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Exposure Draft

IFRS[®] Sustainability Disclosure Standard

[Draft] IFRS S2 Climate-related Disclosures Appendix B Industry-based disclosure requirements

Volume B40—Biofuels

Comments to be received by 29 July 2022



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Introduction

This volume is part of Appendix B of [draft] IFRS S2 Climate-related Disclosures and is an integral part of that [draft] Standard. It has the same authority as the other parts of that [draft] Standard.

This volume sets out the requirements for identifying, measuring and disclosing information related to an entity's significant climate-related risks and opportunities that are associated with specific business models, economic activities and other common features that characterise participation in this industry.

The industry-based disclosure requirements are derived from SASB Standards (see paragraphs B10–B12 of [Draft] IFRS S2 *Climate-related Disclosures*). Amendments to the SASB Standards, described in paragraph B11, are marked up for ease of reference. New text is underlined and deleted text is struck through. The metric codes used in SASB Standards have also been included, where applicable, for ease of reference. For additional context regarding the industry-based disclosure requirements contained in this volume, including structure and terminology, application and illustrative examples, refer to Appendix B paragraphs B3–B17.

Biofuels

Industry Description

The Biofuels industry consists of companies that produce biofuels and process raw materials for production. Biofuels are manufactured using organic feedstocks and are used primarily as transportation fuels. Companies typically source feedstocks, which include food, oil crops, and animal products, from agricultural product distributors. Ethanol and biodiesel are the most widely produced biofuels, while other types include biogas, biohydrogen, and synthetic biofuels, produced from a variety of organic feedstocks. Biofuels companies' customers are chiefly fuel-blending and fuel-supply companies, including major integrated oil companies. While biofuels are produced worldwide, the publicly listed companies in the Biofuels industry operate primarily in the U.S., though some have minor operations abroad, notably in India, Brazil, and South Korea. Government regulations related to the use of renewable fuel are a significant demand driver in the industry.

Sustainability Disclosure Topics & Metrics

Table 1. Sustainability Disclosure Topics & Metrics

TOPIC	METRIC	CATEGORY	UNIT OF MEASURE	CODE
Water Management in Manufacturing	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Quantitative	Thousand cubic meters (m ³), Percentage (%)	RR-BI-140a.1
	Description of water management risks and discussion of strategies and practices to mitigate those risks	Discussion and Analysis	n/a	RR-BI-140a.2
	Number of incidents of non-compliance associated with water quality permits, standards, and regulations	Quantitative	Number	RR-BI-140a.3
Lifecycle Emissions Balance	Lifecycle greenhouse gas (GHG) emissions, by biofuel type	Quantitative	Grams of CO ₂ -e per megajoule (MJ)	RR-BI-410a.1
Sourcing & Environmental Impacts of Feedstock Production	Discussion of strategy to manage risks associated with environmental impacts of feedstock production	Discussion and Analysis	n/a	RR-BI-430a.1
	Percentage of biofuel production third-party certified to an environmental sustainability standard	Quantitative	Percentage (%) of gallons	RR-BI-430a.2
Management of the Legal & Regulatory Environment	Amount of subsidies received through government programs	Quantitative	Reporting currency	RR-BI-530a.1
	Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	Discussion and Analysis	n/a	RR-BI-530a.2

Water Management in Manufacturing

Topic Summary

Biofuel refining is typically water-intensive. Biorefineries require water for feedstock processing, fermentation, distillation, and cooling. Although water use at biorefineries is modest relative to the quantities consumed during feedstock crop production, it is concentrated, and thus may have impacts on local water resources. Facilities may also generate wastewater containing salts, organic compounds, dissolved solids, phosphorus, and other substances, requiring wastewater treatment. Biofuel refineries may also be exposed to the risk of reduced water availability and related cost increases or operational disruption. Extraction of water from certain areas for the purposes of refining, as well as contamination of water supplies due to refining operations, could also create regulatory risk and tensions with local communities. Water efficiency in operations and the proper treatment of effluents are therefore important factors for the performance of biofuels companies.

Metrics

RR-BI-140a.1. (1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress

- 1 The entity shall disclose the amount of water, in thousands of cubic meters, that was withdrawn from all sources.
 - 1.1 Water sources include surface water (including water from wetlands, rivers, lakes, and oceans), groundwater, rainwater collected directly and stored by the entity, wastewater obtained from other entities, municipal water supplies, or other water utilities.
- 2 The entity may disclose portions of its supply by source if, for example, significant portions of withdrawals are from non-freshwater sources.
 - 2.1 Fresh water may be defined according to the local laws and regulations where the entity operates. Where there is no legal definition, fresh water shall be considered to be water that has less than 1,000 parts per million of dissolved solids ~~per the U.S. Geological Survey~~.
 - 2.2 Water obtained from a water utility in compliance with ~~U.S. National Primary Drinking Water Regulations~~ jurisdictional drinking water regulations can be assumed to meet the definition of fresh water.
- 3 The entity shall disclose the amount of water, in thousands of cubic meters, that was consumed in its operations.
 - 3.1 Water consumption is defined as:
 - 3.1.1 Water that evaporates during withdrawal, usage, and discharge;
 - 3.1.2 Water that is directly or indirectly incorporated into the product or service;
 - 3.1.3 Water that does not otherwise return to the same catchment area from which it was withdrawn, such as water returned to another catchment area or the sea.

- 4 The entity shall analyze all of its operations for water risks and identify activities that withdraw and consume water in locations with High (40–80 percent) or Extremely High (>80 percent) Baseline Water Stress as classified by the World Resources Institute's (WRI) Water Risk Atlas tool, Aqueduct.
- 5 The entity shall disclose its water withdrawn in locations with High or Extremely High Baseline Water Stress as a percentage of the total water withdrawn.
- 6 The entity shall disclose its water consumed in locations with High or Extremely High Baseline Water Stress as a percentage of the total water consumed.

RR-BI-140a.2. Description of water management risks and discussion of strategies and practices to mitigate those risks

- 1 The entity shall describe its water management risks associated with water withdrawals, water consumption, and discharge of water and/or wastewater.
 - 1.1 Risks associated with water withdrawals and water consumption include risks to the availability of adequate, clean water resources, including, but not limited to:
 - 1.1.1 Environmental constraints—such as operating in water-stressed regions, drought, concerns of aquatic impingement or entrainment, interannual or seasonal variability, and risks due to the impact of climate change.
 - 1.1.2 Regulatory and financial constraints—such as volatility in water costs, stakeholder perceptions and concerns related to water withdrawals (e.g., those from local communities, non-governmental organizations, and regulatory agencies), direct competition with and impact from the actions of other users (e.g., commercial and municipal users), restrictions to withdrawals due to regulations, and constraints on the entity's ability to obtain and retain water rights or permits.
 - 1.2 Risks associated with the discharge of water and/or wastewater, include, but are not limited to, the ability to obtain rights or permits related to discharges, compliance with regulations related to discharges, restrictions to discharges, the ability to maintain control over the temperature of water discharges, liabilities and/or reputational risks, and increased operating costs due to regulation, stakeholder perceptions and concerns related to water discharges (e.g., those from local communities, non-governmental organizations, and regulatory agencies).
- 2 The entity may describe water management risks in the context of:
 - 2.1 How risks may vary by withdrawal source, including surface water (including water from wetlands, rivers, lakes, and oceans), groundwater, rainwater collected directly and stored by the entity, and water and wastewater obtained from municipal water supplies, water utilities, or other entities; and
 - 2.2 How risks may vary by discharge destinations, including surface water, groundwater, or wastewater utilities.

APPENDIX B OF [DRAFT] IFRS S2 CLIMATE-RELATED DISCLOSURES

- 3 The entity may discuss the potential impacts that water management risks may have on its operations and the timeline over which such risks are expected to manifest.
 - 3.1 Impacts may include, but are not limited to, those associated with costs, revenues, liabilities, continuity of operations, and reputation.
- 4 The entity shall discuss its short-term and long-term strategies or plan to mitigate water management risks, including, but not limited to:
 - 4.1 The scope of its strategy, plans, goals and/or targets, such as how they relate to different business units, geographies, or water-consuming operational processes.
 - 4.2 Any water management goals and/or targets it has prioritized, and an analysis of performance against those goals and/or targets.
 - 4.2.1 Goals and targets may include, but are not limited to, those associated with reducing water withdrawals, reducing water consumption, reducing water discharges, reducing aquatic impingements, improving the quality of water discharges, and regulatory compliance.
 - 4.3 The activities and investments required to achieve the plans, goals and/or targets, and any risks or limiting factors that might affect achievement of the plans and/or targets.
 - 4.4 Disclosure of strategies, plans, goals, and/or targets shall be limited to activities that were ongoing (active) or reached completion during the reporting period.
- 5 For water management targets, the entity shall additionally disclose:
 - 5.1 Whether the target is absolute or intensity-based, and the metric denominator if it is an intensity-based target.
 - 5.2 The timelines for the water management plans, including the start year, the target year, and the base year.
 - 5.3 The mechanism(s) for achieving the target, including:
 - 5.3.1 Efficiency efforts, such as the use of water recycling and/or closed-loop systems;
 - 5.3.2 Product innovations such as redesigning products or services to require less water;
 - 5.3.3 Process and equipment innovations, such as those that enable the reduction of aquatic impingements or entrainments;
 - 5.3.4 Use of tools and technologies (e.g., the World Wildlife Fund Water Risk Filter, The Global Water Tool, and Water Footprint Network Footprint Assessment Tool) to analyze water use, risk, and opportunities; and
 - 5.3.5 Collaborations or programs in place with the community or other organizations.

- 5.4 The percentage reduction or improvement from the base year, where the base year is the first year against which water management targets are evaluated toward the achievement of the target.
- 6 The entity shall discuss whether its water management practices result in any additional lifecycle impacts or tradeoffs in its organization, including tradeoffs in land use, energy production, and greenhouse gas (GHG) emissions, and why the entity chose these practices despite lifecycle tradeoffs.

RR-BI-140a.3. Number of incidents of non-compliance associated with water quality permits, standards, and regulations

- 1 The entity shall disclose the total number of instances of non-compliance, including violations of a technology-based standard and exceedances of quality-based standards.
- 2 The scope of disclosure includes incidents governed by national, state, and local statutory permits and regulations, including, but not limited to, the discharge of a hazardous substance, violation of pretreatment requirements, or total maximum daily load (TMDL) exceedances.
- 3 The scope of disclosure shall only include incidents of non-compliance that resulted in a formal enforcement action(s).
 - 3.1 Formal enforcement actions are defined as governmental actions that address a violation or threatened violation of water quality laws, regulations, policies, or orders, and can result in administrative penalty orders, administrative orders, and judicial actions, among others. ~~For example, the U.S. Environmental Protection Agency (EPA) provides guidance on the scope of formal enforcement actions in, Informal and Formal Actions, Summary Guidance and Portrayal on EPA Websites.~~
- 4 Violations shall be disclosed, regardless of their measurement methodology or frequency. These include violations for:
 - 4.1 Continuous discharges, limitations, standards, and prohibitions that are generally expressed as maximum daily, weekly average, and monthly averages.
 - 4.2 Non-continuous discharges and limitations that are generally expressed in terms of frequency, total mass, maximum rate of discharge, and mass or concentration of specified pollutants.

Lifecycle Emissions Balance

Topic Summary

The rapid growth in global biofuels production is due in large part to government energy policies that seek to reduce net GHG emissions from transportation fuels and reduce dependence on fossil fuels. Most major renewable-fuel policies worldwide require that biofuels achieve lifecycle GHG emissions reductions relative to a fossil-fuel baseline to qualify for renewable fuel-mandate thresholds. The biofuel lifecycle emission calculation can include indirect and direct emissions from feedstock crop production and land use, fuel refining, fuel and feedstock transport, and vehicle exhaust emissions. Biofuel producers can directly influence net emissions during the refining process through energy management (fuel use), process innovations, and by using feedstocks with lower emissions profiles. Fuel products that achieve a reduction in net emissions can qualify as advanced biofuels, which, based on existing biofuels mandates in the U.S. and Europe, may be subject to increased demand in the future. Biofuel companies that cost-effectively reduce the net carbon emissions of their products may gain a competitive product advantage, leading to revenue growth and increased market share.

Metrics

RR-BI-410a.1. Lifecycle greenhouse gas (GHG) emissions, by biofuel type

- 1 The entity shall disclose its lifecycle GHG emissions (in grams of CO₂-e per megajoule) for each biofuel category it produces, ~~calculated according to the EPA Renewable Fuel Standard 2 (RFS2) requirements, where:~~
 - 1.1 Lifecycle GHG emissions are defined ~~in the U.S. Clean Air Act (CCA) Section 211(e)(1)~~ as the aggregate quantity of GHG emissions (including direct emissions and significant indirect emissions, such as significant emissions from land-use changes) related to the full fuel lifecycle, including all stages of fuel and feedstock production and distribution, from feedstock generation or extraction through the distribution and delivery of the finished fuel, to the ultimate consumer and use of the fuel, where the mass values for all GHGs are adjusted to account for their relative global warming potential.
 - 1.2 The entity shall disclose its lifecycle GHG emissions for each of the following biofuel ~~types~~ type that it produces, ~~where biofuel types include the following, which are disclosed in RR-BI-000.B and based on the EPA's Renewable Fuel Standard categories: (1) renewable fuel, (2) advanced biofuel, (3) biodiesel-biomass-based diesel, and (4) cellulosic biofuel.~~
 - 1.2.1 Renewable fuel is defined as fuel derived from biomass.
 - 1.2.2 Advanced biofuel is defined as fuel derived from algae, animal manure, corn cobs, grape marcs and wine lees, nut shells, husks wastes and residues from forestry and forest-based industries, used cooking oil, etc.
 - 1.2.3 Biodiesel is defined as fuel derived from oils such as rape seeds, sunflowers, soybeans, palm oil, waste cooking oil, and used in place of diesel fuel.

1.2.4 Cellulosic biofuel is defined as fuel derived from material composed of lignin, cellulose, hemicellulose such as biomass sourced from forests, woody energy crops, straw, stover, husks, grasses, and cover crops.

- 2 The entity shall disclose the jurisdictional standard or regulation used for its calculation.

~~The entity may disclose all applicable lifecycle GHG emissions results, including those calculated for the California Air Resources Board Low Carbon Fuel Standard Program, the European Union Renewable Energy Directive, and the Roundtable on Sustainable Biomaterials (RSB) certification, if results from any of these calculations are materially different than the results from the EPA RFS2 calculation.~~

Sourcing & Environmental Impacts of Feedstock Production

Topic Summary

The Biofuels industry utilizes a variety of plant-based feedstocks as raw materials for production. Most companies purchase feedstocks from agricultural producers and distributors. A growing proportion of the world's arable land is now occupied by biofuel crops. Unsustainable cultivation practices can have negative environmental externalities, including deforestation and biodiversity loss, soil degradation, and water pollution. These factors could adversely affect feedstock crop yields over the short- and long-term. This, in turn, could influence the price and availability of feedstocks for biofuels producers. Consequently, vetting the sustainability of supply chains, such as through certifications or engagement with suppliers, is an important consideration for biofuels producers.

Metrics

RR-BI-430a.1. Discussion of strategy to manage risks associated with environmental impacts of feedstock production

- 1 The entity shall discuss its strategy to manage the environmental impacts and regulatory risks associated with feedstock production, where risks may include, but are not limited to:
 - 1.1 Risks to feedstock supply and pricing created by climate change impacts such as increased likelihood of extreme weather events, decreased availability of clean water resources, increased competition for arable land, and decreased crop yields due to temperature increases.
 - 1.2 Long-term risks to feedstock supply associated with suppliers' impacts on environmental health including those on biodiversity and soil health that may be due to monoculture practices and/or fertilizer and pesticide use.
 - 1.3 Constraints created by regulation such as compliance with sustainability criteria in renewable fuel mandates (including RFS2 in the U.S. and the Renewable Energy Directive in the EU); potential regulatory limits on the types of land where feedstock can be grown; potential limits on what qualifies as renewable biomass; potential for reduction or loss of public or political support for biofuel mandates due to environmental impacts of feedstock production; and resistance to the use of genetically modified organisms (GMOs).
- 2 The scope of this disclosure excludes risks associated with the lifecycle GHG emissions, which are addressed in RR-BI-410a.1, respectively.
- 3 If the entity identifies availability of clean water resources as a risk to feedstock supply and/or pricing, it shall discuss its vulnerability to feedstock growing regions with water stress and how it manages the risk of price variability due to sourcing feedstock from these regions.
 - 3.1 The entity should identify its known sources of feedstock from growing regions with High (40—80 percent) or Extremely High (>80%) Baseline Water Stress using the World Resources Institute's (WRI) Water Risk Atlas tool, Aqueduct.

- 4 The entity shall describe its approach to managing risks and/or opportunities associated with feedstock production, including constraints created by regulation, and limits on availability and price.
 - 4.1 Relevant strategies to discuss include sourcing from feedstock producers that are third-party certified to environmental sustainability standards, diversification of suppliers, using feedstock procurement criteria to choose suppliers for varied feedstocks with fewer environmental impacts or greater adaptability to the effects of environmental externalities (e.g., drought-tolerant or disease-resistant feedstocks), supplier audits, sourcing from regions where the entity has greater control over feedstock sources, and expenditures on research and development (R&D) for alternative and substitute feedstocks that are less susceptible to environmental externalities.
 - 4.2 The entity should disclose the sustainability criteria it uses to assess its feedstock suppliers.

RR-BI-430a.2. Percentage of biofuel production third-party certified to an environmental sustainability standard

- 1 The entity shall calculate the percentage as the amount of biofuel produced, in gallons, that is third-party certified to an environmental sustainability standard divided by the total amount of biofuel produced (in gallons).
- 2 Environmental sustainability standards include Bonsucro, the Council on Sustainable Biomass Production (CSBP), International Sustainability & Carbon Certification, Roundtable on Sustainable Biomaterials (RSB), and Roundtable on Responsible Soy (RTRS), as well as other standards with equivalent criteria.
 - 2.1 At a minimum, standards should include the following environmental sustainability topics:
 - 2.1.1 GHG and other air emissions, water consumption and quality, soil health, fertilizer and pesticide use, land-use change, biodiversity, and waste management.
- 3 The entity should disclose the certification schemes to which its biofuel is certified and the percentage of production certified to each scheme.

Management of the Legal & Regulatory Environment

Topic Summary

The Biofuels industry is highly dependent on government policies and regulations, which create market demand and incentivize supply with tax breaks and other support for feedstock production. The Biofuels industry therefore supports certain regulations and policies related to renewable fuel policy, production tax credits, and feedstock production. While regulatory support can result in positive short-term gains by supporting the biofuels market, the potential long-term adverse environmental impacts from feedstock and biofuels production may result in a reversal of beneficial policies, leading to a more uncertain regulatory environment. Consequently, biofuels companies could benefit from developing a clear strategy for engaging regulators that is aligned with long-term sustainable business outcomes and that accounts for environmental externalities.

Metrics

RR-BI-530a.1. Amount of subsidies received through government programs

- 1 The entity shall disclose the amount of subsidies it received through government programs during the reporting year, where subsidies include tax credits such as blending and production tax credits, funding for projects such as research and development, import tariffs, direct payments, capital grants, loans and loan guarantees, and any other monetary support received from government departments or programs.
- 2 Government programs include those worldwide at national, regional, state, and local levels.
- 3 The entity may disclose the type of biofuel subsidies received and the amount of each where types of biofuel subsidies can include, but are not limited to, blending and production tax credits, capital grants, direct payments, loans and loan guarantees, surcharges or tariffs on competing products, and funding for projects such as research and development.
- 4 The entity shall disclose the amount of subsidies as an aggregate amount that was recognized during the reporting year, regardless of the accounting method (e.g., deferral method, flow-through method, or non- U.S. GAAP methods for investment tax credits).

RR-BI-530a.2. Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry

- 1 The entity shall identify risks and opportunities it faces related to legislation, regulation, and/or rulemaking, (hereafter referred to collectively as “legal and regulatory environment”) related to environmental and social factors that may have a significant financial impact.
 - 1.1 The scope shall include existing, emerging, and known future risks and opportunities.

EXPOSURE DRAFT—MARCH 2022

- 1.2 The scope shall include risks and opportunities that may exist domestically and internationally at the national, state, and local level.
- 1.3 The regulatory environment related to material environmental and social factors includes those related to non-greenhouse gas air emissions, greenhouse gas emissions, water withdrawals and effluents, feedstock sourcing, and process and employee safety.
- 2 Relevant risks include, but are not limited to, risk of increased compliance costs, risk of policy reversal (e.g., risks associated with changes to existing environmental regulations), risk of loss of financial incentives (e.g., reduction or elimination of tax deductions), risk to reputation due to entity's stance and actions related to the legal and regulatory environment, risk that the legal and regulatory environment may not be aligned with long-term strategy, and risk of misalignment with the expectations of customers, investors, and other stakeholders.
- 3 Relevant opportunities include, but are not limited to, improved financial conditions (e.g., through policies that incentivize biofuel manufacturing activities), improved community relations due to the entity's stance and actions related to the legal and regulatory environment, and other benefits due to alignment of the legal and regulatory environment with the entity's long-term strategy.
- 4 The entity shall discuss its efforts to manage risks and opportunities associated with each aspect of the legal and regulatory environment associated with the topics included in the SASB Biofuels standard that are relevant to the entity's business and may have a significant financial impact.
- 5 In addition to its efforts to influence the legal and regulatory environment, the entity shall discuss its overall strategy to manage risks and opportunities associated with each aspect of the legal and regulatory environment it has identified.
 - 5.1 Any changes it has made or plans to make to its business structure or model
 - 5.2 The development of new technologies or services
 - 5.3 Any changes it has made or plans to make to its operational process, control, or organizational structures