaken in financial disclosures. One notable difference is that sustainability reports that discuss materiality in the benchmark group usually involve external stakeholders assessing priority without specific criteria. In contrast, financial disclosures by and large reference a risk assessment process that has implied criteria that focus on impact and likelihood.

In addition, there appear to be differences in the criteria and/or time horizon for risk assessment as applied to sustainability reporting and mainstream financial disclosure³ respectively. Although these differences are largely implicit in company disclosures, the Research suggests that criteria used for financial disclosures are linked to financial performance and the factors that directly influence financial performance such as business strategy and model, financial planning, governance and resilience. In contrast, criteria for assessing sustainability-related materiality are broader and include indirect considerations such as reputation and intangible value.

In summary, the Research concludes:

There is conformance around content and guidance/standards for some issues

- Some issues are commonly reported in sustainability reports, such as greenhouse gas emissions, water conservation and biodiversity/land use issues and those companies that report material sustainability issues in sustainability reports show a high degree of alignment with the SASB and GRI reporting standards. However, there is less consistency beyond these issues.

There are some well-described practices, but considerable variations

- While many clear practices for identifying and assessing material sustainability issues are evident, these practices vary widely across companies.

There is a disconnect between issues reported through sustainability and mainstream reports

- There is relatively little alignment between material issues reported in sustainability reports compared to mainstream financial reports.

Criteria for prioritization are not clear

- In many cases the criteria for selecting reported material issues are not evident even where there is a well-described process involving stakeholders and reference to standards to identify them.

Introduction

Materiality is a fundamental concept in the development of corporate reporting on environmental, social and governance (ESG) issues⁴. The concept of materiality is intended to generate information that is useful for decision-making both by the reporting company and the intended audience for the reported information.

Over the last 10+ years, there has been increasing understanding from investors and other financial market participants that environmental and social issues can have material financial impacts, both positive and negative and direct or indirect, on companies, as well as on economies and societies more generally. For example, increasing energy efficiency can benefit the environment through reduced greenhouse gas emissions as well as reducing costs through lower utility bills. More indirectly, a commitment to fair trade and worker rights in the supply chain may reduce the likelihood of customer backlash or even improve the brand value of products.

Although the potential for environmental, social and governance (ESG) issues to have material financial and other impacts on business, economies and societies is increasingly recognized, the types of information companies are encouraged or required to report on ESG issues are potentially very wide ranging⁵ and not as comprehensively specified as their counterparts in financial reporting.

Furthermore, there is no generally accepted approach for companies to use when identifying material ESG issues for reporting purposes and the information needs of investors can be diverse or unknown. This means that in applying the concept of materiality, companies must rely primarily on assessment processes and associated judgement in order to identify and report on material ESG issues.

A further complication in the application of materiality judgement is the growing expectation that material ESG information will be disclosed not only in sustainability reports, but also in mainstream reports in accordance with requirements to report "material risks"⁶ to an audience of investors. Through wide stakeholder involvement, including with investors, organizations such as the Sustainability Accounting Standards Board (SASB), International Integrated Reporting Council (IIRC), Climate Disclosure Standards Board (CDSB) and Task Force on Climate-related Financial Disclosures (TCFD) have developed guidance for reporting ESG information through mainstream reporting channels alongside financial information⁷.

To date, ESG reporting and disclosure practices have developed outside the mainstream reporting model and for different purposes through the work of non-governmental organizations and specialist reporting initiatives, such as the Global Reporting Initiative (GRI)⁸. There is no agreed process for incorporating the resulting content and practices into the mainstream reporting model or for applying existing mainstream reporting infrastructure, (developed, amongst others, by the International Accounting Standards Board (IASB), Financial Accounting Standards Board (FASB), corporate governance regulators, Stock Exchanges and providers of enterprise risk management guidance), to disclosure of material ESG-related information. Research by CDSB⁹, Eccles and Krzus¹⁰ and WBCSD¹¹ reveals significant challenges in achieving integration of ESG information (or subsets thereof) into existing mainstream reports even where the information is available through other reporting channels.

There have been useful attempts to highlight commonalities in the definitions of and approaches to materiality¹². However, practices in applying materiality judgment and reporting the resulting conclusions vary widely. The variation in approach has been described as giving rise to a proliferation of “inconsistent and idiosyncratic”¹³ metrics, which now need to be rationalized to reflect ESG content, data points and indicators applicable to all industries as well as those that are material to specific industries.

Scope of this White Paper:

This paper explores the approaches used by certain companies in the food and agriculture sector when applying the concept of materiality to identify and report on ESG issues. This paper does not review the definitions of materiality offered by different organizations, as this is beyond its scope and has already been covered to some extent by the Corporate Reporting Dialogue¹⁴. This paper simply records and evaluates practices used for the identification of material issues by the companies within scope of the research.

The purposes of this White Paper are to:

- Promote a shared understanding of materiality processes in ESG decision-making and reporting;
- Encourage discussion on what practical measures can be taken to address challenges associated with materiality assessment and judgement; and
- Use the findings and associated interactions with companies and investors further to develop materiality assessment processes for use by companies in providing more decision-useful information to their investors in support of the outcomes expressed in the SDGs and Paris Agreement.



Why the food and agriculture sector?

Against a background of significant risk, opportunity and rapid change, identifying and understanding material sustainability issues in the food and agriculture sector has widespread implications for decision-making by investors and others. The sector plays a critical role in many of the most pressing environmental and social challenges of our time: deforestation, water scarcity and access; climate change; poverty; and, of course, the imperative for the sector to feed the world's growing population.

According to the Nature Conservancy, over 40% of Earth's ice-free surface is dedicated to agriculture and 87% of fish stocks are fully or over-exploited¹⁵. The economic impact of food and agriculture is similarly large. McKinsey reported in 2015 that the food and agriculture sector represented USD \$5 trillion in global trade, 40% of employment and 10% of global spending¹⁶. More over, the scale continues to grow as companies are increasingly investing in agriculture and food companies in recognition of the increasingly sharp demand and market opportunities to feed people more effectively and efficiently.

The sector is also changing rapidly through investment, mergers and acquisitions¹⁷. Recent acquisitions and mergers indicate that the opportunities for consolidation and growth in the sector continue:

- Dupont recently merged with The Dow Chemical Company and acquired Granular Inc. an agriculture software company;
- Agrium merged with Potash;
- Mahindra and Mahindra acquired a 33% stake in Mitsubishi Agricultural Machinery Co.;
- The Chinese government purchased Syngenta, an agricultural products company, for over \$40 Billion;
- Amazon purchased Whole Foods, a food retail chain.

This movement within the sector presents a strong test case for how companies are acting to manage the risks and opportunities of sustainability issues and to differentiate themselves and find mechanisms to improve performance in a competitive growth market.

Food and agriculture companies continue to advance their practices for the determination of material sustainability issues but there is significant variation in the processes used, the conclusions reached and the way in which public disclosures are made about materiality. There are several possible explanations for this variation, including:

- 1) Different processes and/or tools for undertaking a materiality assessment;
- 2) Different criteria for determining what is material; and
- 3) Different thresholds for deciding which issues are sufficiently material to warrant disclosure in sustainability reporting vs mainstream reporting.



Research methodology

The Research undertaken for this paper was designed to advance understanding of the way selected companies in the food and agriculture sector identify and publicly report on material sustainability issues.

In this research, we consider how companies understand materiality and the processes they use to make materiality judgments. We consider whether processes for making materiality judgments and the outcomes, including indicators of performance in material matters, are aligned within the sector and throughout reporting channels (sustainability and mainstream financial). By reviewing the disclosed materiality processes (i.e. the steps involved in conducting a materiality assessment and the evaluation criteria) as well as the sustainability issues identified by companies in the food and agriculture sector, we attempt to isolate the predominant challenges companies face in making materiality determinations and applying them consistently across sustainability reports and mainstream financial reports.

This White Paper is based on the review of disclosure practices of 96 publicly traded companies in the food and agriculture sector. We were able to find benchmark information on sustainability and materiality for 56 of these companies (Appendix A1).

The review included disclosures made in:

- Downloadable sustainability reports as well as sustainability websites and information contained in related disclosures (such as corporate responsibility, citizenship and corporate social responsibility reports); and
- Mainstream financial disclosures including regulated, audited financial results, financial statements, governance statements and management commentary.

Within these reports, the Research focused on disclosures specific to materiality processes, materiality outputs and governance structures for identified material issues. All of the data used for the Research is available in the public domain.

In order to examine these factors, the review of reports assessed:

1. Which issues have been identified as being material by NGOs, government agencies, investors and others, providing insight into the issues that food and agriculture companies might be expected to report on;
2. Whether and to what extent reporting outputs align with those issues;
3. What processes, operational and organizational boundaries and criteria are used for identifying material issues and whether they are the same for sustainability and mainstream reporting respectively;
4. What standards/frameworks are used for identifying material issues; and
5. Whether material issues are reported in both sustainability and mainstream channels and, if so, whether the same material issues are reported through both reporting channels.

In an effort to mitigate the inherent subjectivity and qualitative nature of these questions, 10 of the companies were reviewed by two different team members and the results compared for consistency in interpretation. Observed differences in interpretation led to a second iteration and more detailed analysis.

Results

Of the 96 companies within scope of the research, 40 showed little to no disclosure on sustainability issues. The remaining 56 companies cover one or more ESG issues in either or both of their sustainability and mainstream reports using a wide range of tools and techniques.

Almost all of these companies mention sustainability issues in the mainstream report and those disclosures are by and large within the analysis of risk factors. Relatively few provided details on the criteria or processes that were used to identify specific sustainability risks in financial disclosure.

Which issues have been identified as material by NGOs, government agencies, investors and others?

Potentially material issues for the food and agriculture sector have been identified by various organizations, but we focus on the work of four of them here, the FAO, GRI, SASB and TCFD, as they cover a wide range of issues and include the two reporting standards (GRI and SASB) most commonly cited by companies as

forming the basis for their materiality judgments. The potentially material issues identified by those four organizations are summarized in Tables 1 and 2¹⁸. While the four organizations concerned request information on similar topics and indicators, the requests are made for different purposes. SASB and the TCFD request information designed to elicit information about the financial risks and opportunities associated with ESG issues (or subsets thereof) for an investor audience and through mainstream reporting channels. By contrast, GRI seeks information from companies about the wider impacts – including financial impacts – of corporate activity on the economy, environment and society.

Table 1: ESG issues recommended by FAO, GRI and SASB for disclosure from companies in the food and agriculture sector

ESG issue ^a	SASB Consumption 1 Standard				FAO	GRI ^b	Benchmark
	Agricultural products	Meat, poultry, dairy	Processed foods	Food retailers			
GHG emissions	✓	✓			✓	×	48
Supply chain responsibility	✓	✓	✓	✓		✓	45
Energy mgmt	✓	✓	✓	✓		×	44
Waste		✓		✓		×	43
Health and safety	✓	✓				×	43
Materials						✓	42
Water mgmt	✓	✓	✓		✓	×	39
Product safety	✓	✓	✓	✓		✓	33
Labor protection	✓			✓		✓	31
Product labeling			✓	✓		✓	29
Biodiversity and land use change	✓	✓			✓	✓	27
Product packaging			✓	✓		✓	24
Animal welfare						✓	22
Customer protection	✓	✓	✓	✓		×	22
Product marketing			✓	✓		✓	22
Compensation				✓		✓	15
Political advocacy	✓					✓	8
Data security				✓		✓	6
Soil pollutants					✓		4
Air pollutants					✓		3

- ^a
- Environmental
 - Social
- ^b
- ✓ GRI food processing sector supplement indicator
 - × GRI multi-sector indicator

Table 2: ESG issues recommended by TCFD for disclosure from companies in the food and agriculture sector

TCFD food and agriculture indicator ^a :		Number of companies reporting in the:	
Category	Example metric	Sustainability report	Financial report
Risk adaptation and mitigation	Revenues from low-carbon alternatives	12	3
	Expenditures from low-carbon alternatives	8	5
Water	Water withdrawal/ consumption	34	9
	Water withdrawal in water stressed regions	11	5
	Assets in water stressed regions	7	5
GHG emissions	Scope 1 emissions from biological sources	14	5
	Scope 1 emissions from land use change	10	2
	Scope 1 emissions from mechanical sources	20	5

^a Taken from Table 6 of the TCFD Annex: "Implementing the Recommendations of the Task Force on Climate-Related Disclosures" showing illustrative examples of the packaged food and meet sector and the agriculture sector¹⁹

What sustainability standards/frameworks are used for identifying material issues?

Many companies reference a reporting standard or a form of guidance when identifying material issues in their sustainability report. We found that GRI was the most commonly referenced. Twenty-eight of the benchmarked companies referenced the GRI. Seventeen companies made some reference to the SDGs and 4 companies cited SASB.

The extent of the references varied between companies. Some corporate reports suggest that the SDGs are used as a common language to show progress on sustainability issues whether or not the SDGs (or a sub-set thereof) have been identified representing material issues to the company²⁰. Other companies noted opportunities presented by the SDGs which suggests the possibility that SDGs were used as part of a materiality assessment (formal or informal) in order to arrive at a list of topics. For those companies referencing the GRI, some noted a level of accordance with G4, others provided a GRI content index while others only mentioned the GRI as a resource.

To what extent do reporting outputs align with the issues in Tables 1 and 2?

Companies in the food and agriculture sector disclose sustainability issues across a wide range of subject matter from occupational safety and diversity of employees, to deforestation and climate change. The primary issues identified by the 56 benchmarked companies are supply chain responsibility, health and safety, product safety, waste, water management, energy management, materials and climate. These issues align well with the issues identified as material by GRI and SASB (Table 1).

Alignment was less strong with the more detailed indicators recommended by FAO (Table 1) and TCFD (Table 2) on pollution types, GHG emissions sources and water.

About 30% of companies provide references to GRI although not all of these companies provide descriptions of materiality processes as recommended by the GRI G4 Guidelines and GRI Standards.

In conducting the Research, the starting presumption was that disclosures would align, at least to some extent, with the issues identified as material for the industry by the four organizations (Table 1). However, Esty and Cort²¹ have noted that "What is an important operational requirement or reputational issue to one company may not be to another... In the absence of regulations requiring ESG disclosure in most jurisdictions, companies determine their own materiality and therefore, strategize, implement, manage, measure, report and disclose accordingly."

It is apparent that other considerations influence reporting, such as international initiatives that promote the sustainability of natural capital and soft commodities (such as coffee and tea that are grown rather than mined) as well as variations in the definition of or approach to materiality itself. For example, companies can view materiality differently depending on their risk tolerance levels, the time horizon over which risks are assessed, whether considering sustainability issues forms part of the company's understanding of its fiduciary duty, the degree of pressure from investors to report information and more.

This might explain why issues other than those listed in Tables 1 and 2 have been identified and reported on. Although there are some common issues such as gender and racial diversity (covered by GRI, but not identified by other standards as material), for the most part, these issues are unique to the operations and markets of companies and therefore less relevant to global standards designed to apply across the sector. For example, agricultural banks report on green finance products, poverty alleviation and community economic development while integrated agricultural products companies include aspects such as, product innovation, genetic modification, genetic modification, certification schemes, traceability plans and procurement policies. Food producers include issues such as sanitation, illicit alcohol and urbanization.

There are also some issues that, while not labeled as material, are nevertheless discussed by companies in the context of a change in business practices and might therefore be regarded by some readers as material. Cargill, for example, reports on the implications of changes in wild versus farmed fish stocks. Similarly, PepsiCo and others discuss sugar and other “health taxes.” Again, while not specifically identified as material in the sustainability report, it seems to be an important incentive or component (in this case a tax) that prompted a substantial change in business practice. Some of the issues discussed by companies are indicative of larger, more dynamic, trends that are not yet captured by the reporting standards. For example, Mitsubishi Corporation’s acquisition of the salmon fishery company Cermaq and recent activities of large food ingredients companies such as Cargill in the gluten free market, represent market trends with sustainability implications that companies are acting upon.

There is significantly less alignment between reported information and the recommendations of the TCFD (Table 2). This finding might be explained by the relatively recent release of the TCFD’s recommendations, which means that companies within the scope of the Research might not have had access to the final recommendations when preparing the reports reviewed. A study by Eccles and Krzus looking at TCFD disclosure in the oil and gas industry²² finds that many companies provide much of the information recommended for disclosure, although not through mainstream reports. This is consistent with broader work surveying alignment of financial and sustainability disclosure by Douglas et al (2017)²³: “Financial reporting is rarely integrated with ESG reporting. Firm managers tend not to track the financial impact of their ESG initiatives, other than operational efficiencies such as energy savings, and even these links are not reported explicitly. It is impossible for ESG data providers to assess specifically how financial performance results from ESG practices when the link is not tracked or reported.”

What processes, boundaries and criteria are used for identifying material issues?

Out of the 56 companies reviewed, 37 describe a multi-stakeholder analysis to identify material issues. Many companies listed stakeholder groups and the material issues that are related to them. Some companies developed processes where they specifically engage with the stakeholders (through interviews for example) to identify materiality issues. For example, Koninklijke Ahold listed five external stakeholder groups that were brought into the materiality identification process: customers, associates, investors, suppliers and representatives of civil society.

While most companies reviewed in our research identify one or more sustainability issues, formal assessments showing how issues have been prioritized to the point where they are regarded as material are less common. Of the reviewed companies, 23 have disclosed a matrix to organize and prioritize the different sustainability issues identified. An additional 15 companies present identified (but non-prioritized) issues in a materiality table.

Our research shows limited corporate discussion of the processes implemented to identify material issues. Grupo Calvo provides a qualitative assessment of how well the company is addressing material issues. The Corporate Steering Committee and subsequently the board of directors approved a three-year Corporate Responsibility Master Plan for the entire group. To track progress, Grupo Calvo employed an external consulting firm to provide a risk map and an analysis of the general perception of the tuna industry. The group gathered perspectives on performance from the main external stakeholders; and internal consultation of the heads of each area of the company.

The material issues identified through these processes were tested against the Grupo Calvo Code for Responsible Purchasing. In this case, the Code of Responsible Purchasing forms the explicit benchmark for the company and stakeholders to judge whether an issue is more or less important to the company’s strategy.

Itochu provides explicit criteria to identify material issues based on potential risk. For a number of identified issues, Itochu describes a Risk Capital Management process which assesses the maximum amount of the possible future losses from all assets. This is then compared against the quality of risk controls in place to assess the likelihood of the loss.

JBS and Noble Group also list criteria against which they assess the risk of material issues. JBS tests the risk of sustainable issues against market, credit and liquidity risks. Noble, on the other hand, discusses a Value at Risk (VaR) process which includes sensitivities, stress scenarios and historical back-testing, as well as a bespoke "Principal Component Analysis" approach.

Are materiality processes aligned between sustainability and mainstream financial reports?

On the basis that sustainability and mainstream reports are designed to serve different purposes and audiences, lack of alignment between the materiality processes used for each report respectively and the associated conclusions might be expected. However, some reconciliation between the conclusions reached in different reports for different audiences and different purposes might be relevant for certain decision-makers. Indeed, several of the benchmarked companies connect the materiality assessments between the two reports. Itochu, Monsanto, Unilever and other companies have identified the relationship between the issues reported in the sustainability report and those reported in the mainstream report by applying additional risk or value assessments on sustainability information. For example, Itochu filters sustainability issues using the weighted risk of financial impact before moving the issue into the financial report.

In addition, several companies (such as Danone, Nestlé, Heineken, Mitsubishi, Metro) in the benchmark publish integrated or semi-integrated reports that show greater alignment of issues. However, the materiality processes used in sustainability disclosure remain, for the most part, unaligned with the materiality processes undertaken in financial disclosures. One notable difference is that sustainability reports discussing materiality in the benchmark group usually involve external stakeholders assessing priority without specific criteria. In contrast, financial disclosures by and large reference a risk assessment process that has implied criteria that focus on the impact of aspects on the business.



Seeking broad stakeholder involvement appears to be a feature of the materiality determination process used for identifying material ESG issues for disclosure in sustainability reports. Standards such as AccountAbility AA1000²⁴ provide detailed guidance on how to design and conduct a stakeholder engagement program. However, there is no associated prioritization process or criteria for determining which of the ESG issues identified by stakeholders might be most material to the reporting company.

Beyond this challenge, there also appears to be a difference in the criteria and/or time horizon for risk assessment as applied to sustainability reporting and mainstream disclosure²⁵ respectively. Although these differences are largely implicit in company disclosures, the Research suggests that criteria used for mainstream disclosures are linked to financial performance and the factors that directly influence financial performance such as business strategy and model, financial planning, governance and resilience. In contrast, criteria in sustainability materiality are broader and include indirect aspects such as reputation and intangible value. While these criteria are related, there may be a difference in application for the purpose of determining material issues. For example, an issue might be deemed material in sustainability reporting if it impacts the reputation of the company. However, for mainstream disclosure, the issue must fit within the narrow framing prescribed by International Financial Reporting Standards (IFRS) which include requirements for measurement of the financial impact. The absence of financial impacts – or at least those that can be quantified – might, by definition, exclude certain ESG issues from the mainstream financial report.

Are material sustainability issues reported in both sustainability and mainstream channels and, if so, are the same material issues reported through both reporting channels?

There is a gap between financial and sustainability disclosures. The World Business Council for Sustainable Development (WBCSD) reviewed disclosures from 170 of its member companies in 2017 and concluded that 35% of these companies had no alignment between the risks that were identified as material in the sustainability report and those disclosed in the company legal filings. Only 8% of the companies had full alignment²⁶. This gap exists in spite of the fact that investors and companies are increasingly keen to understand risks and opportunities presented by sustainability issues on company performance and valuation.

We found a similar gap in the benchmarked companies (Table 3). Overall, fewer sustainability issues are reported in the mainstream financial report compared to the sustainability report. The exceptions to this rule are integrated or semi-integrated reports where sustainability information is provided as part of the risk section of the annual financial report.

Some issues stand out as illustrated in Table 3. Almost 50% of companies that report GHG emissions and water management as being material in their sustainability report do not include the same or similar information in their mainstream report. In contrast, data security and employee compensation are listed more frequently as material in the mainstream report but not in the sustainability report.

Companies, for the most part, appear to consider sustainability issues material in one context, but not the other. This gap is not necessarily a deficiency in the materiality assessment or attributable to different reporting approaches and standards/frameworks. In principle, different reports are targeted at different audiences. For example, financial strategy statements might be targeted at investors while sustainability reports might be targeted at employees, advocacy groups or others. Therefore, one could argue that to be decision-useful to those audiences, the issues considered to be material should reflect their respective objectives, criteria and perhaps processes.

Take for example the issue of climate change. Climate change is the predominant sustainability issue included in mainstream financial disclosures where it is most often discussed in terms of severe weather including drought, hurricanes, etc. that might impact business continuity. In sustainability reports, climate change is discussed across a broad range of aspects from community well-being, to land use and carbon sequestration to water scarcity and human rights. One possible conclusion is that the difference reflects an effort by companies to discuss a material issue (climate change) in a manner that is decision-useful to the audiences of different report. In "Materiality in Corporate Governance the Statement of Significant Audiences and Materiality," the authors observe that, "when the firm decides what is material, it must, for its own good, take into account the perspectives of stakeholders beyond those who provide financial capital" and the Board must determine the relative importance of audiences for information. They recommend that the Board issues an annual forward-looking "Statement of Significant Audiences and Materiality" designed to inform management, providers of financial capital and other stakeholders which the Board believes are important to the survival of the company. The statement is essentially the Board's report on its responsibility to the corporation for the determination of materiality and in recognition that not all audiences can be "significant."

In fact, there are many variables that can impact the decision usefulness of a material issue disclosure depending on the nature of the issue, the business and the audience. Some of these variables have been discussed in the context of different investor types and their information needs²⁷. These include characteristics such as forward-looking versus historic metrics, measured versus estimated data, environmental footprints versus handprints etc.

However, even if we acknowledge the value of different issues as material to different stakeholders and even different investor types, there remains a challenge with the observed misalignment of material issues. This is because, material issues, no matter to whom they are material, have the potential to impact the business. Therefore, we still expect greater alignment on issues between the two reports, but with greater differences in the metrics chosen to report performance against those issues. For example, the issue of climate change would be material, but the performance metric for climate change may differ between broad audiences interested in tons of GHG emissions vs more financially oriented metrics targeted at investors.

The key questions to evaluate the importance of this gap to investors are: what do investors really care about; what judgments do they make, and; what "moves the markets?"

According to a 2014 EY survey on "Tomorrow's Investment Rules," institutional investors said that they want a clearer view of what is material and want it directly from the company rather than from third parties. However, the gap in material issues suggests that companies do not yet know the answer to these questions when it comes to sustainability issues and therefore are not yet sure how to respond.

Table 3: Alignment of issues in sustainability and financial disclosure

Issue	Sustainability disclosure	Financial disclosure
GHG emissions	48	27
Materials	42	18
Energy mgmt	44	20
Water mgmt	39	15
Waste	43	20
Animal welfare	22	10
Biodiversity and land use change	27	9
Soil pollutants	4	0
Air pollutants	3	0
Customer protection	22	11
Data security	6	12
Product packaging	24	15
Product labeling	29	12
Product safety	33	19
Product marketing	22	13
Labor protection	31	13
Health and safety	43	20
Compensation	15	21
Political advocacy	8	2
Supply chain responsibility	45	19

Conclusions

Some well-described practices, but considerable variations

The analysis reveals that while many clear practices for identifying and assessing material sustainability issues are evident, these practices vary widely across companies.

Conformance around standards for some issues

Some issues are commonly reported in sustainability reports – such as greenhouse gas emissions, water conservation and biodiversity/land use issues and those companies that report material sustainability issues in sustainability reports show a high degree of alignment with the SASB and GRI reporting standards. However, there is less consistency beyond these issues.

Disconnect between issues reported through sustainability and mainstream reports

We observed relatively little alignment between material issues reported in sustainability reports compared to mainstream financial reports.

As expected based on the results of the WBCSD survey of member company reports²⁸, there are significant gaps between the material issues reported in the sustainability reports and those reported in financial reports.

Criteria for prioritization are not clear

In many cases the criteria for selecting reported material issues are not evident even though a well-described process involving stakeholders and references to standards are provided.

Sustainability risks appear to be identified based on a wider range of criteria such as reputation impact, impact on innovation, impact on the ability to attract and retain talent, ability to enter into markets, etc. In contrast, criteria for assessing risk in financial disclosure are more constrained to direct financial impacts such as liquidity, market share, costs, revenue, etc. and perhaps factors such as business strategy, business model and resilience of operations.

While these criteria are related (e.g. a lack of innovation can lead to lower revenues and less market share), the criteria applied in financial disclosure could be adding a second “test” before identifying an aspect as material. For example, diversity of employees could have a material impact on innovation and therefore be identified in the sustainability report based on this potential impact. However, the path by which this impact on innovation may result in changes to financial performance may be unclear.

This apparent additional test in financial disclosures, in combination with the addition of stakeholder perceptions as an independent dimension may go some way in explaining the much smaller number of risks identified in financial disclosures compared to sustainability disclosures. However, it is important to note that we cannot verify the existence of this additional test, because the link between materiality processes is only discussed explicitly by a few of the benchmarked companies.

In the current age of consolidation, merger, acquisition and vertical integration that is taking place in the food and agriculture sector, large food and agriculture companies will hold the key to solving many of societies greatest challenges. Therefore, agreeing and disclosing what is most material to the success of those companies is critical.

The challenges that remain

There are challenges to be overcome before the concept of materiality is understood and applied more effectively as a way of delivering decision-useful information to investors and others. We outline some of the questions that need to be explored in addressing these challenges below and will develop these questions and possible responses as our work continues.

Challenge	Questions and areas for discussion
Transparency	How can the concept of materiality be developed to ensure that investors receive the type of ESG information they need in mainstream reports?
	Where there is a lack of alignment, should there be a process for reconciling or explaining differences between material issues reported in sustainability and mainstream reports respectively?
Applying judgment in materiality determination	How is judgment applied when various, potentially conflicting criteria, such as risk assessment, stakeholder views, financial performance and value creation etc. are taken into account in materiality determination?
	What are the most appropriate filters (such as monetization or discounts to financial value) to apply to materiality and stakeholder judgments when moving from sustainability reporting to mainstream reporting?
Balancing diversity and comparability	Do companies need one or more materiality processes? If one, should it be calibrated to particular audiences? If more, should they use different criteria depending on the objective of and audience for reporting?
	How can the eventual public disclosure of materiality assessments best reflect a company's internal decision making?
	How can companies disaggregate information for different audiences so that investors (and others where appropriate) receive information targeted to their needs, while ensuring that information presented to different audiences and through different reporting channels can be reconciled and explained?

Appendix

A1: List of companies included in research

Agricultural Bank of China	Algar S/A/Brasil	Archer Daniels Midland	Bunge	Casino Guichard
Charoen Pok Food	Cofco Corp	Costco Wholesale	CRH Beer Ltd	Danone
Delhaize Group	Devi Sea Food	Diageo	Dongwon Indus	DuPont
Dunkin Brands	FCF Fishery Co	Frinsa Del Noroe	Grupo Andre Magg	Grupo Conservas
Heineken	Itochu Corp	JBS	Jealsa Rianxeira	Koninklijke Ahold
Kroger	Kyokuyo Co Ltd	Louis Dreyfus	Luis Calvo Sanz	Marks and Spencer
Marubeni	Maruha Nichiro	McDonalds	Metro AG	Minerva SA
Minh Fu Seafood	Mitsubishi	Molinos Rio Plat	Monsanto	Nestlé
Nippon Suisan	Noble Group	Nutreco	Olam	Pac Andes Intl
PepsiCo	Royal Friesland Campina	SAB Miller	Safeway	Syngenta
Thai Union Group	The Coca-Cola Company	Tyson Foods	Unilever	Uni-President
Wilmar International				

The list of publicly-traded companies was compiled from several sources: companies identified in discussion with CFMI participants, WBCSD member companies, FReSH participants²⁹, the GRI network of companies and the Consumer Goods Forum.

A2: Case studies

By examining two case studies from the corporate sector, this section aims to demonstrate the variety of ways companies undertake the materiality³⁰ determination process and associated reporting.

Nestlé and PepsiCo³¹ represent two of the leading brands worldwide in the food sector and they also demonstrate mature reporting practices established over nearly a decade.

Nestlé

Nestlé is the world's largest food and beverage company with more than 2,000 brands, present in 191 countries³². The commitment to sustainability has been at the heart of the corporate mission since 2006 when Nestlé first communicated its commitments³³. Nestlé's 2016 Annual Report comprises its Annual Review, Corporate Governance Report, Financial Statements and "Nestlé in Society: Creating Shared Value and Meeting our Commitments." In the Annual Review, Nestlé describes its approach to materiality under the heading "Group Risk Management." The company operates both a top-down assessment of the company's mega-risks and a parallel bottom-up assessment which aggregates individual assessments by all markets and globally managed businesses. Additionally, the company engages with external stakeholders to understand the issues that are of most concern to them. These three different risk mappings inform the materiality assessment and operational decisions.

Materiality process

"Nestlé in society: Creating Shared Value and meeting our commitments 2016" describes the company's approach to materiality. Nestlé clearly states that they conduct a materiality determination process to understand trends and challenges, and to reconfirm the expectations of consumers. The materiality matrix is the result of a four-step process: *Issue identification, assess business impact, assess stakeholder interest, review and validate*³⁴.

Issue identification – based on the list of Nestlé's material issues and sub-issues, interviews with subject-matter experts from around the business, feedback from stakeholders, global trends, standards and commitments including the UN Sustainable Development Goals.

Business impact – an assessment on Nestlé revenue, costs and reputation together with a survey of Nestlé executives and input from the Enterprise Risk Management System.

Stakeholder interest – an assessment of Nestlé stakeholders' level of interest in the issues identified at step 1.

Review and validation to plot the resulting issues onto a draft materiality matrix, which is then reviewed and validated by Nestlé experts.

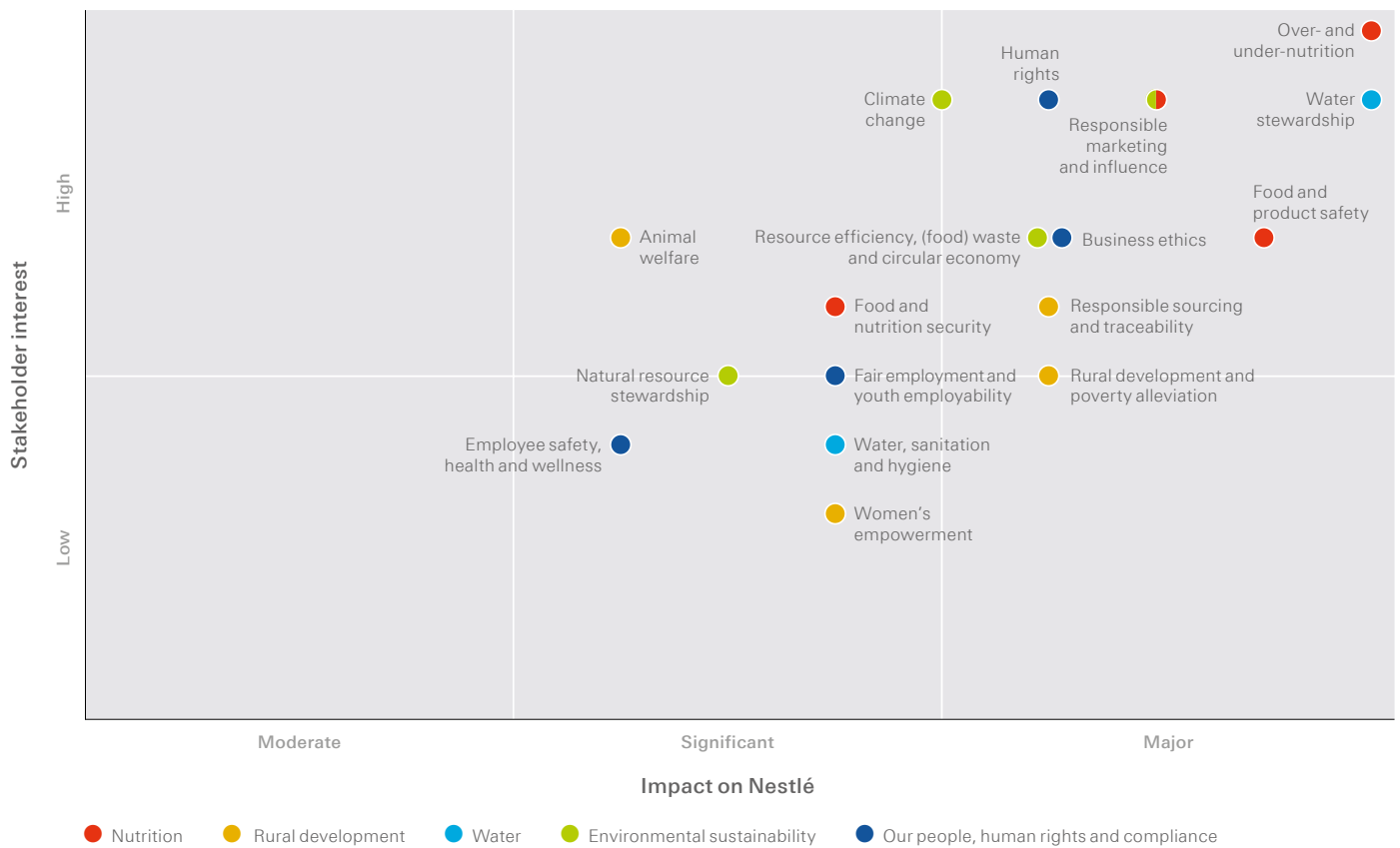
Materiality matrix

The materiality matrix (figure 1) is labeled "stakeholder interest" on the x-axis, and "Impact on Nestlé"³⁵ on the y-axis. Through the materiality assessment, the company identified 18 material issues. The issues are clustered into four/five categories: *nutrition, rural development, water, environmental sustainability and our people, human rights compliance*. The company states that the most important topics are:

- Over- and under-nutrition
- Water
- Responsible marketing
- Climate change
- Product safety
- Human rights

The first two issues represent the core challenges for the "delivery of the business strategy," while the last three are "vital for the business success"³⁶. Although expressed slightly differently, the four materiality topics identified in the CSV report are also reflected in the risk factors in the annual report.

Figure 1: Nestlé materiality matrix 2016



In the Value Chain Mapping section of the report, Nestlé describes where in the value chain each material issue might have an impact. The company considers the whole food value chain, including: agriculture, tier 1 supplier, the company, retailers and consumers. For example, Nestlé clarifies that agriculture does include smallholder farmers and that Tier 1 refers to suppliers in direct commercial relationships with Nestlé³⁷ (see figure 2).

Despite the fact that the company's material boundary includes agriculture, Nestlé mentions that "in the chain, agriculture also includes smallholder farmers with whom we do not have direct relationships³⁸." Although the company does not have a direct relationship with smallholder farmers, it is held accountable by consumers and other stakeholders for impacts occurring at that level of the chain. This has come through during the materiality process and therefore issues that occur at the smallholder level are appearing on Nestlé's matrix and must be addressed by the company.

Figure 2: Nestlé materiality issues mapped to where they may impact the value chain

Materiality Issue	Value Chain				
	Agriculture	Tier 1 suppliers	Nestlé	Retail/business channels	Consumers
Overnutrition and undernutrition					
Supporting optimal nutrition, health and wellness through the life course. Helping to address over-nutrition, under-nutrition, related micronutrient deficiencies, conditions such as overweight and obesity, and non-communicable or non-contagious diseases (NCDs) through portfolio transformation, product and service development and renovation, and popularly positioned products.	●	●	●	●	●
<ul style="list-style-type: none"> Maternal, infant and young child nutrition (MIYCN) Micronutrient deficiencies NCDs Obesity Overweight Stunting Underweight 					
Food and nutrition security					
Contributing to the availability of and affordable access to sufficient, safe, nutritious food.	●	●	●	●	●
<ul style="list-style-type: none"> Affordability 					
Responsible marketing and influence					
Marketing in ways that are appropriate to consumer audiences and shaping consumer behaviour to promote better health and environmental outcomes.	●	●	●	●	●
<ul style="list-style-type: none"> Foster environmentally friendly behaviours Foster healthy behaviours Infant formula marketing Product labelling Responsible marketing to children 					
Food and product safety					
Ensuring a high quality product and preventing health risks arising from use, consumption, handling, preparation and storage throughout the value chain.	●	●	●	●	●
<ul style="list-style-type: none"> Additives, preservatives, artificial ingredients Chemical safety Food safety Product authenticity 					
Rural development and poverty alleviation					
Directly and indirectly promoting stable economic activity and improving livelihoods of agricultural farmers and workers in the supply chain to promote sustainable agricultural communities and alleviate poverty.	●	●	●	●	●
<ul style="list-style-type: none"> Land tenure security Rural living wage 					

PepsiCo

PepsiCo has a complementary food and beverage portfolio that includes 22 brands which in 2017 each generated more than USD \$1 billion in estimated annual retail sales³⁹. PepsiCo makes, markets, distributes and sells a wide variety of beverages, foods and snacks, serving customers and consumers in more than 200 countries and territories⁴⁰.

For 2016, PepsiCo published an Annual Report, a Sustainability Report and an A-Z Topics Index, all around "Performance with Purpose." The company's stated vision is to deliver top-tier financial performance over the long term by integrating sustainability into its business strategy. In the Sustainability Report, PepsiCo uses the GRI definition of materiality or material topics and distinguishes how materiality is used in the sustainability context versus how materiality is used for compliance with securities and other laws in the U.S. and other jurisdictions or for financial reporting purposes as follows:

"In this report and in our other sustainability communications and statements, when we use the terms "material," "materiality" and similar terms, we are using such terms to refer to topics that reflect PepsiCo's significant economic, environmental and social impacts or to topics that substantially influence the assessments and decisions of stakeholders in what the GRI Sustainability Reporting Guidelines define as "Material Aspects." We are not using these terms as they have been defined by or construed in accordance with the securities laws or any other laws of the U.S. or any other jurisdiction, or as these terms are used in the context of financial statements and financial reporting, and nothing in this report or other sustainability communications and statements should be construed to indicate otherwise"⁴¹.

In the Annual Report, material risks are reported under the title "Risk Factors." The risks listed are generally those that could adversely affect the business, financial condition or results of operations. Risk factors include demand for products, change in, or failure to comply with, laws and regulations, new or increased taxes, labeling, packaging or disposal requirements related to products, competition, cyber-attacks, product contamination and so on.

The company also lists as risk factors: "Climate change, water scarcity or legal, regulatory or market measures to address climate change or water scarcity may negatively affect our business and operations or damage our reputation."

The Sustainability Report content is based on the company's last formal assessment to identify GRI Material Aspects which was in 2013, which was re-tested with stakeholders in 2014, 2015 and 2016. The company completed a formal materiality refresh assessment in the fall of 2017 which will inform sustainability reporting in 2018.

Materiality process and assessment

In addition to conducting formal materiality assessments, PepsiCo engages on an ongoing basis with key stakeholders on critical topics (shown in the table below). PepsiCo uses a variety of mechanisms to solicit feedback from stakeholders, including bilateral meetings and participation in stakeholder networks, outreach programs, webinars and partnerships on a wide variety of topics. They confirm that engaging with a wide range of stakeholders is important, including organizations that are critical of their actions, in order to understand and address these concerns.

Figure 3: PepsiCo stakeholder perspectives

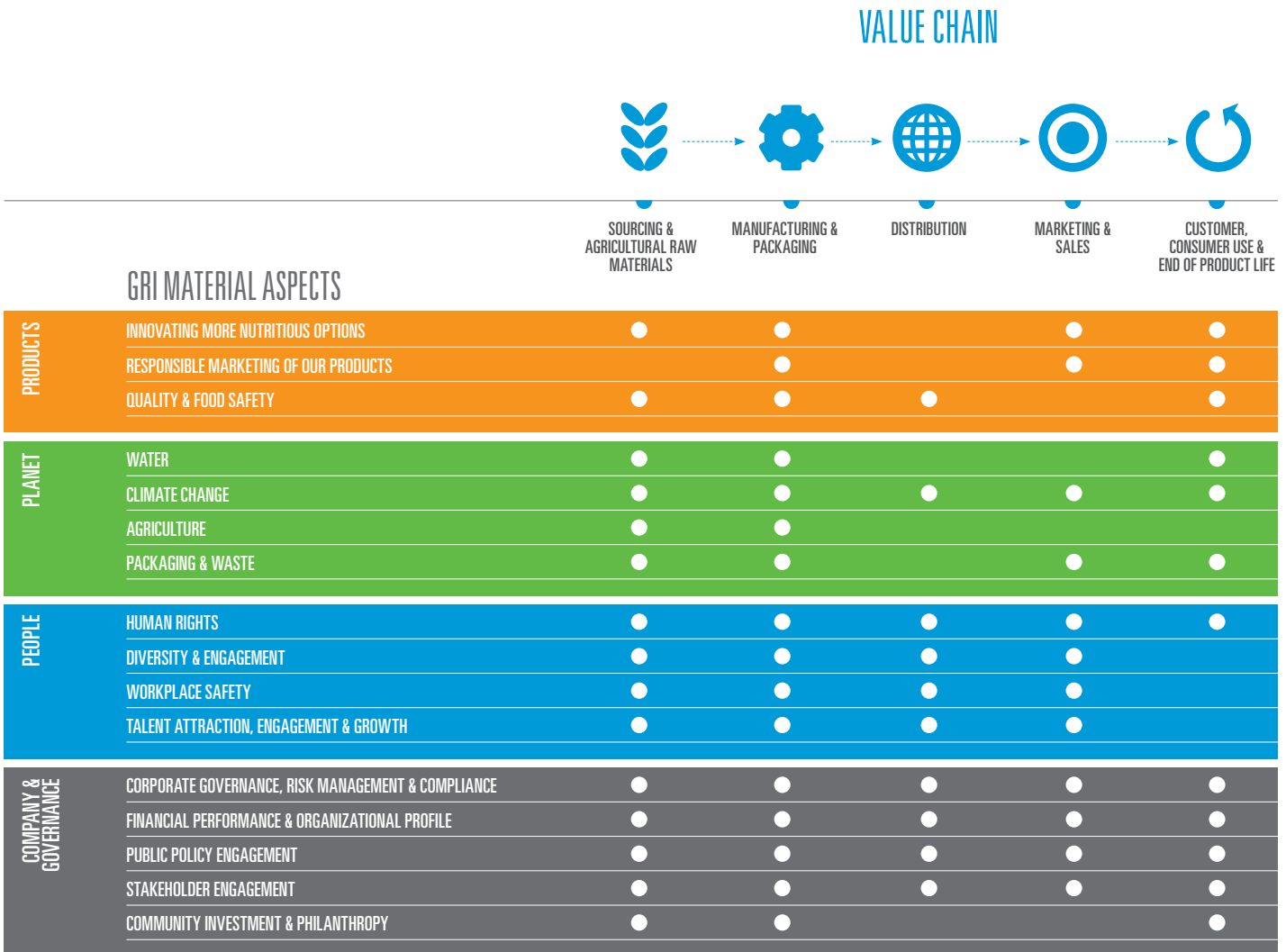
	TOPICS	STAKEHOLDER PERSPECTIVES	WHAT WE ARE DOING ABOUT IT	RELEVANT A-Z TOPICS	
PRODUCTS	PUBLIC HEALTH	Innovating More Nutritious Options	PepsiCo and other multinational food and beverage companies should increase their offerings of healthier choices to address risk factors associated with non-communicable diseases and leverage consumer demand for healthier products.	PepsiCo has adopted goals to reduce saturated fats, sodium and added sugars in our products.	Nutrition Saturated Fat Sodium Sugar
		Consumer Information	Consumers want greater transparency about what is in the foods they eat. Additionally, governments and public health advocates are calling on PepsiCo and other multinational food and beverage companies to provide consumers with more information so that they can make decisions about the foods they consume and how they fit in a healthy diet.	PepsiCo is continuing to implement our global labeling policy and adopting new labeling systems that we believe provide greater transparency and help consumers make responsible dietary decisions.	Nutritional Labeling
		Responsible Marketing to Children	Our stakeholders continue to acknowledge that PepsiCo has taken many positive steps to limit marketing to children. However, our industry continues to receive pressure to strengthen our policies in this regard.	We have engaged with the World Federation of Advertisers to provide additional training to our marketing and nutrition departments on our policies. We continue to monitor our performance on this topic and are exploring policy enhancements.	Advertising & Marketing
	FOOD SECURITY	Access to Affordable Nutrition	At the same time that the world is facing rising rates of obesity, malnutrition, hunger and access to nutrition continue to present global challenges.	As part of our PwP 2025 agenda, we intend to provide access to at least 3 billion servings of nutritious foods and beverages to underserved communities and consumers.	Nutrition
PLANET	WATER		Water is critical to human health, sanitation and an array of commercial and industrial operations, including agriculture. But it is being used unsustainably in many watersheds and must be conserved. PepsiCo needs to use water efficiently, replenish water within local watersheds, work with farmers to promote conservation, and work with policymakers to establish better water governance, especially in areas with high water stress.	As part of our PwP 2025 agenda, PepsiCo announced a number of interconnected goals that enhance our water stewardship.	Water
	CLIMATE CHANGE	Public Policy Advocacy	Stakeholders are looking for businesses such as PepsiCo to publicly support government actions, and collaborative approaches between business, civil society and governments, that tackle climate change. They also want companies to look beyond their direct operations and reduce emissions along their value chains consistent with a "2 degree scenario."	<ul style="list-style-type: none"> • PwP 2025 climate goal: Reduce absolute emissions by at least 20 percent by 2030 compared with 2015 baseline, across the value chain. • Engage with policymakers, e.g., on truck efficiency rules. 	Climate Change
	SUSTAINABLE AGRICULTURE	Palm Oil and Cane Sugar	As a significant customer of palm oil and cane sugar, PepsiCo should ensure their supply chains are environmentally and socially sustainable with ambitious future targets, policies being implemented on the ground and mechanisms to manage current issues.	PepsiCo has set a goal to source palm oil and cane sugar sustainably by 2020. We are also enhancing our grievance mechanism for our agricultural supply chain and working with our suppliers to enhance their capability on these issues.	Agriculture Palm Oil Deforestation Land Rights Human Rights
	PACKAGING AND WASTE		Stakeholders want convenient packaging that does not pollute the environment while also preserving the freshness of the product and avoiding spoilage.	Through our PwP 2025 goals we are continuing our work to redesign packaging to be more sustainable, (e.g., removing packaging components that disrupt recycling), and we are partnering with a variety of organizations to improve recycling rates. We are also looking at ways to lower the carbon footprint of our packaging.	Packaging Waste
PEOPLE	HUMAN RIGHTS	Salient Issues	PepsiCo should identify the most important human rights risks to rights holders, articulate the specific challenges, problems found and how PepsiCo is working to address them.	PepsiCo has launched a new human rights policy, which includes an identification of our salient issues. We are developing additional programs to address these issues and following the UNGP Reporting Framework to better explain our approach to human rights.	Human Rights

Based on its 2013 materiality assessment, PepsiCo identified sixteen material topics, spanning from innovating more nutritious options to sustainable agriculture to human rights. In order to assess its material aspects, members of PepsiCo’s management team meet with a significant number of stakeholders throughout this process to reconfirm that those aspects and matters align with the company’s priorities.

Figure 3 lists the material topics as they align with the company’s Performance with Purpose 2025 goals, which have the goal of incentivizing shoppers to make healthier choices while continuing to grow the company’s business.

Figure 4 also shows how the different material aspects correlate to the company’s operations throughout its value chain – also known as the boundary for each topic. This includes sourcing and agricultural raw materials, manufacturing and packaging, distribution, marketing and sales, consumer use and end of product life. Almost all the identified topics are deemed to be material in the first two phases of the value chain, i.e. sourcing agricultural raw materials, manufacturing and packaging.

Figure 4: PepsiCo material aspects



Conclusions

To conclude, the two companies show similarities in terms of identified material topics and targeted report users. Both companies identify human rights, climate change, nutrition and food safety as material issues and these issues are reflected across both sustainability and annual mainstream reports.

Both look at the value chain and where the material issues occur⁴² and consider the whole food value chain, from production to consumers and end of life of products.

Appendix A3: Endnotes

¹ **Mainstream reporting** is defined by the CDSB and adopted by the TCFD as: “the annual reporting package in which organizations are required to deliver their audited financial results under the corporate, compliance or securities laws of the jurisdictions in which they operate. While reporting requirements differ internationally, mainstream reports generally contain financial statements and other information such as governance statements and management commentary.”

² For example, the Corporate Reporting Dialogue’s “Statement of Common Principles of Materiality” March 2016

³ High-Level Expert Group on Sustainable Finance, Interim Report, July 2017 “Financing a Sustainable European Economy”, https://ec.europa.eu/info/sites/info/files/170713-sustainable-finance-report_en.pdf

⁴ In this paper, we will treat corporate responsibility, sustainability and ESG (Environmental, Social, Governance) issues as equivalent. Corporate sustainability reporting is sometimes regarded as synonymous with corporate social responsibility reporting, whereby a company highlights its interactions with local, human and natural communities and its operating practices, consumer issues and community involvement. Another widely term used to describe reporting that covers environmental, social and governance (ESG) information is “non-financial reporting,” which recognizes ESG information as complementary to but distinct from financial reporting. However, as decisions about sustainability may impact and be affected by the financial performance and practices of a company, sustainability reporting (including corporate responsibility reporting and reporting on ESG issues) does not exclude financial reporting. For a more detailed discussion about corporate sustainability reporting see “Frequently Asked Questions on Corporate Sustainability Reporting” UNEP, GRI and CDSB (2013)

⁵ [The Reporting Exchange](#) framework includes 116 different ESG subjects from human rights to energy to anti-corruption.

⁶ The TCFD defines mainstream financial filings as the “annual reporting packages in which organizations are required to deliver their audited financial results under the corporate, compliance or securities laws of the jurisdictions in which they operate. While reporting requirements differ internationally, financial filings generally contain financial statements and other information such as governance statements and management commentary.”

⁷ There is an extensive literature on materiality in sustainability. Readers interested specifically in the definition and application of materiality for sustainability issue (particularly climate change) as it is applied and integrated into mainstream financial disclosure are pointed to thorough discussions by: SASB (2016) “Materiality,” <http://www.sasb.org/materiality/important/>; <IR> (2013) Capitals: Background Paper for <IR>, <http://integratedreporting.org/wp-content/uploads/2013/03/IR-Background-Paper-Capitals.pdf>; the CDSB Reporting Framework, <http://www.cdsb.net/what-we-do/reporting-frameworks/environmental-information-natural-capital/>; the “Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures” (<https://www.fsb-tcfd.org/publications/final-recommendations-report/>) as well as the TCFD guidance document “Implementing the Recommendations of the Task Force on Climate-Related Disclosures” (<https://www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-TCFD-Annex-062817.pdf>); and most recently the draft CDSB discussion paper on Climate-related financial disclosures – Materiality (in press).

⁸ GRI 101, Foundation 2016, <https://www.globalreporting.org/standards/gri-standards-download-center/>

⁹ CDSB (2017) Uncharted waters: How can companies use financial accounting standards to deliver on the TCFD’s recommendations, June 2, <https://www.cdsb.net/news/task-force/692/uncharted-waters-how-can-companies-use-financial-accounting-standards-deliver>

¹⁰ Eccles, Robert G. and Krzus, Michael P., An Analysis of Oil & Gas Company Disclosures from the Perspective of the Task Force on Climate-Related Financial Disclosures (December 14, 2017). Available at SSRN: <https://ssrn.com/abstract=3091232>

¹¹ WBCSD (2017) Sustainability and Enterprise Risk Management: The First Step Towards Integration, January 18, <http://www.wbcSD.org/Projects/Non-financial-Measurement-and-Valuation/Resources/Sustainability-and-enterprise-risk-management-The-first-step-towards-integration>.

¹² For example, the Corporate Reporting Dialogue's "Statement of Common Principles of Materiality" March 2016

¹³ Journal of Environmental Investing 8, no 1 (2017) "Processing constant currency as a revenue-based denominator to measure greenhouse gas intensity: A case study from the industrial gases sector" Riva Krut, Jua Pelaez and Arthur Qi, Praxair Inc.

¹⁴ For example, the Corporate Reporting Dialogue's "Statement of Common Principles of Materiality" March 2016

¹⁵ For more information, see the work of the Nature Conservancy (<https://global.nature.org/content/environment2017>), Moore Foundation (<https://www.moore.org/programs/environmental-conservation>) and the Food and Agriculture Organization of the United Nations (http://www.fao.org/fileadmin/templates/nr/sustainability_pathways/docs/Natural_Capital_Impacts_in_Agriculture_final.pdf) among others.

¹⁶ McKinsey, 2105, Pursuing the Global Opportunity in Food and Agribusiness, <http://www.mckinsey.com/industries/chemicals/our-insights/pursuing-the-global-opportunity-in-food-and-agribusiness>.

¹⁷ McKinsey, 2105, Pursuing the Global Opportunity in Food and Agribusiness, <http://www.mckinsey.com/industries/chemicals/our-insights/pursuing-the-global-opportunity-in-food-and-agribusiness>.

¹⁸ SASB Materiality Map (<http://www.sasb.org/materiality/sasb-materiality-map/>); TCFD guidance document "Implementing the Recommendations of the Task Force on Climate-Related Disclosures" <https://www.fsb-tcfD.org/wp-content/uploads/2017/06/FINAL-TCFD-Annex-062817.pdf>; UN Food and Agriculture Organization, Natural Capital Impacts in Agriculture, 2015 (http://www.fao.org/fileadmin/templates/nr/sustainability_pathways/docs/Natural_Capital_Impacts_in_Agriculture_final.pdf); GRI G4 Food Processing Sector Supplement (<https://www.globalreporting.org/resource/library/GRI-G4-Food-Processing-Sector-Disclosures.pdf>)

¹⁹ TCFD guidance document "Implementing the Recommendations of the Task Force on Climate-Related Disclosures" (<https://www.fsb-tcfD.org/wp-content/uploads/2017/06/FINAL-TCFD-Annex-062817.pdf>)

²⁰ For more information on trends in reporting by corporations against the UN SDG's, see research by the Global Reporting Initiative, <https://www.globalreporting.org/information/SDGs/Pages/SDGs.aspx>

²¹ Esty, D. and Cort, T. (2017) ESG Metrics: What Investors Need but do not Get, Journal of Environmental Investing, 8(1).

²² Eccles, R. and Krzus (2017) Why companies should report financial risks from climate change, MIT Sloan Management Review, October 27, 2017 <http://sloanreview.mit.edu/article/why-companies-should-report-financial-risks-from-climate-change/>

²³ Douglas, E., van Holt, T. and Whelan, T. (2017) Responsible Investing: Guide to ESG Data Providers and Relevant Trends, Journal of Environmental Investing, 8(1).

²⁴ AccountAbility (2008) AA1000 Stakeholder Engagement Standard (AA1000SES:2008), <http://www.accountability.org/standards/>

²⁵ High-Level Expert Group on Sustainable Finance, Interim Report, July 2017 "Financing a Sustainable European Economy", https://ec.europa.eu/info/sites/info/files/170713-sustainable-finance-report_en.pdf

²⁶ WBCSD (2017) Sustainability and Enterprise Risk Management: The First Step Towards Integration, January 18, <http://www.wbcsd.org/Projects/Non-financial-Measurement-and-Valuation/Resources/Sustainability-and-enterprise-risk-management-The-first-step-towards-integration>.

²⁷ Esty, D. and Cort, T. (2017) ESG Metrics: What Investors Need but do not Get, Journal of Environmental Investing, 8(1).

²⁸ ibid

²⁹ Food Reform for Sustainability and Health, <http://www.wbcsd.org/Projects/FReSH>

³⁰ Referring here to the Materiality Definition of GRI. For more info see "The Consolidated Set of GRI Sustainability Reporting Standards 2016", p. 10; accessible online: <https://www.globalreporting.org/standards/gri-standards-download-center/> [retrieved on 09/18/2017]

³¹ The selection of companies takes into consideration the experience of the company in sustainability reporting and the food sector.

³² Nestlé Website - About us; accessible online: <http://www.nestle.com/aboutus> [retrieved on 09/18/2017]

³³ Ibid

³⁴ Nestlé in Society: Creating Shared Value and meeting our commitments 2016, p. 17 accessible online: <http://static.globalreporting.org/report-pdfs/2017/d705581a5d57b946edc4a66d7393e633.pdf> [retrieved on 09/18/2017]

³⁵ Nestlé in Society: Creating Shared Value and meeting our commitments 2016, p. 17 accessible online: <http://static.globalreporting.org/report-pdfs/2017/d705581a5d57b946edc4a66d7393e633.pdf> [retrieved on 09/18/2017]

³⁶ Nestlé in Society: Creating Shared Value and meeting our commitments 2016, p. 9 accessible online: <http://static.globalreporting.org/report-pdfs/2017/d705581a5d57b946edc4a66d7393e633.pdf> [retrieved on 09/18/2017]

³⁷ Nestlé in Society: Creating Shared Value and meeting our commitments 2016, accessible online: <http://static.globalreporting.org/report-pdfs/2017/d705581a5d57b946edc4a66d7393e633.pdf> [retrieved on 09/18/2017]

³⁸ Nestlé in Society: Creating Shared Value and meeting our commitments 2016, accessible online: <http://static.globalreporting.org/report-pdfs/2017/d705581a5d57b946edc4a66d7393e633.pdf> [retrieved on 09/18/2017]

³⁹ PepsiCo website – Global Brands <https://www.pepsico.com/Company/Global-Brands/> [retrieved on 09/18/2017]

⁴¹ PepsiCo Performance with Purpose – Sustainability Report 2016, p. 7; accessible online: <http://www.pepsico.com/docs/album/annual-reports/pepsico-inc-2016-annual-report.pdf?sfvrsn=0> [retrieved on 09/18/2017]

⁴² PepsiCo Performance with Purpose – Sustainability Report 2016, p. 9; accessible online: https://www.pepsico.com/docs/album/sustainability-reporting/pep_csr16_091317.pdf#page=9 [retrieved on 09/18/2017]

⁴³ Referring here to "Topic Boundary" definition of GRI: "the topic Boundary is a description of where the impacts occur for a material topic, and the organization's involvement with those impacts". For more info see "The Consolidated Set of GRI Sustainability Reporting Standards 2016", p. 12; accessible online: <https://www.globalreporting.org/standards/gri-standards-download-center/> [retrieved on 09/18/2017]



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