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Sustainability

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# Exposure Draft

IFRS<sup>®</sup> Sustainability Disclosure Standard

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

Volume B47—Chemicals

Comments to be received by 29 July 2022



This industry from Appendix B Industry-based disclosure requirements accompanies the Exposure Draft ED/2022/S2 *Climate-related Disclosures* (published March 2022; see separate booklet). It is published by the International Sustainability Standards Board (ISSB) for comment only. Comments need to be received by 29 July 2022 and should be submitted by email to [commentletters@ifrs.org](mailto:commentletters@ifrs.org) or online at <https://www.ifrs.org/projects/open-for-comment/>.

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## Introduction

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*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.

## Chemicals

### Industry Description

Companies in the Chemicals industry transform organic and inorganic feedstocks into more than 70,000 diverse products with a range of industrial, pharmaceutical, agricultural, housing, automotive, and consumer applications. The industry is commonly segmented into basic (commodity) chemicals, agricultural chemicals, and specialty chemicals. Basic chemicals, the largest segment by volume produced, include bulk polymers, petrochemicals, inorganic chemicals, and other industrial chemicals. Agricultural chemicals include fertilizers, crop chemicals, and agricultural biotechnology. Specialty chemicals include paints and coatings, agrochemicals, sealants, adhesives, dyes, industrial gases, resins, and catalysts. Larger firms may produce basic, agricultural, and specialty chemicals, while most companies are specialized. Chemicals companies typically manufacture and sell products globally.

### Sustainability Disclosure Topics & Metrics

**Table 1. Sustainability Disclosure Topics & Metrics**

TOPIC	METRIC	CATEGORY	UNIT OF MEASURE	CODE
Greenhouse Gas Emissions	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	Quantitative	Metric tons (t) CO <sub>2</sub> -e, Percentage (%)	RT-CH-110a.1
	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Discussion and Analysis	n/a	RT-CH-110a.2
Energy Management	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable, (4) total self-generated energy <sup>83</sup>	Quantitative	Gigajoules (GJ), Percentage (%)	RT-CH-130a.1
Water Management	(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 <sup>3</sup> ), Percentage (%)	RT-CH-140a.1
	Number of incidents of non-compliance associated with water quality permits, standards, and regulations	Quantitative	Number	RT-CH-140a.2
	Description of water management risks and discussion of strategies and practices to mitigate those risks	Discussion and Analysis	n/a	RT-CH-140a.3
Product Design for Use-phase Efficiency	Revenue from products designed for use-phase resource efficiency	Quantitative	Reporting currency	RT-CH-410a.1

<sup>83</sup> Note to RT-CH-130a.1 – The entity shall discuss its efforts to reduce energy consumption and/or improve energy efficiency throughout the production processes.

## Greenhouse Gas Emissions

### Topic Summary

Chemical manufacturing generates direct (Scope 1) greenhouse gas (GHG) emissions from the combustion of fossil fuels in manufacturing and cogeneration processes, as well as process emissions from the chemical transformation of feedstocks. GHG emissions can create regulatory compliance costs or penalties and operating risks for chemicals companies. However, resulting financial impacts will vary depending on the magnitude of emissions and the prevailing emissions regulations. The industry may be subject to increasingly stringent regulations as nations seek to limit or reduce emissions. Companies that cost-effectively manage GHG emissions through greater energy efficiency, the use of alternative fuels, or manufacturing process advances may benefit from improved operating efficiency and reduced regulatory risk, among other financial benefits.

### Metrics

#### *RT-CH-110a.1. Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations*

- 1 The entity shall disclose its gross global Scope 1 greenhouse gas (GHG) emissions to the atmosphere of the seven GHGs covered under the Kyoto Protocol—carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF<sub>6</sub>), and nitrogen trifluoride (NF<sub>3</sub>).
  - 1.1 Emissions of all GHGs shall be consolidated and disclosed in metric tons of carbon dioxide equivalents (CO<sub>2</sub>-e), and calculated in accordance with published 100-year time horizon global warming potential (GWP) values. To date, the preferred source for GWP values is the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (2014).
  - 1.2 Gross emissions are GHGs emitted into the atmosphere before accounting for offsets, credits, or other similar mechanisms that have reduced or compensated for emissions.
- 2 Scope 1 emissions are defined and shall be calculated according to the methodology contained in *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard* (GHG Protocol), Revised Edition, March 2004, published by the World Resources Institute and the World Business Council on Sustainable Development (WRI/WBCSD).
  - 2.1 Acceptable calculation methodologies include those that conform to the GHG Protocol as the base reference, but provide additional guidance, such as industry- or region-specific guidance. Examples include, but are not limited to:
    - 2.1.1 Greenhouse Gas Inventory Guidance: Direct Emissions from Stationary Combustion Sources published by the U.S. Environmental Protection Agency (EPA)
    - 2.1.2 India GHG Inventory Program

- 2.1.3 ISO 14064-1
  - 2.1.4 Petroleum Industry Guidelines for reporting GHG emissions, 2nd edition, 2011, published by IPIECA
  - 2.1.5 Protocol for the quantification of greenhouse gas emissions from waste management activities published by Entreprises pour l'Environnement (EpE)
  - 2.1.6 WBCSD Guidance for Accounting & Reporting Corporate GHG Emissions in the Chemical Sector Value Chain
  - 2.2 GHG emissions data shall be consolidated and disclosed according to the approach with which the entity consolidates its financial reporting data, which is generally aligned with the “financial control” approach defined by the GHG Protocol, and the approach published by the Climate Disclosure Standards Board (CDSB) described in REQ-07, “Organisational boundary,” of the *CDSB Framework for reporting environmental information, natural capital and associated business impacts* (April 2018).
- 3 The entity shall disclose the percentage of its gross global Scope 1 GHG emissions that are covered under an emissions-limiting regulation or program that is intended to directly limit or reduce emissions, such as cap-and-trade schemes, carbon tax/fee systems, and other emissions control (e.g., command-and-control approach) and permit-based mechanisms.
- 3.1 Examples of emissions-limiting regulations include, but are not limited to:
    - 3.1.1 California Cap-and-Trade (California Global Warming Solutions Act)
    - 3.1.2 European Union Emissions Trading Scheme (EU ETS)
    - 3.1.3 Quebec Cap-and-Trade (Draft Bill 42 of 2009)
  - 3.2 The percentage shall be calculated as the total amount of gross global Scope 1 GHG emissions (CO<sub>2</sub>-e) that are covered under emissions-limiting regulations divided by the total amount of gross global Scope 1 GHG emissions (CO<sub>2</sub>-e).
    - 3.2.1 For emissions that are subject to multiple emissions-limiting regulations, the entity shall not account for those emissions more than once.
  - 3.3 The scope of emissions-limiting regulations excludes emissions covered under voluntary emissions-limiting regulations (e.g., voluntary trading systems), as well as reporting-based regulations—[e.g., the U.S. Environmental Protection Agency (EPA) GHG Reporting Program].
- 4 The entity may discuss any change in its emissions from the previous reporting period, including whether the change was due to emissions reductions, divestment, acquisition, mergers, changes in output, and/or changes in calculation methodology.

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

- 5 In the case that current reporting of GHG emissions to the CDP or other entity (e.g., a national regulatory disclosure program) differs in terms of the scope and consolidation approach used, the entity may disclose those emissions. However, primary disclosure shall be according to the guidelines described above.
- 6 The entity may discuss the calculation methodology for its emissions disclosure, such as if data are from continuous emissions monitoring systems (CEMS), engineering calculations, or mass balance calculations.

*RT-CH-110a.2. Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets*

- 1 The entity shall discuss its long-term and short-term strategy or plan to manage its Scope 1 greenhouse gas (GHG) emissions.
  - 1.1 Scope 1 emissions are defined according to *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard* (GHG Protocol), Revised Edition, March 2004, published by the World Resources Institute and the World Business Council on Sustainable Development (WRI/WBCSD).
  - 1.2 The scope of GHG emissions includes the seven GHGs covered under the Kyoto Protocol—carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF<sub>6</sub>), and nitrogen trifluoride (NF<sub>3</sub>).
- 2 The entity shall discuss its emission reduction target(s) and analyze its performance against the target(s), including the following, where relevant:
  - 2.1 The scope of the emission reduction target (e.g., the percentage of total emissions to which the target is applicable);
  - 2.2 Whether the target is absolute- or intensity-based, and the metric denominator, if it is an intensity-based target;
  - 2.3 The percentage reduction against the base year, with the base year representing the first year against which emissions are evaluated toward the achievement of the target;
  - 2.4 The timelines for the reduction activity, including the start year, the target year, and the base year;
  - 2.5 The mechanism(s) for achieving the target; and
  - 2.6 Any circumstances in which the target or base year emissions have been, or may be, recalculated retrospectively or the target or base year has been reset.
- 3 The entity shall discuss the activities and investments required to achieve the plans and/or targets, and any risks or limiting factors that might affect achievement of the plans and/or targets.
- 4 The entity shall discuss the scope of its strategies, plans, and/or reduction targets, such as how they relate to different business units, geographies, or emissions sources.

EXPOSURE DRAFT—MARCH 2022

- 5 The entity shall discuss whether its strategies, plans, and/or reduction targets are related to, or associated with, emissions limiting and/or emissions reporting-based programs or regulations (e.g., the EU Emissions Trading Scheme, Quebec Cap-and-Trade System, California Cap-and-Trade Program), including regional, national, international, or sectoral programs.
- 6 Disclosure of strategies, plans, and/or reduction targets shall be limited to activities that were ongoing (active) or reached completion during the reporting period.

## Energy Management

### Topic Summary

Chemical manufacturing is typically energy-intensive, with energy used to power processing units, cogeneration plants, machinery, and non-manufacturing facilities. The type of energy used, magnitude of consumption, and energy management strategies depends on the type of products manufactured. Typically, fossil fuels including natural gas and natural gas liquids are the predominant form of non-feedstock energy used, while purchased electricity may also represent a significant share. Therefore, energy purchases can represent a significant share of production costs. A company's energy mix may include energy generated onsite, purchased grid electricity and fossil fuels, and renewable and alternative energy. Tradeoffs in the use of such energy sources include cost, reliability of supply, related water use and air emissions, and regulatory compliance and risk. As such, a company's energy intensity and energy sourcing decisions may affect its operating efficiency and risk profile over time.

### Metrics

*RT-CH-130a.1. (1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable, (4) total self-generated energy*

- 1 The entity shall disclose (1) the total amount of energy it consumed as an aggregate figure, in gigajoules (GJ).
  - 1.1 The scope of energy consumption includes energy from all sources, including energy purchased from sources external to the entity and energy produced by the entity itself (self-generated). For example, direct fuel usage, purchased electricity, and heating, cooling, and steam energy are all included within the scope of energy consumption.
  - 1.2 The scope of energy consumption includes only energy directly consumed by the entity during the reporting period.
  - 1.3 In calculating energy consumption from fuels and biofuels, the entity shall use higher heating values (HHV), also known as gross calorific values (GCV), which are directly measured or taken from the Intergovernmental Panel on Climate Change (IPCC), the U.S. Department of Energy (DOE), or the U.S. Energy Information Administration (EIA).
- 2 The entity shall disclose (2) the percentage of energy it consumed that was supplied from grid electricity.
  - 2.1 The percentage shall be calculated as purchased grid electricity consumption divided by total energy consumption.
- 3 The entity shall disclose (3) the percentage of energy it consumed that is renewable energy.
  - 3.1 Renewable energy is defined as energy from sources that are replenished at a rate greater than or equal to their rate of depletion, such as geothermal, wind, solar, hydro, and biomass.
  - 3.2 The percentage shall be calculated as renewable energy consumption divided by total energy consumption.

- 3.3 The scope of renewable energy includes renewable fuel the entity consumed, renewable energy the entity directly produced, and renewable energy the entity purchased, if purchased through a renewable power purchase agreement (PPA) that explicitly includes renewable energy certificates (RECs) or Guarantees of Origin (GOs), a Green-e Energy Certified utility or supplier program, or other green power products that explicitly include RECs or GOs, or for which Green-e Energy Certified RECs are paired with grid electricity.
- 3.3.1 For any renewable electricity generated on-site, any RECs and GOs must be retained (i.e., not sold) and retired or cancelled on behalf of the entity in order for the entity to claim them as renewable energy.
- 3.3.2 For renewable PPAs and green power products, the agreement must explicitly include and convey that RECs and GOs be retained or replaced and retired or cancelled on behalf of the entity in order for the entity to claim them as renewable energy.
- 3.3.3 The renewable portion of the electricity grid mix that is outside of the control or influence of the entity is excluded from the scope of renewable energy.
- 3.4 For the purposes of this disclosure, the scope of renewable energy from ~~hydro and biomass sources is limited to the following:~~
- 3.4.1 ~~Energy from hydro sources is limited to those that are certified by the Low Impact Hydropower Institute or that are eligible for a state Renewable Portfolio Standard;~~
- 3.4.2 ~~Energy from biomass sources is limited to materials certified to a third-party standard (e.g., Forest Stewardship Council, Sustainable Forest Initiative, Programme for the Endorsement of Forest Certification, or American Tree Farm System), materials considered eligible sources of supply according to the Green-e Framework for Renewable Energy Certification, Version 1.0 (2017) or Green-e regional standards, and/or materials that are eligible for an applicable state renewable portfolio standard.~~
- 4 The entity shall disclose (4) the amount of energy self-generated by the entity as an aggregate figure, in gigajoules (GJ).
- 4.1 The entity may disclose the amount of self-generated energy that it sold to an electric utility or end-use customer.
- 4.2 The entity may disclose the amount of self-generated energy that was renewable energy, where renewable energy is defined above.
- 5 The entity shall apply conversion factors consistently for all data reported under this disclosure, such as the use of HHVs for fuel usage (including biofuels) and conversion of kilowatt hours (kWh) to GJ (for energy data including electricity from solar or wind energy).

Note to **RT-CH-130a.1**

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

- 1 The entity shall discuss its efforts to reduce energy consumption and/or improve energy efficiency throughout the manufacturing and production processes.
- 2 The entity shall discuss implementation of Green Chemistry Principle 6, “Design for Energy Efficiency,” including, where relevant, efforts such as conducting reactions at ambient temperature and pressure, reducing key materials that require energy-intensive processing (e.g., distillation and drying), using excess steam and heat to generate energy, improving catalytic processes, and other process improvements that result in gains in energy efficiency.
  - 2.1 Relevant strategies to discuss include the use of incremental improvement, the implementation of best practice technology, the use of emerging technologies, and the development of “game changers,” consistent with the International Council of Chemical Associations (ICCA) Technology Road Map.
- 3 The entity may disclose the aggregate energy savings (in gigajoules) achieved through such efforts and processes.

## Water Management

### Topic Summary

Water is a critical input in chemicals production and is used primarily for cooling, steam generation, and feedstock processing. Long-term historic increases in water scarcity and cost, and expectations of continued increases—due to overconsumption and constrained supplies, resulting from population growth and shifts, pollution, and climate change—indicate the heightened importance of water management. Water scarcity can result in a higher risk of operational disruption for companies with water-intensive operations and can also increase water procurement costs and capital expenditures. Meanwhile, chemical manufacturing can generate process wastewater that must be treated before disposal. Non-compliance with water quality regulations may result in regulatory compliance and mitigation costs or legal expenses stemming from litigation. Reducing water use and consumption through increased efficiency and other water management strategies may lead to lower operating costs over time and may mitigate financial impacts of regulations, water supply shortages, and community-related disruptions of operations.

### Metrics

*RT-CH-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, and water and wastewater obtained from municipal water supplies, water utilities, or other entities.
- 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 entity's product or service;

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

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.

*RT-CH-140a.2. 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 quantity and/or 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 quantity and/or 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

*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.
- 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.

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

- 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.

## Product Design for Use-phase Efficiency

### Topic Summary

As increasing resource scarcity and regulations drive the need for greater materials efficiency and lower energy consumption and emissions, the Chemicals industry stands to benefit from developing products that enhance customer efficiency. From reducing automobile emissions through materials optimization to improving the performance of building insulation, chemical industry products can enhance efficiency across a multitude of applications. Companies that develop cost-effective solutions to address customers' needs for improved efficiency can therefore benefit from increased revenues and market share, stronger competitive positioning, and enhanced brand value.

### Metrics

#### *RT-CH-410a.1. Revenue from products designed for use-phase resource efficiency*

- 1 The entity shall disclose its total revenue from products that are designed to increase resource efficiency during their use-phase.
  - 1.1 Products designed to increase resource efficiency are defined as those that — through their use — can be shown to improve energy efficiency, eliminate or lower greenhouse gas (GHG) emissions, reduce raw materials consumption, increase product longevity, and/or reduce water consumption.
  - 1.2 The use-phase is defined as the course over which the entity's product is used by a customer or consumer as a final product and/or the course over which the entity's product is used by a customer or consumer to generate a final product (e.g., in a manufacturing or production process).
- 2 A product shall be considered to have been designed to increase use-phase resource efficiency if documentation shows that the entity has tested, modeled, or otherwise established the increase to resource efficiency its product delivers during its use phase.
  - 2.1 The scope of disclosure includes products that eliminate emissions during the use-phase, the need for a raw material, or the need for a process component like water.
  - 2.2 The scope of disclosure includes products that impart an incremental improvement to resource efficiency, insofar as the entity can demonstrate that the improvement is meaningful, such as through alignment with the milestones set forth in Section 5, "Key Sectors" of the European Commission's Road Map to a Resource Efficient Europe and/or with EU Directive 2012/27/EU.
  - 2.3 The scope of disclosure excludes products that impart improved resource efficiency in an ancillary, indirect, or minimal way (e.g., a conventional product that is slightly lighter than the previous generation of the product).

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

- 3 Examples of products that increase resource efficiency include, but are not limited to, insulation materials, high-albedo paints and coating, fuel additives that result in more efficient combustion, energy-efficient lighting materials, additives or materials that extend the useful-life of use-phase products, materials that enable vehicle lightweighting (e.g., polymers to replace metals), biofuels, solar films, solar shingles, and other renewable energy materials.