GRI STANDARDS

GRI 102: Climate Change 2025

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TOPIC STANDARD

102

GRI 102: Climate Change 2025

Topic Standard

Effective Date
This Standard is effective for reports or other materials published on or after 1 January 2027.

Responsibility
This Standard is issued by the Global Sustainability Standards Board (GSSB). Any feedback on the GRI Standards can be submitted to gssbsecretariat@globalreporting.org for the consideration of the GSSB.

Due Process
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Content

Introduction

GRI 102: Climate Change 2025 contains disclosures for organizations to report information about their climate change-related impacts, and how they manage these impacts.

The Standard is structured as follows:

- Section 1 contains two disclosures, which provide information about how the organization manages its climate change-related impacts.
- Section 2 contains eight disclosures, which provide information about the organization's climate change-related impacts.
- The Glossary contains defined terms with a specific meaning when used in the GRI Standards. The terms are underlined in the text of the GRI Standards and linked to the definitions.
- The Bibliography lists authoritative intergovernmental instruments and additional references used in developing this Standard, as well as resources that the organization can consult.
- The Appendix includes examples of templates for presenting information for Disclosures 102-3, 102-4, 102-5, 102-6, 102-7, 102-8, 102-9, and 102-10.

The rest of the Introduction section provides a background on the topic, an overview of the system of GRI Standards, and further information on using this Standard.

Background on the topic

This Standard addresses the topic of climate change.

The single biggest contributor to climate change is greenhouse gas (GHG) emissions, the impacts of which are occurring at an accelerated rate. Consequently, the United Nations Framework Convention on Climate Change (UNFCCC) and the subsequent Kyoto Protocol and Paris Agreement were created to govern the levels of GHG emissions [4], [6] and [7].

Organizations have a responsibility to contribute to climate change mitigation and adaptation. In this context, they need to develop and implement transition and adaptation plans and ensure they align with the principles of just transition.

Organizations are strongly encouraged to apply the climate change mitigation hierarchy to inform their actions to mitigate climate change. This hierarchy consists of several steps in the following order of priority: GHG emissions avoidance, GHG emissions reduction, and counterbalancing residual GHG emissions [11]. Organizations need to prioritize actions that prevent GHG emissions from being released into the atmosphere and aim to reduce emissions wherever avoidance is not feasible.

According to the Intergovernmental Panel on Climate Change (IPCC), organizations need to urgently implement all feasible technical and scientific actions across all sectors to limit global warming to 1.5°C. Therefore, organizations need to set and report their GHG emissions reduction targets for the short-, medium-, and long-term. Additionally, they need to disclose their emissions inventories and progress on transition plans on an annual basis [12].

Climate change is interconnected with various topics, and it can have impacts on people, such as workers and local communities. It is therefore essential to pursue a just transition, greening the economy in a fair and inclusive manner, ensuring that no one is left behind. Climate change is also a direct driver of biodiversity loss, which in turn accelerates climate change processes.

System of GRI Standards

This Standard is part of the GRI Sustainability Reporting Standards (GRI Standards). The GRI Standards enable an organization to report information about its most significant impacts on the economy, environment, and people, including impacts on their human rights, and how it manages these impacts.

The GRI Standards are structured as a system of interrelated standards that are organized into three series: GRI Universal Standards, GRI Sector Standards, and GRI Topic Standards (see Figure 1 in this Standard).

Universal Standards: GRI 1, GRI 2 and GRI 3

GRI 1: Foundation 2021 specifies the requirements that the organization must comply with to report in accordance with the GRI Standards. The organization begins using the GRI Standards by consulting *GRI 1*.

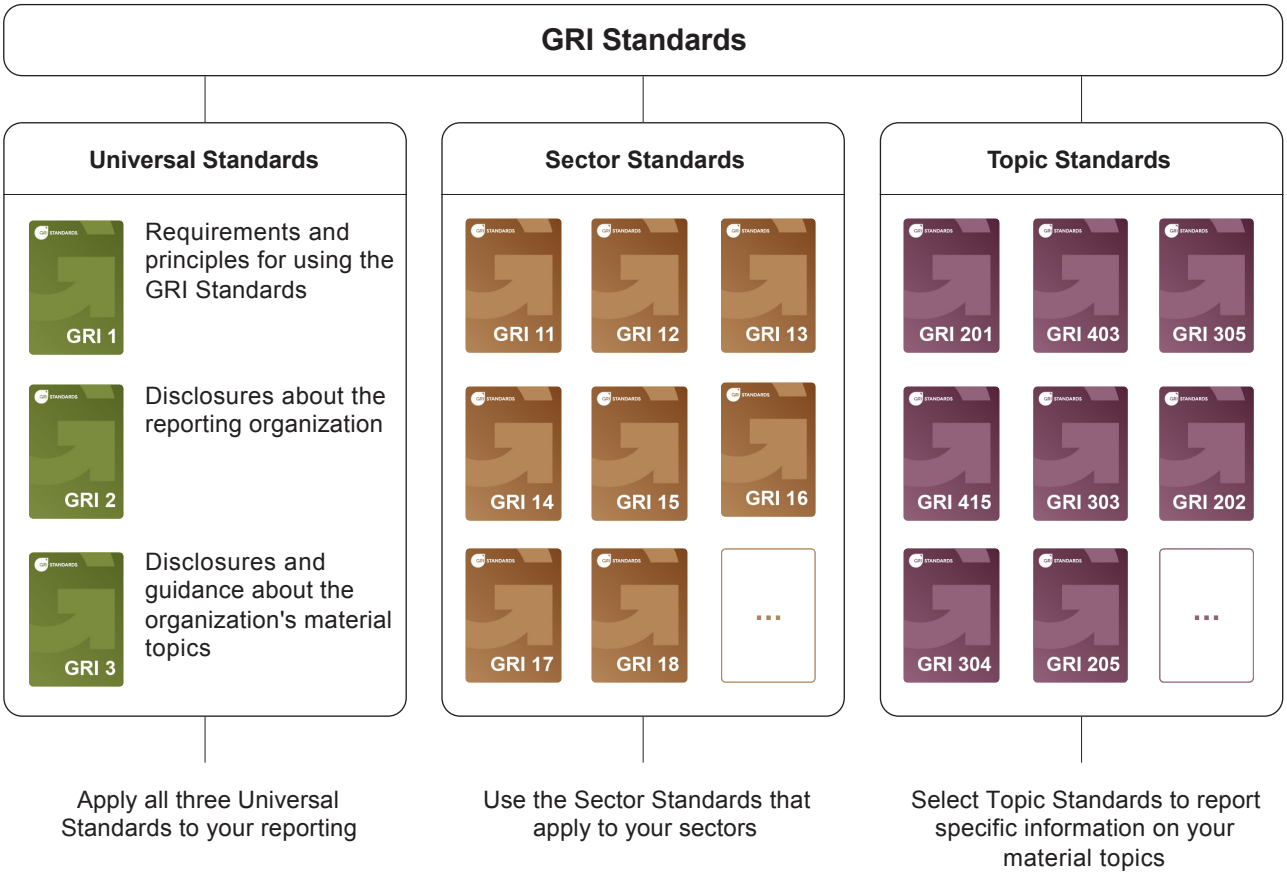
GRI 2: General Disclosures 2021 contains disclosures that the organization uses to provide information about its reporting practices and other organizational details, such as its activities, governance, and policies.

GRI 3: Material Topics 2021 provides guidance on how to determine material topics. It also contains disclosures that the organization uses to report information about its process of determining material topics, its list of material topics, and how it manages each topic.

Sector Standards
The Sector Standards provide information for organizations about their likely material topics. The organization uses the Sector Standards that apply to its sectors when determining its material topics and when determining what to report for each material topic.

Topic Standards
The Topic Standards contain disclosures that the organization uses to report information about its impacts in relation to particular topics. The organization uses the Topic Standards according to the list of material topics it has determined using *GRI 3*.

Figure 1. GRI Standards: Universal, Sector and Topic Standards



Using this Standard

This Standard can be used by any organization – regardless of size, type, sector, geographic location, or reporting experience – to report information about its climate change-related impacts. In addition to this Standard, disclosures that relate to this topic can be found in *GRI 101: Biodiversity 2024* and *GRI 103: Energy 2025*.

An organization reporting in accordance with the GRI Standards is required to report the following disclosures if it has determined climate change to be a material topic:

- Disclosure 3-3 in *GRI 3: Material Topics 2021*.
- Any disclosures from this Topic Standard that are relevant to the organization's climate change-related impacts (Disclosure 102-1 through Disclosure 102-10).

See Requirements 4 and 5 in *GRI 1: Foundation 2021*.

Reasons for omission are permitted for these disclosures.

If the organization cannot comply with a disclosure or with a requirement in a disclosure (e.g., because the required

information is confidential or subject to legal prohibitions), the organization is required to specify the disclosure or the requirement it cannot comply with, and provide a reason for omission together with an explanation in the GRI content index. See Requirement 6 in *GRI 1* for more information on reasons for omission.

If the organization cannot report the required information about an item specified in a disclosure because the item (e.g., committee, policy, practice, process) does not exist, it can comply with the requirement by reporting this to be the case. The organization can explain the reasons for not having this item or describe any plans to develop it. The disclosure does not require the organization to implement the item (e.g., developing a policy), but to report that the item does not exist.

If the organization intends to publish a standalone sustainability report, it does not need to repeat information that it has already reported publicly elsewhere, such as on web pages or in its annual report. In such a case, the organization can report a required disclosure by providing a reference in the GRI content index as to where this information can be found (e.g., by providing a link to the web page or citing the page in the annual report where the information has been published).

Requirements, guidance and defined terms
The following apply throughout this Standard:

Requirements are presented in **bold font** and indicated by the word 'shall'. An organization must comply with requirements to report in accordance with the GRI Standards.

Requirements may be accompanied by guidance.

Guidance includes background information, explanations, and examples to help the organization better understand the requirements. The organization is not required to comply with guidance.

The Standards may also include recommendations. These are cases where a particular course of action is encouraged but not required.

The word ‘should’ indicates a recommendation, and the word ‘can’ indicates a possibility or option.

Defined terms are underlined in the text of the GRI Standards and linked to their definitions in the Glossary. The organization is required to apply the definitions in the Glossary.

1. Topic management disclosures

An organization reporting in accordance with the GRI Standards is required to report how it manages each of its material topics.

An organization that has determined climate change to be a material topic is required to report how it manages the topic using Disclosure 3-3 in *GRI 3: Material Topics 2021*. The organization is also required to report any disclosures from this section (Disclosure 102-1 through Disclosure 102-2) that are relevant to its climate change-related impacts.

This section is therefore designed to supplement – and not replace – Disclosure 3-3 in *GRI 3*.

Disclosure 102-1 Transition plan for climate change mitigation

REQUIREMENTS

The organization shall:

a. describe its transition plan, including policies and actions to mitigate climate change;

b. describe how the transition plan aligns with the latest scientific evidence on the global effort needed to limit global warming to 1.5ºC, including the source of the climate change-related scenarios used, and the methodologies and assumptions used to develop the transition plan;

c. report the total expenditure incurred by the implementation of the transition plan as monetary value and percentage of the total expenditure incurred in the reporting period;

d. report the governance bodies or individual roles responsible for overseeing and implementing the transition plan and their responsibilities;

e. describe how the transition plan is embedded in its business strategy;

f. report the targets to achieve the transition plan and progress toward them, including:

- **i. GHG emissions reduction targets reported under Disclosure 102-4;**
- **ii. targets to phase out fossil fuels, the base year, and standards, methodologies, and assumptions used to set the targets;**
- **iii. other climate change mitigation targets, how these were set, what is covered, the base year, and their role within the transition plan;**

g. describe how the transition plan aligns with just transition principles and how engagement with stakeholders informs its development and implementation;

h. describe the impacts on people and the environment from implementing the transition plan and the actions taken to manage them, including:

- **i. workers, local communities, and Indigenous Peoples;**
- **ii. biodiversity;**

i. describe how its public policy activities, including lobbying activities, are consistent with the transition plan;

j. explain, in the absence of a transition plan, why it does not exist, and describe the steps being taken to develop it and the expected time frame.

GUIDANCE

This disclosure provides information about the organization's transition plan to mitigate climate change. It covers the organization's activities and its upstream and downstream value chain.

According to the United Nations Framework Convention on Climate Change (UNFCCC), climate change mitigation refers to global efforts to reduce greenhouse gas (GHG) emissions to halt global temperature rise. Climate change mitigation requires actions that reduce the rate of climate change and limit global warming to well below 2°C while pursuing efforts to limit it to 1.5°C above pre-industrial levels, as per the Paris Agreement.

Organizations are expected to contribute to climate change mitigation by developing and

implementing a transition plan, taking into account their responsibilities and capabilities to address climate change [1] [12]. The transition plan for climate change mitigation is an organization's overall strategy, containing policies, actions, investments accountability mechanisms, and targets to limit global warming. It also contains monitoring systems to assess progress in achieving the transition plan and the effectiveness of actions taken. The organization should regularly review and update its transition plan and ensure it is fully embedded in its business strategy and financial planning.

Climate change mitigation and adaptation strategies are interconnected, with potential for synergies (see reference [7] in the bibliography). Transition and adaptation plans can have common elements requiring an integrated approach, including:

- policies and actions;
- investments allocated for the implementation of the plan;
- governance processes;
- alignment with just transition principles and stakeholder engagement.

If the same information applies to both transition and adaptation plans and has been reported under Disclosure 102-2, the organization can provide a reference to this information under Disclosure 102-1 and does not need to repeat the information.

Guidance to 102-1-a

Examples of policies to mitigate climate change can include policies on:

- energy consumption;
- land use change, for example on deforestation;
- engaging with suppliers to reduce their GHG emissions;
- bioeconomy or circular economy;
- just transition and on human rights.

The organization should describe its policy for revising the transition plan, including the revision frequency. When the organization reviews its transition plan, it should describe any changes from the previous reporting period.

If the organization has described its policies to mitigate climate change under Disclosure 2-23 in *GRI 2: General Disclosures 2021* or 3-3-c in *GRI 3: Material Topics 2021*, it can provide a reference to this information under Requirement 102-1-a and does not need to repeat the information.

The transition plan contains actions to be implemented in the short-, medium-, and long-term. Requirement 102-1-a does not require a detailed description of the actions. Instead, the organization can provide a high-level overview of the actions.

In addition, the organization should describe how its transition plan addresses impacts on people and the environment associated with its transition risks and opportunities.

Transition risks can have negative impacts on people. For example, changes in consumer preferences toward more sustainable products can lead to a reduction in sales and a loss of revenue for the organization, resulting in job loss. New regulations for less GHG emissions-intensive economic activities can also lead to difficulties for workers in transitioning their skill sets. To mitigate these potential impacts, an organization can substitute its products with sustainable alternatives or upskill workers through training.

Transition risks can also have negative impacts on the environment. For example, changes in regulation may require an organization to invest in large solar farms, which may lead to land use change and biodiversity loss.

Transition opportunities can include diversifying business activities, using efficient production and transportation processes, incorporating new technologies, reducing resource consumption, and accessing new markets.

If the organization has identified its climate-related transition risks and opportunities using other regulatory frameworks or standards, it can use them to identify the impacts on the economy, environment, and people.

Guidance to 102-1-b

When describing how the transition plan aligns with the latest scientific evidence on the global effort needed to limit global warming to 1.5°C, the organization should report how it is aligned with the mitigation hierarchy, including actions to:

- avoid GHG emissions by transitioning from fossil fuels to non-emitting energy sources such as renewables;
- reduce GHG emissions by, for example, improving energy efficiency and substituting disposable materials for reusable materials;
- deploy GHG removal methods that counterbalance residual GHG emissions after the organization has reduced its gross GHG emissions by at least 90%, and further reduction is not possible. See Guidance to 102-4-a-iii and 102-9-c for more information about GHG emissions reduction targets and GHG removals.

The organization should include at least one scenario compatible with the Paris Agreement. A scenario compatible with the Paris Agreement will require a temperature rise well below 2ºC while pursuing efforts to limit the temperature rise to 1.5ºC. The Intergovernmental Panel on Climate Change (IPCC) outlines scenarios based on the latest science. If the organization does not use IPCC scenarios, it should report the reasons for choosing another source and explain how they align with the latest science.

Scenario analysis allows consideration of alternative forms of future states simultaneously and can be used to explore an organization's climate change-related risks. Organizations typically define scenarios according to the transition speed, expressed in the resulting average global temperature changes.

For further information on climate change scenario analysis, see references [1] and [21] in the Bibliography.

The organization should also explain its assessment of how transition risks and future developments – such as changes in sales volumes or mergers and acquisitions – can have impacts on the transition plan's compatibility with the 1.5°C pathway.

Guidance to 102-1-c

The percentage of the total expenditure incurred by the implementation of the transition plan is calculated using the following formula:

$$\% = \frac{\text{Transition plan expenditure}}{\text{Total expenditure}} \times 100$$

The organization should reconcile the total expenditure amounts with those in the audited consolidated financial statements, if available, or in the financial information filed on public record for the reporting period. The organization should explain this difference where the data reported does not reconcile with the audited consolidated financial statements or the financial information filed on public record.

The organization should explain how the transition plan is factored into the organization's financial planning by reporting the planned expenditure in implementing it and whether the highest governance body and senior executives have approved the funding.

The organization should report a breakdown of the total expenditure incurred by the implementation of the transition plan in the reporting period by capital expenditure (CapEx) and operational expenditure (OpEx).

In addition, the organization should report:

- the expenditure incurred by fossil fuel-related activities in the reporting period;
- the total expenditure incurred in the reporting period.

If the organization is subject to a regional or national taxonomy for sustainable economic activities that include climate change mitigation objectives, it can report the expenditure as the amount of CapEx and OpEx incurred by mitigation activities and whether the taxonomy is mandatory or voluntary.

Guidance to 102-1-d
The organization should report whether:

- the highest governance body is responsible for overseeing the transition plan and what this includes, for example, approving, reviewing, and monitoring the plan, ensuring that it aligns with just transition principles (see Guidance to 102-1-g for more information), and overseeing processes to manage the impacts that result from it; or
- the senior executives are responsible for implementing the transition plan and what this includes.

Disclosures 2-12 and 2-13 in GRI 2: General Disclosures 2021 require information on the highest governance body's role in overseeing the management of the organization's impacts and how it delegates responsibility for this. If the organization has described the roles and responsibilities of the governance bodies involved in overseeing and implementing the transition plan under Disclosures 2-12 and 2-13, it can provide a reference to this information.

Guidance to 102-1-e
The organization should report:

- whether and how the responsibility to manage climate change-related impacts is linked to performance assessments or incentive mechanisms. This includes whether and how the remuneration policies for members of the highest governance body and senior executives are linked to the management of impacts that result from the organization's transition plan. Disclosure 2-19 in *GRI 2: General Disclosures 2021* requires information on the remuneration policies for members of the highest governance body and senior executives. If the organization has described the incentive mechanisms linked to the management of impacts that result from the organization's transition plan under Disclosure 2-19, it can provide a reference to this information;
- whether the performance of the highest governance body members is assessed against the progress toward GHG emissions reduction targets reported under Disclosure 102-4 and whether dividend distribution is subject to the achievement of the targets;
- how its research and development activities are aligned with its transition plan;
- planned changes to its portfolio of products and services to deliver the transition plan. This includes plans to reduce the portfolio of high-carbon products and services and increase the portfolio of low-carbon products and services;
- actions taken to build an organizational culture aligned with its transition plan, including leadership and workforce training programs on climate change mitigation and how the organization's activities transition to less GHG emissions-intensive economic activities;
- whether an internal carbon pricing scheme is in place, and if so, describe the scheme, including which activities are covered and the prices used per metric ton of CO_2. The organization should also explain its approach to determining the carbon price and how it aligns with the latest scientific evidence.

Guidance to 102-1-f
When reporting progress toward the targets, the organization should describe known barriers to target achievement and, if applicable, the role of locked-in GHG emissions.

Locked-in GHG emissions are estimates of future GHG emissions released by an organization's key assets or products sold within its operating lifetime. The organization should:

- report a qualitative assessment of the locked-in GHG emissions from its key assets and products;
- report a quantitative assessment of the locked-in GHG emissions from its key assets and products, if applicable (e.g., in the oil and gas sector);
- describe how these emissions may jeopardize the achievement of GHG emissions reduction targets and its plans to manage GHG-intensive assets and products.

Guidance to 102-1-f-ii
Targets to phase out fossil fuels can include:

- renewable energy procurement targets;
- targets to phase out fossil fuel-based materials;
- targets to end the exploration of new fossil fuels, the expansion of existing fossil fuel reserves, and the extraction of fossil fuels.

For more information on targets to phase out fossil fuels, see reference [12] in the Bibliography.

Guidance to 102-1-f-iii
If an organization cannot comply with this requirement because other climate change mitigation targets do not exist, it can comply with the requirement by reporting this to be the case.

Other climate change mitigation targets include any business, operational, engagement, and governance targets used to drive and monitor the progress of its transition plan, including net-zero emissions and energy efficiency targets. Examples of reporting what is covered by the other climate mitigation targets include entities included for energy efficiency and governance targets, stakeholder categories for stakeholder engagement targets, and GHG emissions scopes included for net-zero targets.

In the context of net-zero emissions targets, consistent with the climate change mitigation hierarchy, organizations are expected to prioritize implementing all feasible technical and scientific actions to avoid and reduce GHG emissions across their value chains in alignment with the global effort needed to limit global warming to 1.5°C. According to the latest scientific evidence, GHG removals within and beyond the value chain can only be used to counterbalance residual GHG emissions as the last step of the mitigation hierarchy [11]. Residual GHG emissions refer to the unabated GHG emissions after the organization has reduced at least 90% of its GHG emissions, and further reduction is not possible.

If an organization is subjected to sectorial decarbonization pathways [11] [12], it may be subjected to a different percentage of GHG emissions reduction. For example, some sectors are expected to achieve net-zero emissions targets with no residual GHG emissions.

For more information on other climate change mitigation targets, see references [11] and [12] in the Bibliography.

Beyond value chain mitigation (BVCM), i.e., climate contributions, cannot be used to counterbalance residual GHG emissions for reaching net-zero emissions targets. For further information on mitigation beyond the value chain, see the Guidance to 102-10-d and reference [20] in the Bibliography.

See Disclosures 102-9 and 102-10 for more information about GHG removals and carbon credits.

Guidance to 102-1-g
According to the International Labour Organization (ILO), a just transition involves greening the economy in a way that is as fair and inclusive as possible to everyone concerned, creating decent work opportunities, and leaving no one behind. A just transition involves maximizing the social and economic opportunities of climate action while minimizing and carefully managing any negative impacts. This is achieved through effective stakeholder engagement and respect for fundamental labor principles and rights.

Key principles of a just transition are included in the ILO's *Guidelines for a just transition towards environmentally sustainable economies and societies for all* [9], the UNFCCC's *Just transition of the workforce, and the creation of decent work and quality jobs* [13], and the UN *Declaration on the Rights of Indigenous Peoples* [2]. These instruments put decent work, social dialogue and protection, recognition of labor rights, and at-risk or vulnerable groups at the center of the just transition.

The organization should report:

- how it identifies stakeholders, including whether it has performed a social impact assessment, whose human rights, health, socio-economic well-being, or other interests are or could be affected as a result of implementing the transition plan, including at-risk or vulnerable groups;
- how it engages with stakeholders, credible stakeholder representatives, or proxy organizations to understand their concerns and interests;
- how the insights from stakeholder engagement, including from workers, trade unions, worker representatives, suppliers, Indigenous Peoples, local communities, and governments, have informed actions to prevent or mitigate negative impacts and maximize positive impacts resulting from the transition plan;
- the frequency of engaging with affected stakeholders on its transition plan.

Disclosure 2-29 in *GRI 2: General Disclosures 2021* covers the organization's approach to engaging with its stakeholders. If the organization has described how engagement with its stakeholders has informed the development and implementation of the transition plan under Disclosure 2-29, it can provide a reference to this information.

Guidance to 102-1-h

Requirements 3-3-a and 3-3-d in *GRI 3: Material Topics 2021* describe the organization's impacts and actions taken to manage them. If the organization has described the transition plan's impacts on people and the environment under 3-3-a and 3-3-d, including those from implementing the plan, it can provide a reference to this information.

Impacts on the environment from implementing a transition plan can include those related to pollution. For example, phasing out fossil fuels to reduce GHG emissions can reduce air pollution.

The organization should also describe the impacts on people and the environment associated with the failure to implement its transition plan.

Guidance to 102-1-h-i

An example of impacts on workers from implementing a transition plan is the termination of jobs following the reduction or phase-out of economic activities that produce high levels of GHG emissions.

See Disclosure 102-3 for additional information to report on a just transition. Disclosure 102-3 contains metrics relevant to a range of impacts on workers, local communities, and Indigenous Peoples. In addition, the organization can use other relevant information not included in Disclosure 102-3 to report on impacts associated with its transition plan.

Guidance to 102-1-h-ii

Actions to mitigate climate change can have positive impacts on biodiversity. For example, building offshore wind farms to transition to wind energy can act as refuges for fish and marine mammals. Actions to mitigate climate change can also result in negative impacts on biodiversity. For example, building renewable energy-related infrastructure to transition to renewable energy can result in biodiversity loss by damaging species' habitats due to land and sea use changes.

Disclosure 101-2 in *GRI 101: Biodiversity 2024* requires describing how the organization enhances synergies and reduces trade-offs between actions to manage its biodiversity and climate change impacts. If the organization has described the actions taken to manage the impacts on biodiversity resulting from its transition plan under Disclosure 101-2, it can provide a reference to this information.

Guidance to 102-1-i

The organization should report:

- its stance on significant issues related to the transition plan, for example, phasing out fossil fuels, that are the focus of its participation in public policy development and lobbying;
- any differences between its public policy activities and its stated policies, goals, or other public positions on issues related to its transition plan;
- whether it is a member of or contributes to any representative associations or committees that participate in public policy development and lobbying on issues related to its transition plan, including:
  - the nature of this contribution;
  - any differences between the organization's stated policies, goals, or other public positions on significant issues related to its transition plan and the positions of the representative associations or committees.

The organization can also report its association memberships focusing on climate change and whether it has engaged with its associations to influence its stance on climate change.

Disclosure 102-2 Climate change adaptation plan

REQUIREMENTS

The organization shall:

a. describe the impacts on people and the environment associated with its climate change-related risks and opportunities and how they were considered in the development of the adaptation plan;

b. describe its adaptation plan, including:

i. policies and actions to adapt to climate change;
ii. the source of the climate change-related scenarios used, the temperature projection included in the scenarios, and the methodologies and assumptions used to develop the adaptation plan;
iii. the total expenditure incurred by the implementation of the adaptation plan as monetary value and percentage of the total expenditure incurred in the reporting period;
iv. the governance bodies or individual roles responsible for overseeing and implementing the adaptation plan and their responsibilities;
v. the targets to achieve the adaptation plan and progress toward them;
vi. how the adaptation plan aligns with just transition principles and how engagement with stakeholders informs its development and implementation;

c. describe the impacts on people and the environment from implementing the adaptation plan and the actions taken to manage them, including for:

i. workers, local communities, and Indigenous Peoples;
ii. biodiversity;

d. explain, in the absence of an adaptation plan, why it does not exist, and describe the steps being taken to develop it and the expected time frame.

GUIDANCE

This disclosure provides information about the organization's plan to adapt to the effects of climate change. It covers the organization's activities and its upstream and downstream value chain.

Organizations contribute to climate change and are simultaneously affected by it. According to the United Nations Framework Convention on Climate Change (UNFCCC), climate change adaptation refers to changes in processes, practices, and structures in response to actual or potential climate-related events and their impacts. Adaptation aims to mitigate actual and potential negative impacts or leverage opportunities associated with climate change. For example, adaptation can include building flood defenses and redesigning business operations.

Impacts are reported under 102-2-a and 102-2-c as follows:

- 102-2-a covers organization's impacts on people and the environment associated with its climate change-related risks and opportunities. Based on *GRI 3*, the organization's impacts include impacts that the organization causes, contributes to and is directly linked to. For example, an organization can be located in an area prone to flooding, which can cause the closure of production facilities, resulting in workers losing their jobs. The organization uses these impacts to inform the development of its adaptation plan.
- 102-2-c covers the organization's impacts on people and the environment associated with implementing its adaptation plan. For example, an organization can plant mangroves to protect its production facilities against flooding, which also helps protect the local community and improves water quality. Mangroves can also have positive impacts on biodiversity as they provide habitats for wildlife.

Guidance to 102-2-a

Climate change-related risks can be classified as physical or transition risks.

Physical risks can be classified as:

- acute, including extreme weather events such as storms and flooding; or
- chronic, which are more gradual and longer-term, including rising mean temperatures that lead to more frequent heatwaves or increased risk of wildfire and drought.

Impacts associated with physical risks can include:

- workers' and local communities' heat-related illness or disease;
- lack of services for local communities, such as access to energy or clean water, due to disruptions in energy and water supply caused by extreme weather events. For example, a hurricane;
- loss of jobs due to the closure or relocation of production facilities;
- local communities' loss of houses, farms, and infrastructure.

Transition risks may be relevant to both transition and adaptation plans. Transition risks relevant to the adaptation plan can include new regulations on adaptation, increased costs caused by extreme weather events, potential relocation to a less flood-prone area, and pressures exerted by environmental and human rights groups on organizations to change practices. Only impacts associated with transition risks relevant to the adaptation plan are required to be reported under this requirement.

Climate change-related opportunities can include diversifying business activities, using efficient production processes, incorporating new technologies, reducing resource consumption, and accessing new markets. Impacts associated with climate change-related opportunities can include job creation and redefining existing jobs that require reskilling.

If the organization has identified its climate-related risks and opportunities using other regulatory frameworks or standards, it can use these risks and opportunities to identify the impacts on people and the environment.

Guidance to 102-2-b

Climate change mitigation and adaptation strategies are interconnected, with potential for synergies [7]. Transition and adaptation plans can have common elements requiring an integrated approach, including:

- policies and actions;
- investments allocated for the implementation of the plan;
- governance processes;
- alignment with just transition principles and stakeholder engagement.

If the same information applies to both transition and adaptation plans and has been reported under Disclosure 102-1, the organization can provide a reference to this information under Disclosure 102-2 and does not need to repeat the information.

The organization should report the frequency with which it reviews its adaptation plan and describe any changes from the previous reporting period.

The organization can also report whether its adaptation plan is aligned with applicable national, regional, or sectoral adaptation plans and list the relevant sources.

Guidance to 102-2-b-i

If the organization has described its policies linked to its adaptation plan under Disclosure 2-23 in *GRI 2: General Disclosures 2021* or 3-3-c in *GRI 3: Material Topics 2021*, it can provide a reference to this information under 102-2-b-i and does not need to repeat the information.

Requirement 102-2-b-i does not require a detailed description of the actions taken to implement the adaptation plan. Instead, the organization can provide a high-level overview of the actions.

Actions to adapt to climate change may include working with suppliers to reduce reliance on depleting resources and climate-proofing new facilities. Other actions may include supporting local communities' disaster preparedness and response, strengthening community access to potable water, and adapting to frequent water shortages. The organization can report adaptation actions by type, such as nature-based adaptation, engineering, and technological solutions.

Guidance to 102-2-b-ii

The climate change scenario analysis informs the development of the adaptation plan. When developing an adaptation plan, organizations are encouraged to include a range of climate change-related scenarios, including at least one high-emissions scenario (with a temperature rise well above 2°C) and a scenario compatible with the Paris Agreement. A scenario compatible with the Paris Agreement will require a temperature rise well below 2ºC while

pursuing efforts to limit global temperature rise to 1.5ºC. Other scenarios can be defined according to an organization's national context.

The Intergovernmental Panel on Climate Change (IPCC) outlines scenarios based on the latest science. If the organization does not use IPCC scenarios, it should report the reasons for choosing another source and explain how they align with the latest science.

Scenario analysis allows consideration of alternative forms of future states simultaneously and can be used to explore an organization's climate change-related risks. Organizations typically define scenarios according to the transition speed, expressed in the resulting average global temperature changes.

For further information on climate change scenario analysis, see references [1] and [21] in the Bibliography.

Guidance to 102-2-b-iii

The percentage of the total expenditure incurred by the implementation of the adaptation plan is calculated using the following formula:

$$\% = \frac{\text{Adaptation plan related expenditure}}{\text{Total expenditure}} \times 100$$

The organization should reconcile the total expenditure amounts with those in the audited consolidated financial statements, if available, or in the financial information filed on public record for the reporting period. The organization should explain this difference where the data reported does not reconcile with the audited consolidated financial statements or the financial information filed on public record.

The organization should report a breakdown of the total expenditure incurred by the implementation of the adaptation plan in the reporting period by capital expenditure (CapEx) and operational expenditure (OpEx).

If the organization is subject to a regional or national taxonomy for sustainable economic activities that include climate change adaptation objectives, it can report the expenditure as the amount of CapEx and OpEx incurred by adaptation activities and whether the taxonomy is mandatory or voluntary.

Guidance to 102-2-b-iv

The organization should report whether:

- the highest governance body is responsible for overseeing the adaptation plan and what this includes, for example, approving, reviewing, and monitoring the plan, ensuring it aligns with just transition principles (see Guidance to 102-1-g for more information), and overseeing processes to manage the impacts that result from it; or
- the senior executives are responsible for implementing the adaptation plan and determining what it includes.

Disclosures 2-12 and 2-13 in *GRI 2: General Disclosures 2021* require information on the highest governance body's role in overseeing the management of the organization's impacts and how it delegates responsibility. If the organization has described the roles and responsibilities of the governance bodies involved in overseeing and implementing the adaptation plan under Disclosures 2-12 and 2-13, it can provide a reference to this information.

Guidance to 102-2-b-v

Targets to achieve the adaptation plan can include the number of sites assessed for physical risks, the number of sites for which adaptation plans are developed and implemented, the number of employees that received relevant training, or the number of sites checked against withstanding extreme weather events. Other examples of targets can include reducing the number of heat-related sick leave, reducing damage costs from extreme weather events, and increasing the adaptive capacity of exposed assets.

Guidance to 102-2-b-vi
See Guidance to 102-1-g for more information on just transition principles.

The organization should report:

- how it identifies stakeholders, including whether it has performed a social impact assessment, whose human rights, health, socio-economic well-being, or other interests are or could be affected as a result of implementing the adaptation plan, including at-risk or vulnerable groups;
- how it engages with identified stakeholders or their legitimate representatives to understand their concerns and interests;
- how the insights from stakeholder engagement, including from workers, trade unions, worker representatives, suppliers, Indigenous Peoples, local communities, and governments, have informed actions to prevent or mitigate negative impacts and maximize positive impacts resulting from the adaptation plan;
- the frequency of engaging with affected stakeholders on its adaptation plan.

Disclosure 2-29 in *GRI 2: General Disclosures 2021* covers the organization's approach to engaging with its stakeholders. If the organization has described how engagement with its affected stakeholders has informed the development and implementation of the adaptation plan under Disclosure 2-29, it can provide a reference to this information.

Guidance to 102-2-c
If an adaptation plan is well managed, it can translate into positive impacts such as economic development and the creation of decent work opportunities within the organization and in its upstream and downstream value chain (including local employment).

However, an adaptation plan can also result in negative impacts, including job loss after relocating a production facility to an area less prone to climatic weather events or flood protection measures to an organization's production site, resulting in increased flooding in neighboring communities.

Impacts on the environment from implementing an adaptation plan can include those related to pollution. For example, relocating a production facility to an area less prone to climatic weather events can lead to water pollution in the new area.

Requirements 3-3-a and 3-3-d in *GRI 3: Material Topics 2021* entail describing the organization's impacts and the actions taken to manage them. If the organization has described the adaptation plan's impacts on people and the environment under 3-3-a and 3-3-d, including those from implementing the plan, it can provide a reference to this information.

The organization should also describe the impacts on people and the environment associated with the failure to implement its adaptation plan, such as increased occupational health and safety impacts on workers, loss of livelihood, and food and water insecurity or other negative impacts on fundamental labor rights.

Guidance to 102-2-c-i
See Disclosure 102-3 for quantitative indicators related to a just transition. In addition, the organization can use other relevant information not included in Disclosure 102-3 to report on impacts associated with its adaptation plan.

Examples of actions taken to manage impacts on workers, local communities, and Indigenous Peoples from implementing an adaptation plan are:

- supporting the adoption of formal conditions of work, remuneration, and occupational health and safety including for workers redeployed after implementing an adaptation plan;
- supporting workers to find new work after they lost their jobs due to relocation of operations;
- investing and utilizing nature-based (e.g., planting mangroves) or technological solutions on-site to prevent job termination rather than relocating production facilities;
- providing technical and financial support or collaborating with local communities and Indigenous Peoples to address the negative impacts arising from implementing adaptation measures.

Guidance to 102-2-c-ii
Actions to adapt to climate change can have positive impacts on biodiversity. For example, planting mangroves can contribute to climate change adaptation by controlling floods and protecting biodiversity by increasing wildlife populations. Actions to adapt to climate change, such as foresting an area with non-native species to control erosion or constructing climate-resilient infrastructure, can also result in negative impacts on biodiversity by altering species habitats, causing land use change.

Disclosure 101-2 in *GRI 101: Biodiversity 2024* requires describing how the organization enhances synergies and reduces trade-offs between actions to manage its biodiversity and climate change impacts. If the organization has described the actions taken to manage the impacts on biodiversity resulting from its adaptation plan under Disclosure 101-2, it can provide a reference to this information.

2. Topic disclosures

An organization reporting in accordance with the GRI Standards is required to report any disclosures from this section (Disclosure 102-3 through Disclosure 102-10) that are relevant to its climate change-related impacts.

Disclosure 102-3 Just transition

REQUIREMENTS

In the context of its transition or adaptation efforts, the organization shall:

a. report the total number of new employees recruited and a breakdown of this total by:

i. gender;
ii. employee type;

b. report the total number of employees whose work was terminated and a breakdown of this total by:

i. gender;
ii. employee type;

c. report the total number of redeployed employees and a breakdown of this total by:

i. gender;
ii. employee type;

d. report the total number of employees who received training for up- and re-skilling, and a breakdown of this total by:

i. gender;
ii. employee type;

e. report the total number of new workers who are not employees recruited and a breakdown of this total by gender;

f. report the total number of workers who are not employees whose work was terminated and a breakdown of this total by gender;

g. report the total number and percentage of new employees recruited whose basic pay is at or above the cost-of-living estimate, and describe actions taken or commitments made to address any gaps between basic pay and the cost-of-living estimate for workers reported under 102-3-a and 102-3-e;

h. list the locations of operation where the organization has impacts on local communities and Indigenous Peoples;

i. report the percentage of locations of operation listed under 102-3-h in which an agreement has been reached with affected or potentially affected local communities or Indigenous Peoples to safeguard their interests;

j. report contextual information necessary to understand the data reported under 102-3 and describe the methodologies and assumptions used to compile the data, including whether the numbers are reported:

i. in head count, full-time equivalent (FTE), or using another methodology;
ii. at the end of the reporting period, as an average across the reporting period, or using another methodology.

GUIDANCE

This disclosure describes the impacts of the organization's transition or adaptation efforts on workers, local communities, and Indigenous Peoples. Managing these impacts leads to a just transition.

According to the International Labour Organization (ILO), a just transition involves greening the economy in a way that is as fair and inclusive as possible to everyone concerned, creating decent work opportunities and leaving no one behind. See Guidance to 102-1-g for more

information on a just transition.

The organization's transition and adaptation efforts are considered a significant change as they result in an alteration to the organization's pattern of operations that can potentially have significant positive or negative impacts on workers.

Employee type refers to those reported under Requirement 2-7-b in *GRI 2: General Disclosures 2021*: permanent employees, temporary employees, non-guaranteed hours employees, full-time employees, and part-time employees.

The organization should provide a breakdown of the information reported under 102-3-a through 102-3-f by region.

For an example of how to present information on requirements in Disclosure 102-3, see Table 1 and Table 2 in the Appendix.

Guidance to 102-3-a and 102-3-e
As a result of the organization's transition or adaptation efforts, workers may be recruited due to the development of new low-carbon-intensive products, services, and sites. These include workers recruited in renewable energy, energy efficiency, and adaptation projects. For example, building climate-resilient infrastructure, agroforestry initiatives, and ecosystem restoration.

Guidance to 102-3-b and 102-3-f
Termination refers to the cessation of work initiated by the organization. In the context of this requirements, termination refers to mass termination or work that is phased out due to the organization's transition or adaptation efforts. For example, when greenhouse gas (GHG) emissions-intensive economic activities are reduced or phased out entirely, resulting in the termination of work.

Guidance to 102-3-c
In a just transition, redeployment occurs when employees working in high-emission economic activities are re-skilled to work in lower-emission activities within the same organization. For example, an existing employee in automobile manufacturing may be redeployed to work in the production line of electric cars. Redeployment can help organizations reduce termination.

Guidance to 102-3-d
The organization can describe the impacts of the training for up- and re-skilling provided to employees, such as more job security or increased basic pay.

Guidance to 102-3-e, 102-3-f, and 102-3-g
'Workers who are not employees' refers to workers who are not employees and whose work is controlled by the organization. Workers who are not employees perform work for the organization but are not in an employment relationship with the organization. Control of work implies that the organization directs the work performed or has control over the means or methods for performing the work. See Guidance to 2-8-a in *GRI 2: General Disclosures 2021* for more information on workers who are not employees.

Guidance to 102-3-g
Cost-of-living estimates are approximate calculations determining the necessary amount to cover an individual and their family's basic expenses like food, housing, and healthcare in a specific location. These estimates aim to ensure that workers and their families can maintain a decent standard of living.

The organization describes actions taken or commitments made to address any gaps between basic pay and the cost-of-living estimates for new employees recruited and reported under 102-3-a and for new workers who are not employees recruited and reported under 102-3-e.

Guidance to 102-3-h
The organization should report the specific locations within countries (e.g., states and cities) to report on the locations of operation where its transition or adaptation efforts have impacts on local communities and Indigenous Peoples, including impacts on the rights of Indigenous Peoples as set out in the *UN Declaration on the Rights of Indigenous Peoples* [2].

The organization can also list the locations of operation where its transition or adaptation efforts

have impacts on other stakeholders, including other vulnerable groups.

Guidance to 102-3-i
Organizations are expected to engage with local communities and Indigenous Peoples to prevent or mitigate potential negative impacts and take actions to address actual negative impacts, including through remediation. This also applies in the context of transition and adaptation efforts.

See reference [3] in the Bibliography.

This requirement aims to understand the effectiveness of the organization's engagement with local communities and Indigenous Peoples.

Agreements through free, prior, and informed consent (FPIC) that uphold rights and safeguard the interests of Indigenous Peoples provide clear, sustainable, and accountable outcomes of such engagements. Under the *UN Declaration on the Rights of Indigenous Peoples*, Indigenous Peoples have additional rights beyond FPIC, and organizations are expected to avoid infringing on them while implementing transition or adaptation efforts. For more guidance, see *GRI 411: Rights of Indigenous Peoples 2016* and reference [2] in the Bibliography.

An organization’s transition or adaptation efforts can have economic, social, and cultural impacts, as well as environmental impacts on local communities. Establishing a timely and effective engagement process is important to help the organization understand the vulnerability of local communities and how these could be affected by the organization’s transition or adaptation efforts. For more guidance, see *GRI 413: Local Communities 2016*.

To calculate the percentage under this requirement, the organization uses the list of locations of operation reported under 102-3-h. For each location of operation with agreements in place, the organization should report whether these agreements were made with all affected and potentially affected local communities or Indigenous Peoples, or only some.

Guidance to 102-3-j
If the organization cannot directly calculate the numbers reported under 102-3-a through 102-3-f, it can report estimates of the numbers and explain this under 102-3-j.

Disclosure 102-4 GHG emissions reduction targets and progress

REQUIREMENTS

The organization shall:

a. report short-, medium-, and long-term gross Scope 1, Scope 2, and Scope 3 GHG emissions reduction targets in metric tons of CO_2 equivalent and as a percentage of base year emissions, where:

- **i. gross Scope 1, Scope 2, and Scope 3 GHG emissions reduction targets are reported separately or where Scope 1 and Scope 2 GHG emissions are combined;**
- **ii. gross Scope 1 and Scope 2 GHG emissions reduction targets cover the total Scope 1 and Scope 2 GHG emissions reported under Disclosures 102-5 and 102-6;**
- **iii. GHG removals, GHG trades, and avoided GHG emissions are excluded;**

b. for each gross GHG emissions reduction target, report whether biogenic CO_2 emissions are included in the target;

c. for each gross Scope 2 GHG emissions reduction target, report whether the targets use the location-based or market-based method;

d. for each gross Scope 3 GHG emissions reduction target, list the Scope 3 categories covered by the targets;

e. for each gross GHG emissions reduction target, report the gases covered by the target;

f. explain how the gross GHG emissions reduction targets align with the latest scientific evidence on the effort needed to limit global warming to 1.5°C;

g. describe its gross GHG emissions reduction target revision policy;

h. for each gross GHG emissions reduction target, report the base year, including:

- **i. the rationale for choosing it;**
- **ii. base year emissions in metric tons of CO_2 equivalent;**
- **iii. the context for any significant changes in emissions that triggered recalculations of base year emissions;**
- **iv. the previously reported base year emissions, if base year emissions are recalculated;**

i. report the progress toward each gross GHG emissions reduction target using the inventory method, in metric tons of CO_2 equivalent, and as a percentage of a base year emissions;

j. for each gross GHG emissions reduction target, explain how the progress toward the target was achieved and whether it is due to:

- **i. reductions as a result of the organization's initiatives; or**
- **ii. other factors;**

k. report standards, methodologies, assumptions, and calculation tools used.

GUIDANCE

The GHG emissions reduction targets reported under this disclosure are used to report the targets to achieve the transition plan under Disclosure 102-1-f.

Guidance to 102-4-a

The organization should ensure consistency between Scope 3 categories covered by the target and Scope 3 categories covered by Disclosure 102-7.

The organization should report how it defined the period for its short-, medium-, and long-term targets. Examples of how an organization can define its short-, medium-, and long-term targets include:

- A short-term target of 5 to 10 years from the base year, a medium-term target of 10 to 15 years from the base year, and a long-term target of 20 to 30 years (e.g., by 2050) from the base year.
- A short-term target of 1 to 2 years from the base year, a medium-term target of 3 to 5 years from the base year, and a long-term target of 10 years from the base year

Short-, medium-, and long-term time horizons can vary between organizations and depend on many factors, including industry-specific characteristics. The organization should also report the year in which the targets were set. For further information on short-, medium- and long-term targets, see reference [12] in the Bibliography.

If significant changes compromise the relevance and consistency of existing GHG emissions reduction targets, the organization should recalculate its targets to reflect those changes. The organization is required to report restatements of information under Disclosure 2-4 in GRI 2: General Disclosures 2021.

In addition to reporting Scope 1, Scope 2, and Scope 3 GHG emissions reduction targets, the organization can report intensity targets. Intensity targets should be reported separately for Scope 1, Scope 2, and Scope 3.

Guidance to 102-4-a-i
The organization can also report a combined GHG emissions reduction target, including Scope 1, Scope 2, and Scope 3 GHG emissions. In such a case, the organization should explain why this information is relevant, for example, within the organization's sector.

When reporting combined GHG emissions reduction targets, the organization should report the percentage that each scope represents compared to the total GHG emissions included in the target.

Guidance to 102-4-a-ii
If the organization reports Scope 1 and Scope 2 GHG emissions reduction targets not covering the total Scope 1 and Scope 2 GHG emissions reported under Disclosures 102-5 and 102-6, it should explain why. It should also report the percentage of total Scope 1 and Scope 2 GHG emissions the target covers and outline a timeline and steps to cover the total.

Guidance to 102-4-a-iii
GHG removals, GHG trades (including carbon credits), and avoided GHG emissions are excluded from an organization's gross GHG emissions reduction targets reported under 102-4-a. See Guidance to 102-9-c and 102-10-d for more information on the use of GHG removals and carbon credits.

Avoided GHG emissions fall under a separate accounting system from corporate inventories and do not count toward GHG emission reduction targets.

Organizations that are subjected to sector programs that allow them to set net GHG emissions reduction targets are expected to report GHG emissions reduction targets and GHG removals separately. In such a case, the organization should report the sector program based on authoritative scientific evidence adopted. For further guidance, see reference [10] in the Bibliography.

Guidance to 102-4-b
Science-based target-setting initiatives require including biogenic CO_2 emissions in each gross GHG emissions reduction target.

See reference [11] in the Bibliography.

Guidance to 102-4-c
If the organization reports Scope 2 GHG emissions reduction targets using the market-based method, the organization should separately report Scope 2 GHG emissions reduction targets using the location-based method.

When organizations use the market-based method to set Scope 2 GHG emissions reduction targets, the Scope 2 quality criteria apply to the contractual instruments used. For more information on Scope 2 quality criteria, see Guidance to 102-6-a.

Guidance to 102-4-d
If a Scope 3 GHG emissions target does not cover all Scope 3 categories, the organization should report the percentage of Scope 3 emissions covered by the target (reported under 102-7-a and 102-7-c). The percentage can be calculated using the following formula:

$$\% = \frac{\text{Scope 3 emissions covered by the target}}{\text{Gross Scope 3 emissions (102-7-a) + Biogenic Scope 3 emissions (102-7-c)}} \times 100$$

The organization should explain why any Scope 3 categories are excluded and describe the steps taken to include all categories in the future.

For more information on GHG Scope 3 emissions categories, see Guidance to 102-7-a.

Guidance to 102-4-f
The organization should report whether and how the GHG emissions reduction targets are aligned with applicable sector-specific science-based pathways.

The organization should report which guidance or framework has been used to determine the targets, including the underlying climate and policy scenarios. The organization should explain how it has considered future developments (e.g., changes in sales volumes, mergers, and acquisitions) and transition risks and opportunities (e.g., changes in consumer behavior and demand, enhanced regulatory landscape, and new technologies) when setting the GHG emissions reduction targets. The organization should also explain how these developments and risks may affect the achievement of the targets.

Guidance to 102-4-g
When reporting 102-4-g, an organization can report the frequency of updating the GHG emissions reduction targets. For example, an organization can report that it updates its GHG emissions reduction targets every five years.

The organization should also report the main reasons for revising its GHG emissions reduction target, for example:
- stakeholder demand (e.g., customers, investors);
- evolution of scenarios used to inform the targets;
- evolution of standards or references used to inform the targets;
- changing environment (e.g., changes in the cost of renewable energy);
- technological breakthrough (e.g., new production process);
- legislative changes;
- target has been achieved before the target year;
- improvement in the GHG emissions calculation method.

Guidance to 102-4-h-i
While different years can be used for the inventory (under 102-5, 102-6, and 102-7) and target base years (under 102-4), using the same year for both is generally simpler.

For further information on target base year selection, the organization can refer to the *GHG Protocol Corporate Accounting and Reporting Standard* [14].

Guidance to 102-4-h-iii
Cases that can trigger a recalculation of base year emissions include:
- structural changes in the organization that have a significant effect on its base year emissions, including mergers, acquisitions, divestments, outsourcing, and insourcing of emitting activities;
- changes in calculation methodology or improvements in the accuracy of emission factors or activity data that result in a significant effect on the base year emissions data;
- discovery of significant errors, or a number of cumulative errors, that are collectively significant. In such a case, the organization should also report the established processes to prevent such errors in future reporting.

Guidance to 102-4-i
When reporting progress toward the GHG emissions targets, GHG removals, GHG trades, and avoided GHG emissions are excluded.
Progress toward GHG emissions targets covers reductions or increases in GHG emissions.

The inventory method compares emissions to a base year. Progress toward the targets using the inventory method is calculated using the following formula:

$$\text{Change in emissions} = \text{Current year emissions} - \text{Base year emissions}$$

More information on the inventory method is available in the *GHG Protocol Corporate Accounting and Reporting Standard*.

Progress toward the targets as a percentage of a base year's emissions is calculated using the following formula:

$$\text{Progress} = \frac{\text{Change in emissions}}{\text{Base year emissions}} \times 100$$

The progress can be reported as a percentage, as in the following example: Scope 1 and Scope 2 GHG emissions have been reduced by 20% from the 2019 base year.

For an example of how to present information on requirements in Disclosure 102-4, see Table 3 in the Appendix.

When reporting progress toward GHG emissions reduction targets, the organization should describe known barriers to target achievement and, if applicable, the role of locked-in GHG emissions. For more information on locked-in GHG emissions, see Guidance to 102-1-f.

Guidance to 102-4-j
Progress toward GHG emissions reduction targets can be achieved through the organization's initiatives or changes in the emissions due to other effects or factors.

Initiatives of the organization that result in GHG emission reductions can include:
- process redesign;
- conversion and retrofitting of equipment;
- fuel switching;
- changes in behavior.

Other effects or factors that result in GHG emissions reductions can include:
- decarbonization of the electricity grid caused by government policy;
- decarbonization of purchased products and services initiated by suppliers;
- reduced emissions from waste disposal due to government waste policy;
- changes in consumer behavior (e.g., driving less).

Guidance to 102-4-k
The organization should report whether an independent third party has validated GHG emissions reduction targets and related progress, and if so, which party conducted the validation and the standard or methodology used.

Disclosure 102-5 Scope 1 GHG emissions

REQUIREMENTS

The organization shall:

a. report gross Scope 1 GHG emissions in metric tons of CO_2 equivalent, and in the calculation

- **i. include emissions of CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, and NF_3;**
- **ii. include biogenic non-CO_2 GHG emissions produced by combustion or biodegradation of biomass from owned or controlled sources;**
- **iii. exclude GHG removals, GHG trades, and avoided emissions;**
- **iv. use the global warming potential (GWP) values based on a 100-year timeframe from the latest IPCC assessment report;**

b. provide a breakdown of gross Scope 1 GHG emissions by CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, and NF_3, in metric tons and metric tons of CO_2 equivalent;

c. report biogenic CO_2 emissions from the combustion or biodegradation of biomass from owned or controlled sources in metric tons, separately from gross Scope 1 GHG emissions;

d. report the base year for the calculation, including:

- **i. the rationale for choosing it;**
- **ii. base year emissions in metric tons of CO_2 equivalent separately for gross Scope 1 GHG emissions and biogenic CO_2 emissions;**
- **iii. the context for any significant changes in emissions that triggered recalculations of base year emissions;**
- **iv. the previously reported base year emissions, if base year emissions are recalculated;**

e. report the consolidation approach for Scope 1 GHG emissions that is consistently applied across Scope 1, Scope 2, and Scope 3 GHG emissions, whether equity share, financial control, or operational control;

f. report standards, methodologies, assumptions, and calculation tools used, including the source of the emission factors used.

GUIDANCE

Gross Scope 1 GHG emissions include those from energy consumption as reported under 103-2-a in *GRI 103: Energy 2025*.

Gross Scope 1 GHG emissions come from sources owned or controlled by an organization. They are principally the result of the following types of activities undertaken by an organization:

- Generation of electricity, heating, cooling, and steam – these emissions result from the combustion of fuels in stationary sources, such as boilers, furnaces, and turbines, and other combustion processes, such as flaring.
- Physical or chemical processing – these emissions often result from manufacturing or processing chemicals and materials, such as cement, steel, aluminum, ammonia, and waste processing.
- Transportation of materials, products, waste, workers, and passengers – these emissions result from the combustion of fuels in mobile combustion sources owned or controlled by the organization, such as trucks, trains, ships, airplanes, buses, and cars.
- Fugitive emissions – these result from intentional or unintentional release of GHGs. These include equipment leaks from joints, seals, packing, and gaskets; methane (CH_4) emissions from coal mines and venting or other leakages; and hydrofluorocarbon (HFC) emissions from refrigeration and air conditioning equipment.

As specified in the Comparability principle in *GRI 1: Foundation 2021*, the organization should present the information under 102-5-a, 102-5-b, and 102-5-c for the current reporting period and at least two previous reporting periods.

For an example of how to present information on requirements in Disclosure 102-5, see Table 4 and Table 5 in the Appendix.

Guidance to 102-5-a
Gross Scope 1 GHG emissions include the seven gases the Kyoto Protocol covers [6] [18]. The organization can report emissions from other GHGs, such as the Montreal Protocol gases [5], separately from gross Scope 1 GHG emissions.

Where it aids transparency or comparability over time, the organization can provide breakdowns of gross Scope 1 GHG emissions by:

- business unit or facility;
- country;
- type of source (e.g., stationary or mobile combustion, process emissions, and fugitive emissions);
- type of activity (e.g., physical or chemical processing; transportation of materials, products, waste, and employees; and fugitive emissions).

Guidance to 102-5-a-iii
Scope 1 GHGs emitted during GHG removal activities are reported under 102-5-a.

Guidance to 102-5-a-iv
If the organization reports information for previous reporting periods calculated using different Intergovernmental Panel on Climate Change (IPCC) GWP values, it should report the values used in each reporting period.

Guidance to 102-5-c
As per the *GHG Protocol Corporate Accounting and Reporting Standard,* biogenic CO_2 emissions from the combustion or biodegradation of biomass from owned or controlled sources are reported separately under 102-5-c and not included in the calculation for 102-5-a. Biogenic non-CO_2 GHG emissions, such as methane (CH_4) and nitrous oxide (N_2O), from the combustion or biodegradation of biomass from owned or controlled sources, are reported as part of gross Scope 1 GHG emissions.

Guidance to 102-5-d
The organization should report Scope 1 GHG emissions consistently according to its recalculation policy when there are recalculations of the base year emissions.

Guidance to 102-5-d-iii
Cases that can trigger a recalculation of base year emissions include:

- structural changes in the organization that have a significant effect on its base year emissions, including mergers, acquisitions, divestments, outsourcing, and insourcing of emitting activities;
- changes in calculation methodology or improvements in the accuracy of emission factors or activity data that result in a significant effect on base year emissions data;
- discovery of significant errors or a number of cumulative errors that are collectively significant. In such a case, the organization should also report the established processes to prevent such errors in future reporting.

For further information on recalculations of emissions in previous reporting periods, the organization can refer to the *GHG Protocol Corporate Accounting and Reporting Standard* [14].

Guidance to 102-5-e
The organization should explain the reason for choosing the consolidation approach.

The organization should report gross Scope 1 GHG emissions for the entities included in its financial reporting. If the entities included in its financial reporting differ from the list of entities in its sustainability reporting, the organization is required to specify the differences under Disclosure 2-2 in *GRI 2: General Disclosures 2021*. See also section 5.1 in *GRI 1: Foundation 2021*.

If the organization includes entities in its sustainability reporting that are not included in its financial reporting, it should report their gross Scope 1 GHG emissions data separately (e.g., from associates, joint ventures, and unconsolidated subsidiaries).

If there are any changes in the organizational boundaries, the organization should report these changes.

Guidance to 102-5-f
Methodologies used to calculate gross Scope 1 GHG emissions can include:

- direct measurements of GHG emissions;
- calculation of GHG emissions based on activity data (e.g., fuel use) and emission factors.

The organization should explain why the standards, methodologies, assumptions, and calculation tools were chosen, including the source of the emission factors used.

The emission factors can originate from mandatory reporting requirements, voluntary reporting frameworks, industry groups, scientific papers, commercial data providers, and suppliers to the reporting organization.

The organization should consistently apply emission factors to calculate 102-5-a and 102-5-c.

Disclosure 102-6 Scope 2 GHG emissions

REQUIREMENTS

The organization shall:

a. report gross location-based and, if applicable, market-based Scope 2 GHG emissions in metric tons of CO_2 equivalent, and in the calculation:

- **i. include emissions of CO_2, CH_4, and N_2O;**
- **ii. include biogenic non-CO_2 GHG emissions from electricity use;**
- **iii. exclude GHG removals, GHG trades, and avoided emissions;**
- **iv. use the global warming potential (GWP) values based on a 100-year timeframe from the latest IPCC assessment report;**

b. provide a breakdown of gross location-based Scope 2 GHG emissions by CO_2, CH_4, and N_2O in metric tons and metric tons of CO_2 equivalent;

c. report location-based and, if applicable, market-based biogenic CO_2 emissions from electricity use in metric tons, separately from gross Scope 2 GHG emissions;

d. report the base year for the calculation, including:

- **i. the rationale for choosing it;**
- **ii. base year emissions in metric tons of CO_2 equivalent separately for gross Scope 2 GHG emissions and biogenic CO_2 emissions;**
- **iii. the context for any significant changes in emissions that triggered recalculations of base year emissions;**
- **iv. the previously reported base year emissions, if base year emissions are recalculated;**

e. report the consolidation approach for Scope 2 GHG emissions that is consistently applied across Scope 1, Scope 2, and Scope 3 GHG emissions, whether equity share, financial control, or operational control;

f. report standards, methodologies, assumptions, and calculation tools used, including the source of the emission factors used.

GUIDANCE

Gross Scope 2 GHG emissions include those from the generation of purchased or acquired electricity, heating, cooling, and steam consumed by an organization reported under 103-2-b in *GRI 103: Energy 2025*. For many organizations, Scope 2 GHG emissions from the generation of purchased or acquired electricity can be much greater than Scope 1 GHG emissions.

As specified in the Comparability principle in *GRI 1: Foundation 2021*, the organization should present the information under 102-6-a, 102-6-b, and 102-6-c for the current reporting period and at least two previous reporting periods.

For an example of how to present information on requirements in Disclosure 102-6, see Table 4 and Table 5 in the Appendix.

Guidance to 102-6-a

There are two methods to calculate gross Scope 2 GHG emissions:

- A location-based method, which reflects the average GHG emissions intensity of grids on which energy consumption occurs, using grid-average or national production mix emission factor data.
- A market-based method, which reflects GHG emissions from electricity that an organization has purposefully chosen (or its lack of choice). It derives emission factors from contractual instruments, including any contract between two parties for the sale and purchase of energy bundled with attributes about the energy generation or for unbundled attribute claims.

The market-based method applies to organizations with operations in markets that provide product- or supplier-specific data in the form of contractual instruments.

The gross Scope 2 GHG emissions cover CO_2, CH_4, and N_2O. These GHGs occur from energy production processes (e.g., combustion) and are relevant to the gross Scope 2 GHG emissions calculation.

No known cases exist where other GHGs covered by the Kyoto Protocol (HFCs, PFCs, SF_6, and NF_3) are released from energy production processes for purchased electricity, heating, cooling, and steam. However, if released, they can be included in the Scope 2 GHG emissions. In such a case, the organization should report which other GHGs covered by the Kyoto Protocol are included and explain how these emissions are relevant to Scope 2 GHG emissions reporting.

The organization can report emissions from other GHGs, such as the Montreal Protocol gases [5], separately from gross Scope 2 GHG emissions.

Where it aids transparency or comparability over time, the organization can provide breakdowns of gross Scope 2 GHG emissions by, for example:

- business unit or facility;
- country;
- type of source (electricity, heating, cooling, and steam);
- type of activity.

According to the *GHG Protocol Scope 2 Guidance* [16], in a market-based calculation, emission factors should be chosen based on the following hierarchy: energy attributes and certificates; contracts for electricity; supplier and utility emission rates; residual mix; and other regional, subnational, and national grid-average emission factors.

If a residual mix is unavailable, the organization can use grid-average emission factors as a proxy, meaning that the location-based and market-based GHG emissions will be the same until information on the residual mix is available. The organization should report if a residual mix is unavailable and if grid-average emission factors are used as a proxy.

For further information on the emission factors hierarchy, see references [16] and [19] in the Bibliography.

The following quality criteria, built on the *GHG Protocol Scope 2 Guidance*, apply to the market-based method:

- Contractual instruments must convey the GHG emission rate attribute associated with the electricity produced. Attributes are defined as descriptive or performance characteristics of a particular generation resource. Each contractual instrument must be the only source of a GHG emission rate attribute claim associated with its quantity of energy generation.
- Contractual instruments must be tracked and redeemed, retired, or canceled by or on behalf of the reporting organization.
- Contractual instruments must be issued and redeemed as close as possible to the energy consumption period the contractual instrument applies to.
- Contractual instruments must be sourced from the same market to which the contractual instrument is applied.
- Utility-specific emission factors should be calculated, including certificates retired on behalf of customers, and applying the residual mix rate to null power.
- A residual mix must represent the GHG intensity of unclaimed or publicly shared electricity.

For further information on the quality criteria for gross Scope 2 GHG emissions accounting following the market-based method and how to support accurate accounting if an organization cannot meet the Scope 2 quality criteria, see the *GHG Protocol Scope 2 Guidance* [16].

The organization should also describe how it strives for the temporal and physical connection between contractual instruments and their associated energy consumption. For example, the contractual instrument can be sourced from the same grid or country where it is applied, and the contractual instrument can be issued with hourly matching.

If the organization reports gross market-based Scope 2 GHG emissions under 102-6-a, it should report which types of contractual instruments it uses (e.g., power purchase agreements, utility green tariffs, unbundled certificates) and the percentage of the total purchased electricity covered by each instrument. The organization can report additional information on the contractual arrangements, for example:

- the date that the renewable generation facility was commissioned or repowered;
- whether the renewable generation facility receives government subsidies or other support;
- the length of the contract for the contractual instruments;

- whether the contract was signed before the investment decision to build the renewable generation facility.

Guidance to 102-6-a-iv
If the organization reports information for previous reporting periods calculated using different Intergovernmental Panel on Climate Change (IPCC) GWP values, it should report the values used in each reporting period.

Guidance to 102-6-b
If the organization reports gross market-based Scope 2 GHG emissions under 102-2-a, it should provide a breakdown of these GHG emissions by CO_2, CH_4, and N_2O, in addition to the location-based information.

Guidance to 102-6-c
Electricity consumption refers to purchased or acquired electricity, heating, cooling, and steam.

As per the *GHG Protocol Corporate Accounting and Reporting Standard* [14] and *GHG Protocol Scope 2 Guidance* [16], biogenic non-CO_2 GHG emissions, such as methane (CH_4) and nitrous oxide (N_2O), from electricity use (e.g., biomass combustion in the electricity value chain) are reported as part of the gross Scope 2 GHG emissions. Biogenic CO_2 emissions from electricity use are reported separately and not included in the calculation for 102-6-a.

Guidance to 102-6-d
For further information on recalculations of emissions in previous reporting periods, the organization can refer to Guidance 102-5-d-iii and the GHG Protocol Corporate Accounting and Reporting Standard [14].

Guidance to 102-6-e
The organization should explain the reason for the chosen consolidation approach.

The organization should report the gross Scope 2 GHG emissions for the entities included in its financial reporting. If the entities included in its financial reporting differ from the list of entities in its sustainability reporting, the organization is required to specify the differences under Disclosure 2-2 in *GRI 2: General Disclosures 2021*. See also section 5.1 in *GRI 1 Foundation 2021*.

If the organization includes entities in its sustainability reporting that are not included in its financial reporting, it should report their gross Scope 2 GHG emissions data separately (e.g., from associates, joint ventures, and unconsolidated subsidiaries).

If there are any changes in the organizational boundaries, the organization should report these changes.

Guidance to 102-6-f
The organization should explain why the standards, methodologies, assumptions, and calculation tools were chosen, including the source of the emission factors used.

The emission factors can originate from mandatory reporting requirements, voluntary reporting frameworks, industry groups, scientific papers, commercial data providers, and suppliers to the reporting organization.

The organization should consistently apply emission factors to calculate 102-6-a and 102-6-c.

Disclosure 102-7 Scope 3 GHG emissions

REQUIREMENTS

The organization shall:

a. report gross Scope 3 GHG emissions in metric tons of CO_2 equivalent, and in the calculation:

- **i. include GHG emissions for each Scope 3 category;**
- **ii. include emissions of CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, and NF_3;**
- **iii. include biogenic non-CO_2 GHG emissions from the combustion or biodegradation of biomass in the upstream and downstream value chain;**
- **iv. exclude GHG removals, GHG trades, and avoided emissions;**
- **v. use the global warming potential (GWP) values based on a 100-year timeframe from the latest IPCC assessment report;**

b. provide a breakdown of gross Scope 3 GHG emissions by each of the 15 Scope 3 categories in metric tons of CO_2 equivalent;

c. report biogenic CO_2 emissions from the combustion or biodegradation of biomass in the upstream and downstream value chain in metric tons, separately from gross Scope 3 GHG emissions, and a breakdown of this total by each of the 15 Scope 3 categories;

d. report the base year for the calculation, including:

- **i. the rationale for choosing it;**
- **ii. base year emissions in metric tons of CO_2 equivalent separately for gross Scope 3 GHG emissions and biogenic CO_2 emissions;**
- **iii. the context for any significant changes in emissions that triggered recalculations of base year emissions;**
- **iv. the previously reported base year emissions, if base year emissions are recalculated;**

e. report the consolidation approach for Scope 3 GHG emissions that is consistently applied across Scope 1, Scope 2, and Scope 3 GHG emissions, whether equity share, financial control, or operational control;

f. report standards, methodologies, assumptions, and calculation tools used, including the sources of the emission factors used.

GUIDANCE

Scope 3 GHG emissions are all indirect GHG emissions (not included in Scope 2) that occur in the organization's upstream and downstream value chain.

For many organizations, Scope 3 GHG emissions can be much greater than Scope 1 or Scope 2 GHG emissions.

Gross Scope 3 GHG emissions can come from extracting and producing purchased materials, transporting purchased fuels in vehicles not owned or controlled by the organization, and the end use of products and services. Gross Scope 3 GHG emissions can also come from decomposing the organization's waste. Process-related emissions during the manufacture of purchased goods and fugitive emissions in facilities not owned by the organization can also produce Scope 3 GHG emissions.

Gross Scope 3 GHG emissions include energy consumption upstream and downstream of the value chain reported under 103-3-a in *GRI 103: Energy 2025*.

As specified in the Comparability principle in *GRI 1: Foundation 2021*, the organization should present the information under 102-7-a, 102-7-b, and 102-7-c for the current reporting period and at least two previous reporting periods.

For an example of how to present information on requirements in Disclosure 102-7, see Table 4 and Table 5 in the Appendix.

Guidance to 102-7-a

The gross Scope 3 GHG emissions include GHG emissions for each of the following 15 upstream and downstream categories from the *GHG Protocol Corporate Value Chain (Scope 3)*

Accounting and Reporting Standard [15]:

Upstream categories
1. Purchased goods and services
2. Capital goods
3. Fuel- and energy-related activities (not included in gross Scope 1 or 2 GHG emissions)
4. Upstream transportation and distribution
5. Waste generated in operations
6. Business travel
7. Employee commuting
8. Upstream leased assets

Downstream categories
9. Downstream transportation and distribution
10. Processing of sold products
11. Use of sold products
12. End-of-life treatment of sold products
13. Downstream leased assets
14. Franchises
15. Investments

Each organization defines the activities included in the Scope 3 categories.

Scope 3 GHGs emitted during GHG removal activities are reported under 102-7-a.

The organization should ensure that the Scope 3 inventory appropriately reflects its GHG emissions and not exclude any Scope 3 category that would compromise the relevance of the reported inventory. More guidance on how to set the Scope 3 boundary can be found in the *GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard* [15].

For more guidance on reporting Scope 3 categories, see reference [22] in the Bibliography.

If the organization cannot include emissions for each Scope 3 category included under 102-7-a-i because the information is missing, it is required to provide the reason for omission 'information unavailable/incomplete' and its explanation (i.e., specify what is missing, explain why it is missing and describe the steps taken and the expected time frame to obtain it). For more information on reasons for omission, see Requirement 6 in *GRI 1: Foundation 2021*.

The gross Scope 3 GHG emissions include the seven gases the Kyoto Protocol covers [6] [18].

The organization can also provide a breakdown of gross Scope 3 GHG emissions by CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, and NF_3 in metric tons and metric tons of CO_2 equivalent.

The organization can report emissions from other GHGs, such as the Montreal Protocol gases [5], separately from gross Scope 3 GHG emissions.

Where it aids transparency or comparability over time, the organization can provide breakdowns of gross Scope 3 GHG emissions by, for example:
- business unit or facility;
- country;
- type of source (e.g., stationary or mobile combustion, process emissions, and fugitive emissions);
- type of activity.

The organization can refer to the *GHG Protocol Corporate Value Chain Standard* [15] for information on the Scope 3 GHG accounting quality criteria.

Guidance to 102-7-a-v
If the organization reports information for previous reporting periods calculated using different IPCC GWP values, it should report the values used in each reporting period.

Guidance to 102-7-b
The organization should report the percentage of GHG emissions in metric tons of CO_2 equivalent obtained through primary data for each of the 15 Scope 3 categories. Primary data is

obtained from suppliers or other value chain entities related to the organization's activities. Secondary data includes industry average data from published databases or government statistics and is not specific to the activity for which emissions are calculated. The percentage is calculated using the following formula:

$$\text{Percentage of primary data} = \frac{\text{Primary data Scope 3 category emissions } (mtCO_2e)}{\text{Total Scope 3 category emissions } (mtCO_2e)} \times 100$$

Guidance to 102-7-c

As per the *GHG Protocol Corporate Accounting and Reporting Standard* [14] and *GHG Protocol Scope 3 Standard* [15], biogenic non-CO_2 GHG emissions, such as methane (CH_4) and nitrous oxide (N_2O), from the combustion or biodegradation of biomass upstream and downstream the value chain, are reported as part of the gross Scope 3 GHG emissions. Biogenic CO_2 emissions from the combustion or biodegradation of biomass upstream and downstream of the value chain are reported separately from gross Scope 3 GHG emissions and are not included in the calculation for 102-7-a.

Guidance to 102-7-d

As specified in the Comparability principle in *GRI 1: Foundation 2021*, the organization should present the information for the current and at least two previous reporting periods.

For further information on recalculations of emissions in previous reporting periods, the organization can refer to Guidance 102-5-d-iii and the *GHG Protocol Corporate Accounting and Reporting Standard* [14].

The organization should provide a breakdown of base year emissions by each of the 15 Scope 3 categories in metric tons of CO_2 equivalent.

Guidance to 102-7-e

The organization should explain the reason for choosing the consolidation approach.

If there are any changes in the organizational boundaries, the organization should report these changes.

Guidance to 102-7-f

The organization should explain why the standards, methodologies, assumptions, and calculation tools were chosen, including the source of the emission factors used.

The emission factors can originate from mandatory reporting requirements, voluntary reporting frameworks, industry groups, scientific papers, commercial data providers, and suppliers to the reporting organization.

The organization should consistently apply emission factors to calculate 102-7-a and 102-7-c.

Disclosure 102-8 GHG emissions intensity

REQUIREMENTS

The organization shall:

a. report GHG emissions intensity ratio(s), including the gross GHG emissions in metric tons of CO_2 equivalent (the numerator) and the organization-specific metric (the denominator) chosen to calculate the ratio(s);

b. report the scope(s) of GHG emissions included in the intensity ratio(s), whether Scope 1, Scope 2, or Scope 3.

GUIDANCE

GHG emissions intensity ratios are obtained by dividing the organization's gross GHG emissions (the numerator) by an organization-specific metric (the denominator). Many organizations track environmental performance with intensity ratio(s).

GHG emissions intensity ratios express the amount of GHG emissions per unit of activity, output, or other organization-specific metric. In combination with an organization's gross GHG emissions, reported under Disclosures 102-5, 102-6, and 102-7, GHG emissions intensity ratios help to contextualize an organization's efficiency, including in relation to other organizations.

The organization should select a consistent organizational boundary for both the numerator and denominator in the GHG emissions intensity ratio.

For an example of how to present information on requirements in Disclosure 102-8, see Table 6 in the Appendix.

Guidance to 102-8-a

Examples of GHG emissions intensity ratios can include:

- [amount of] gross Scope 1 GHG emissions in metric tons of CO_2 equivalent (numerator) per 100 full-time equivalent employees (denominator);
- [amount of] gross Scope 2 GHG emissions in metric tons of CO_2 equivalent (numerator) per EUR 1 million revenue (denominator).

Types of organization-specific metrics (denominators) can include:

- units of product;
- production volume (such as metric tons, liters, or MWh);
- size (such as m^2 floor space);
- full-time equivalent employees;
- monetary units (such as revenue or sales).

Relevant denominators differ between industries or business units within an organization. Therefore, the organization should choose a denominator relevant to its industry that is aligned with current industry standards applied to its activities. For example, an organization that manufactures products can choose 'tons of product produced' as a denominator, whereas an organization with diversified activities and services can choose 'full-time equivalent employees (FTE)'.

Where it aids transparency or comparability over time, the organization should provide a breakdown of the GHG emissions intensity ratios by:

- business unit or facility;
- country;
- GHG emissions source (e.g., furnaces, waste processing, mobile combustion);
- type of activity;
- Scope 3 category.

Guidance to 102-8-b

The organization can report GHG emissions intensity ratio(s) for Scope 1, Scope 2, or Scope 3 separately or combined for Scope 1 and Scope 2. The organization should report whether biogenic GHG emissions are included in the ratio(s) numerator.

Disclosure 102-9 GHG removals in the value chain

REQUIREMENTS

The organization shall:

a. report the total Scope 1 GHG removals in metric tons of CO_2 equivalent, excluding any GHG trades, and a breakdown of this total by each storage pool;

b. for each type of storage pool, describe how quality criteria are monitored to manage the risk of non-permanence;

c. report the intended use of GHG removals;

d. describe the impacts on people and the environment from its Scope 1 GHG removals and the actions taken to manage them, including for:

i. workers, local communities, and Indigenous Peoples;
ii. biodiversity;

e. report standards, methodologies, assumptions, and calculation tools used.

GUIDANCE

This disclosure aims to increase transparency regarding the organization's GHG removals.

This disclosure covers information on GHG removals in the organization's value chain. GHG removals beyond the organization's value chain purchased through carbon credits are reported under Disclosure 102-10.

GHG removals are the transfer of a greenhouse gas from the atmosphere to storage within a non-atmospheric pool. Storage refers to the process of maintaining CO_2 or other GHGs in pools. A storage pool is a physical reservoir or medium where the removed CO_2 or other GHGs are stored.

Two types of storage pools are considered for reporting under this disclosure:

- Land-based pools store carbon in terrestrial biomass, dead organic matter, or soil carbon pools.
- Geologic pools store inorganic minerals not used as products; for example, fossil carbon in sedimentary formations containing oil and natural gas.

Even though this disclosure covers GHG removal, available methodologies mainly cover CO_2 removals. For further information on accounting for CO_2 removals and carbon pools, see reference [17] in the Bibliography.

Guidance to 102-9-a
102-9-a excludes any GHG trades. GHG trades occur, for example, when a removal activity in the organization's value chain is sold as a carbon credit.

If applicable, the organization should report a breakdown of GHG removals by each GHG covered by the Kyoto Protocol and use the global warming potential (GWP) values based on a 100-year timeframe.

Scope 1 GHG removals are direct and constitute removals where the organization owns or controls the sink (which is the process, activity, or mechanism that removes GHG emissions from the atmosphere) and the storage pool.

The organization should report the total Scope 3 GHG removals in metric tons of CO_2 equivalent, excluding any GHG trades, and a breakdown of this total by storage pool. Scope 3 GHG removals are indirect and result from the activities in the organization's upstream and downstream value chain, where the organization does not own or control the sink and storage pool. The organization can also describe its influence on the Scope 3 GHG removal process, for example, whether it collaborated with a supplier on removal projects.

There are no Scope 2 GHG removals since removals do not occur when generating electricity, heating, cooling, or steam. According to the *GHG Protocol Land Sector and Removals Guidance*, GHG removals occurring in the value chain of the energy generation process are accounted for in Scope 3 GHG emissions category 3 'fuel- and energy-related activities', as per the Scope 3

categories from the *GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard*.

In addition, the organization can provide a breakdown of the total GHG removals by sink process. Two main types of sink processes that remove CO_2 from the atmosphere are:

- Biogenic CO_2 removals resulting from atmospheric CO_2 transferred via biological sinks, such as photosynthesis, to storage in biogenic carbon pools.
- Technological CO_2 removals resulting from atmospheric CO_2 transferred via technological sinks to storage in geologic carbon pools.

See reference [17] in the Bibliography.

For an example of how to present information on requirement 102-9-a, see Table 7 in the Appendix.

Guidance to 102-9-b

Risk of non-permanence means the inability to demonstrate that CO_2 or other GHGs remain stored. Non-permanence may be due to unintentional natural factors such as fire, wind, and other extreme weather events, as well as intentional actions such as land use change. Non-permanence also includes possible losses or leaks during transport.

When non-permanence occurs, organizations account for and report losses of CO_2 and other GHGs as emissions or reversals in future inventory periods. Reversals are GHG emissions from storage pools previously reported as GHG removals by organizations.

The following quality criteria, built on the *GHG Protocol Land Sector and Removals Guidance* [17], apply to managing the risk of non-permanence of GHG removals:

- Storage monitoring – demonstrate that CO_2 and other GHGs remain stored or detect losses.
- Traceability – identify, track, and collect information throughout the removal pathway, particularly in the case of Scope 3 removals, where the organization does not own or control the sinks and pools.
- Availability of primary data – demonstrate that the organization has accounted for removals using empirical data specific to the sinks and pools where GHGs are stored in its activities or upstream and downstream value chain.
- Uncertainty – provide a quantitative uncertainty range for removals, including the removal value, so that estimates are based on a specified confidence level and a justification of how the selected value does not overestimate removals.
- Reversals accounting – report CO_2 and other GHG losses of previously reported removals. The CO_2 and other GHG losses should be reported as GHG emissions (if storage pools are part of the GHG inventory boundary[1]) or as reversals (if storage pools are no longer part of the GHG inventory boundary) in the reporting period.

If GHG removals do not meet one or more quality criteria, the organization should explain why and describe the actions taken or planned to meet the quality criteria.

The organization should also describe the impacts on people and the environment associated with non-permanence.

Guidance to 102-9-c

Uses of GHG removals include:

- in the context of net-zero emissions targets, counterbalancing residual GHG emissions as the mitigation hierarchy's last step. Residual GHG emissions refer to the unabated GHG emissions after the organization has reduced at least 90% of its GHG emissions, and further reduction is not possible. If an organization is subjected to sectoral decarbonization pathways, it may be subjected to a different percentage of GHG emissions reduction;
- selling GHG removals as carbon credits.

GHG removals are excluded from an organization’s gross GHG emissions reduction targets reported under Disclosure 102-4. The organization should describe the role of GHG removals within its climate change transition plan.

The organization should report whether GHG removal targets are in place and what their purpose and role are within the organization’s mitigation strategy. The purpose of GHG removal

1 An imaginary line that encompasses the direct and indirect emissions that are included in the inventory. It results from the chosen organizational and operational boundaries.

targets can include:

- increasing GHG removal capacity to counterbalance residual GHG emissions after having reduced at least 90% of GHG emissions; and
- being part of interim milestones that demonstrate an organization's commitment to counterbalance residual GHG emissions.

If the organization sets GHG removal targets for other purposes, it should report these purposes and explain them.

When reporting GHG removal targets, the organization should also describe how GHG reversals of previously reported GHG removals are accounted for in the progress of its GHG removal targets.

If the organization removes GHGs from the atmosphere through its activities, the GHG removals reported under 102-9-a may not have any specific intended use. If this is the case, a brief statement of this fact is sufficient to comply with the requirement. This circumstance may apply to organizations within the forest, land, or agriculture sectors.

Guidance to 102-9-d

The organization should describe how it engages with stakeholders to identify impacts on people – including workers, Indigenous Peoples, and local communities – and the environment, including biodiversity.

Impacts on the environment associated with GHG removals can include those related to pollution. For example, a technological GHG removal activity can lead to an impact on air quality.

If the organization reports Scope 3 GHG removals, it should describe the impacts on people and the environment from its Scope 3 GHG removals and actions taken to manage them.

Guidance to 102-9-d-i

Examples of impacts associated with GHG removals on workers, local communities, and Indigenous Peoples include:

- new jobs created in GHG removal processes;
- local communities losing the right to access lands used for new infrastructure, afforestation, or reforestation for GHG removals;
- the rights of Indigenous Peoples being violated if land is not acquired with their free, prior, and informed consent;
- workers in carbon capture and storage facilities facing negative impacts on their health and safety in the case of CO_2 leakage;
- impacts on air quality and, thereby, on the health of local communities, resulting from CO_2 leakage from storage pools.

Guidance to 102-9-d-ii

Examples of impacts on biodiversity associated with GHG removals include:

- species and ecosystems threatened by nearby removal activities;
- water that is no longer available for ecosystems due to extensive use from removal activities;
- activities, such as foresting, which creates habitats for species.

Disclosure 101-2 in *GRI 101: Biodiversity 2024* requires describing how the organization enhances synergies and reduces trade-offs between actions to manage its biodiversity and climate change impacts. If the organization has described the actions taken to manage the impacts on biodiversity from its GHG removals under Disclosure 101-2, it can provide a reference to this information.

Disclosure 102-10 Carbon credits

REQUIREMENTS

The organization shall:

a. report the total amount of carbon credits canceled in metric tons of CO_2 equivalent and a breakdown of this total by removal or reduction projects;

b. for each project where carbon credits have been canceled, report:

- **i. project name and ID;**
- **ii. project type;**
- **iii. cancelation serial number, cancellation date, and vintage;**
- **iv. host country and issuing registry;**

c. for each carbon credit project reported under 102-10-b, describe how the project adheres to each of the following quality criteria:

- **i. additionality;**
- **ii. credible baselines;**
- **iii. permanence;**
- **iv. leakage avoidance;**
- **v. unique issuance and claiming;**
- **vi. regular monitoring;**
- **vii. independent validation and verification;**
- **viii. GHG program governance;**

d. report the purpose of carbon credit cancelation;

e. describe the impacts on people and the environment from projects where carbon credits are purchased and how the organization continuously monitors and evaluates them, including:

- **i. the categories of stakeholders consulted in project implementation;**
- **ii. how human rights are respected;**
- **iii. how socio-economic benefits are provided to local communities and Indigenous Peoples;**
- **iv. how biodiversity is conserved;**
- **v. how trade-offs are assessed.**

GUIDANCE

This disclosure aims to increase transparency regarding the use of carbon credits.

A carbon credit is a transferable or tradable instrument representing one metric ton of CO_2 equivalent reductions or removals generated outside the organization's value chain and purchased by the organization.

Carbon credits can be generated from two types of projects:

- GHG emissions reduction projects that replace planned fossil fuel power plants, such as renewable energy projects or improving cookstoves' energy efficiency, and REDD+ projects (Reducing emissions from deforestation and forest degradation in developing countries).
- GHG removal projects, including afforestation, reforestation, soil carbon sequestration, direct air carbon capture and storage (DACS), and bioenergy with carbon capture and storage (BECCS).

Guidance to 102-10-a

A carbon credit is canceled when permanently removed from circulation in a registry account.

The organization can also report the percentage of carbon credits canceled by removal and reduction projects.

If the organization purchases GHG removal carbon credits, it should report whether the removal projects are nature-based or technological.

The organization should also report the total amount of carbon credits purchased and not canceled during the reporting period in metric tons of CO_2 equivalent.

For an example of how to present the information on carbon credits canceled required by 102-10-a and carbon credits purchased and not canceled during the reporting period, see Table 8 in the Appendix.

Guidance to 102-10-b-iii
Serial numbers are allocated to carbon credits within the scope of trading programs to ensure that they are retired once used.

Credit vintage refers to the year the GHG emission reduction or removal occurred. As the verification process can take two to three years from project inception, projects may generate carbon credits for already removed or reduced GHG emissions.

Guidance to 102-10-c
If the canceled carbon credits reported under 102-10-a do not adhere to one or more quality criteria, the organization should explain why and describe the actions taken or planned to meet them.

If third parties report and publish information on quality criteria for carbon credit projects, the organization can provide a reference to where this information can be found, as long as all quality criteria are covered.

The organization should also report whether carbon credits canceled in previous reporting periods failed to meet quality criteria in the reporting period.

For further information on carbon credit quality criteria, see references [8] and [17] in the Bibliography.

Guidance to 102-10-c-i
A carbon credit project is considered additional if it would not have occurred without the incentives provided by carbon credit revenues.

Guidance to 102-10-c-ii
GHG emission reductions or removals are quantified based on a realistic estimate using a baseline scenario or performance standard. Carbon credits are calculated relative to a baseline that represents a hypothetical scenario for what GHG emissions would have been in the absence of the carbon credit project.

Guidance to 102-10-c-iii
GHG emission reductions and GHG removals must be permanent in order to qualify as carbon credits reported under 102-10-a. Permanence ensures mechanisms are in place to monitor the continued storage of reported removals and captured GHGs, account for reversals, and report emissions from associated carbon pools [17].

When reporting how a carbon credit project adheres to the criterion of permanence, the organization should describe how the risk of non-permanence is managed and the measures taken to address the risk of reversal and compensate for reversals.

Guidance to 102-10-c-iv
A carbon credit project adheres to the quality criterion of leakage avoidance when it mitigates the risk of causing impacts elsewhere and accounts for any increase in GHG emissions or decrease in removals outside the project's boundary. To avoid leakage, the organization should report the measures taken to determine and monitor leakage.

Guidance to 102-10-c-v
A carbon credit project adheres to the quality criterion of unique issuance and claiming when an electronic registry uniquely issues, claims, and cancels carbon credits. Organizations that cancel the credit are expected to claim the carbon credit. To ensure unique issuance and claiming, organizations are expected to have procedures to prevent double counting [8] [17].

Double-counted credits are not permitted to prevent another organization or entity from claiming the same GHG emission reductions or removals. For example, an organization that sells GHG emissions reduction or removal within its value chain as carbon credits cannot report those reductions or removals under Disclosure 102-4 and 102-9.

Double counting covers the following:

- Double use: when multiple parties use a single GHG emission reduction or removal unit.
- Double issuance: when multiple GHG emission reduction or removal units are issued for the same GHG emission reduction or removal.
- Double claiming: when multiple parties claim the right to a single GHG emission reduction, removal, or mitigation outcome.

Double use can be avoided through registry systems that assign unique serial numbers to individual carbon credits, track transfer and ownership, and record the purpose of use. Double issuance can be avoided by checking accounting boundaries to quantify GHG emission removals and reductions for projects that do not overlap. Double claiming can be avoided if project developers sign legal attestations asserting exclusive claims to any credited GHG emission removals and reductions and legally conveying claims to buyers.

The organization should report whether carbon credits are associated with a corresponding adjustment [8].

Guidance to 102-10-c-vi
GHG emissions reduction and removal credits are monitored and quantified after the implementation of the project. This should include accurate and precise measurement, sampling, and quantification protocols.

The organization should report data monitoring processes throughout the crediting period. For each carbon credit project, the organization should also report the timeframes for both the crediting and monitoring periods.

Guidance to 102-10-c-vii
Carbon credits are verified according to recognized quality standards by independent third parties. The organization should report the processes in place for independent third-party validation and verification of the carbon credits, as well as the relevant standards used. In addition, the organization should report the specific certifications provided by third parties.

Guidance to 102-10-c-viii
GHG programs issue GHG emissions reduction and removal credits with a clearly defined and transparent governance structure. The organization should describe the GHG governance structure of the carbon credit projects, including relevant published rules and procedures, accreditation procedures for third-party auditors, and stakeholder consultation procedures for developing or refining program requirements. Additionally, the organization should describe the grievance and other mechanisms established to identify and address grievances and raise complaints about projects after implementation.

Guidance 102-10-d
The purpose of carbon credit cancelation includes:

- Compliance with country, regional, or industry-level sectoral carbon-crediting programs. Carbon credits can be procured through a mandatory or voluntary carbon market.
- Financing and contributing to GHG removals and emission reductions outside the organization's value chain as additional climate change mitigation actions (often referred to as beyond value chain mitigation (BVCM) or climate contributions).
- In the context of net-zero emissions targets, counterbalancing residual GHG emissions as the mitigation hierarchy's last step. Residual GHG emissions refer to the unabated GHG emissions after the organization has reduced at least 90% of its GHG emissions, and further reduction is not possible. According to the latest scientific evidence, GHG removal carbon credit projects can only be used to counterbalance residual GHG emissions as the last step of the mitigation hierarchy [11]; GHG reduction carbon credit projects cannot be used to counterbalance residual GHG emissions.

Carbon credits are excluded from an organization's gross GHG emissions reduction targets reported under Disclosure 102-4.

When reporting the purpose of carbon credit cancelation, the organization should describe how the cancelation does not impede nor reduce the achievement of its GHG emissions reduction targets and explain the role of carbon credits within its climate change transition plan.

Guidance to 102-10-e
This requirement covers impacts on people and the environment from carbon credit projects purchased in the reporting period, whether canceled or not.

Organizations are expected to have a due diligence process to select carbon credit projects that maximize positive impacts and prevent or mitigate negative impacts on people and the environment.

The 'safeguard' principle included in other frameworks is covered under 102-10-e.

The organization should report the timeframe of the monitoring period for the impacts associated with purchased carbon credits.

Impacts on the environment associated with carbon credits can include those related to pollution. For example, a technological GHG removal carbon credits project can lead to an impact on air quality.

Examples of impacts on local communities and Indigenous People can include corruption and bribery associated with the acquisition of land used in carbon credit projects.

The organization can report whether it has obtained third-party certification regarding social or environmental integrity.

Guidance to 102-10-e-i
The organization should describe how stakeholder engagement has informed carbon credit projects. See Guidance to 2-29-a-i in *GRI 2: General Disclosures 2021* on stakeholder categories.

Guidance 102-10-e-ii
Organizations are expected to select carbon credit projects that respect human rights, with special attention to vulnerable groups, such as Indigenous Peoples. For further information, the organization can refer to the *United Nations Integrity Matters: Net Zero Commitments by Businesses, Financial Institutions, Cities and Regions, Report from the United Nations High-Level Expert Group on the Net Zero Emissions Commitments of Non-State Entities* [12].

Carbon credit projects should not negatively affect the livelihoods and earnings of workers, food security, water rights, or land rights. These projects should not result in physical violence towards workers, Indigenous People, or local communities.

The organization can describe how local communities are consulted about carbon credit projects affecting them and how tenure rights for the land used for carbon credit projects are respected without the threat of forceable eviction. The organization can also describe whether free, prior, and informed consent (FPIC) of Indigenous Peoples with regard to any action that affects their lands, territories, or resources was obtained and how.

For more guidance on the rights of Indigenous Peoples, see reference [2] in the Bibliography.

Guidance to 102-10-e-iii
Examples of socio-economic benefits for local communities and Indigenous Peoples resulting from carbon credit projects can include:
- providing them with a portion of the payments for each carbon credit purchased;
- creating new jobs;
- developing technical skills and training.

Guidance to 102-10-e-iv
Carbon credit projects can result in positive and negative impacts on biodiversity. An example of a positive impact on biodiversity can be when a carbon credit project leads to the recovery of a degraded ecosystem or an increase in the variety of animal and plant species. An example of a negative impact on biodiversity is when a carbon credit afforestation project leaves an area with a single tree species that does not provide a suitable habitat for native wildlife.

Disclosure 101-2 in *GRI 101: Biodiversity 2024* requires describing how the organization enhances synergies and reduces trade-offs between actions to manage its biodiversity and climate change impacts. If the organization has described how its carbon credit projects

conserve biodiversity under Disclosure 101-2, it can provide a reference to this information.

Guidance to 102-10-e-v
Carbon credit projects are likely to involve trade-offs. Examples of trade-offs can include land-based removal carbon credit projects reducing the availability of land for food production, resulting in impacts on food security.

The organization should describe the process to mitigate trade-offs.

Glossary

This glossary provides definitions for terms used in this Standard. The organization is required to apply these definitions when using the GRI Standards.

The definitions included in this glossary may contain terms that are further defined in the complete *GRI Standards Glossary*. All defined terms are underlined. If a term is not defined in this glossary or in the complete *GRI Standards Glossary*, definitions that are commonly used and understood apply.

B

base year
historical datum (a specific year or an average over multiple years) against which a measurement is tracked over time

Source: World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), *GHG Protocol Corporate Accounting and Reporting Standard, Revised Edition*, 2004; modified

baseline
starting point used for comparisons

Note: In the context of energy reporting, the baseline is the projected energy consumption in the absence of any reduction activity.

biogenic carbon dioxide (CO_2) emission
emission of CO_2 from the combustion or biodegradation of biomass

business partner
entity with which the organization has some form of direct and formal engagement for the purpose of meeting its business objectives

Source: Shift and Mazars LLP, *UN Guiding Principles Reporting Framework*, 2015; modified

Examples: affiliates, business-to-business customers, clients, first-tier suppliers, franchisees, joint venture partners, investee companies in which the organization has a shareholding position

Note: Business partners do not include subsidiaries and affiliates that the organization controls.

business relationships
relationships that the organization has with business partners, with entities in its value chain including those beyond the first tier, and with any other entities directly linked to its operations, products, or services

Source: United Nations (UN), *Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework*, 2011; modified

Note: Examples of other entities directly linked to the organization's operations, products, or services are a non-governmental organization with which the organization delivers support to a local community or state security forces that protect the organization's facilities.

C

carbon credit
transferable or tradable instrument that represents one metric ton of CO_2 equivalent emissions reduction or removal

Note: Carbon credits are uniquely serialized, issued, tracked, and canceled according to recognized quality standards.

carbon dioxide (CO_2) equivalent
the universal unit of measurement to indicate the global warming potential (GWP) of each greenhouse gas (GHG), expressed in terms of the GWP of one unit of carbon dioxide.

Source: World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), *GHG Protocol Scope 2 Guidance,* 2015 and *GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard*, 2011

Note: The CO_2 equivalent for a gas is determined by multiplying the metric tons of the gas by the associated GWP.

child
person under the age of 15 years, or under the age of completion of compulsory schooling, whichever is higher

Note 1: Exceptions can occur in certain countries where economies and educational facilities are insufficiently developed, and a minimum age of 14 years applies. These countries of exception are specified by the International Labour Organization (ILO) in response to a special application by the country concerned and in consultation with representative organizations of employers and workers.

Note 2: The ILO *Minimum Age Convention,* 1973, (No. 138), refers to both child labor and young workers.

D

due diligence
process to identify, prevent, mitigate, and account for how the organization addresses its actual and potential negative impacts

Source: Organisation for Economic Co-operation and Development (OECD), *OECD Guidelines for Multinational Enterprises*, 2011; modified
United Nations (UN), *Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework*, 2011; modified

Note: See section 2.3 in *GRI 1: Foundation 2021* for more information on 'due diligence'.

E

employee
individual who is in an employment relationship with the organization according to national law or practice

F

full-time employee
employee whose working hours per week, month, or year are defined according to national law or practice regarding working time

G

global warming potential (GWP)
factor describing the radiative forcing impact (degree of harm to the atmosphere) of one unit of a given greenhouse gas (GHG) relative to one unit of CO_2

Source: World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), *GHG Protocol Scope 2 Guidance,* 2015 and *GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard*, 2011

Note: GWP values convert GHG emissions data for non-CO_2 gases into units of CO_2 equivalent.

governance body
formalized group of individuals responsible for the strategic guidance of the organization, the effective monitoring of management, and the accountability of management to the broader organization and its stakeholders

greenhouse gas (GHG)
gas that contributes to the greenhouse effect by absorbing infrared radiation

Note: GHGs are the seven gases covered by the Kyoto Protocol: carbon dioxide (CO_2); methane (CH_4); nitrous oxide (N_2O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); sulphur hexafluoride (SF_6); and nitrogen trifluoride (NF_3).

greenhouse gas (GHG) removal
transfer of a greenhouse gas (GHG) from the atmosphere to be stored within a non-

atmospheric pool

Source: World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), *Land Sector and Removals Guidance, Part 1: Accounting and Reporting Requirements and Guidance*, Draft for Pilot Testing and Review, 2022

Note: Examples of non-atmospheric storage pools are land-based pools, that store carbon in terrestrial biomass, dead organic matter, and soil carbon pools; and geologic pools, that are geologic formations that store inorganic minerals not used as products, for example, fossil carbon in sedimentary formations containing oil and natural gas.

greenhouse gas (GHG) trade
purchase, cancelation, sale, or transfer of carbon credits or greenhouse gas (GHG) allowances

Source: World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), *GHG Protocol Corporate Accounting and Reporting Standard, Revised Edition*, 2004; modified

grievance
perceived injustice evoking an individual's or a group's sense of entitlement, which may be based on law, contract, explicit or implicit promises, customary practice, or general notions of fairness of aggrieved communities

Source: United Nations (UN), *Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework*, 2011

grievance mechanism
routinized process through which grievances can be raised and remedy can be sought

Source: United Nations (UN), *Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework*, 2011; modified

Note: See Guidance to Disclosure 2-25 in *GRI 2: General Disclosures 2021* for more information on 'grievance mechanism'.

H

highest governance body
governance body with the highest authority in the organization

Note: In some jurisdictions, governance systems consist of two tiers, where supervision and management are separated or where local law provides for a supervisory board drawn from non-executives to oversee an executive management board. In such cases, both tiers are included under the definition of highest governance body.

human rights
rights inherent to all human beings, which include, at a minimum, the rights set out in the *United Nations (UN) International Bill of Human Rights* and the principles concerning fundamental rights set out in the *International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work*

Source: United Nations (UN), *Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework*, 2011; modified

Note: See Guidance to 2-23-b-i in *GRI 2: General Disclosures 2021* for more information on 'human rights'.

I

impact
effect the organization has or could have on the economy, environment, and people, including on their human rights, which in turn can indicate its contribution (negative or positive) to sustainable development

Note 1: Impacts can be actual or potential, negative or positive, short-term or long-term, intended or unintended, and reversible or irreversible.

Note 2: See section 2.1 in *GRI 1: Foundation 2021* for more information on 'impact'.

Indigenous Peoples
Indigenous Peoples are generally identified as:

- tribal peoples in independent countries whose social, cultural and economic conditions distinguish them from other sections of the national community, and whose status is regulated wholly or partially by their own customs or traditions or by special laws or regulations;
- peoples in independent countries who are regarded as indigenous on account of their descent from the populations which inhabited the country, or a geographical region to which the country belongs, at the time of conquest or colonization or the establishment of present state boundaries and who, irrespective of their legal status, retain some or all of their own social, economic, cultural and political institutions.

Source: International Labour Organization (ILO), *Indigenous and Tribal Peoples Convention*, 1989 (No. 169)

L

local community
individuals or groups of individuals living or working in areas that are affected or that could be affected by the organization's activities

Note: The local community can range from those living adjacent to the organization's operations to those living at a distance.

M

material topics
topics that represent the organization's most significant impacts on the economy, environment, and people, including impacts on their human rights

Note: See section 2.2 in *GRI 1: Foundation 2021* and section 1 in *GRI 3: Material Topics 2021* for more information on 'material topics'.

mitigation
action(s) taken to reduce the extent of a negative impact

Source: United Nations (UN), *The Corporate Responsibility to Respect Human Rights: An Interpretive Guide*, 2012; modified

Note: The mitigation of an actual negative impact refers to actions taken to reduce the severity of the negative impact that has occurred, with any residual impact needing remediation. The mitigation of a potential negative impact refers to actions taken to reduce the likelihood of the negative impact occurring.

N

non-guaranteed hours employee
employee who is not guaranteed a minimum or fixed number of working hours per day, week, or month, but who may need to make themselves available for work as required

Source: ShareAction, *Workforce Disclosure Initiative Survey Guidance Document*, 2020; modified

Examples: casual employees, employees with zero-hour contracts, on-call employees

P

part-time employee
employee whose working hours per week, month, or year are less than the number of working hours for full-time employees

permanent employee
employee with a contract for an indeterminate period (i.e., indefinite contract) for full-time or part-time work

R

remedy / remediation
means to counteract or make good a negative impact or provision of remedy

Source: United Nations (UN), *The Corporate Responsibility to Respect Human Rights: An Interpretive Guide*, 2012; modified

Examples: apologies, financial or non-financial compensation, prevention of harm through injunctions or guarantees of non-repetition, punitive sanctions (whether criminal or administrative, such as fines), restitution, restoration, rehabilitation

renewable energy source
energy source that is capable of being replenished in a short time through ecological cycles or agricultural processes

Examples: biomass, geothermal, hydro, solar, wind

reporting period
specific time period covered by the reported information

Examples: fiscal year, calendar year

S

Scope 1 GHG emissions
greenhouse gas (GHG) emissions from sources that are owned or controlled by the organization

Source: World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), *GHG Protocol Scope 2 Guidance,* 2015 and *GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard*, 2011

Examples: CO_2 emissions from fuel consumption

Note: A GHG source is any physical unit or process that releases GHG into the atmosphere.

Scope 2 GHG emissions
indirect greenhouse gas (GHG) emissions from the generation of purchased or acquired electricity, heating, cooling and steam consumed by the organization

Source: World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), *GHG Protocol Scope 2 Guidance,* 2015 and *GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard*, 2011

Scope 3 GHG emissions
indirect greenhouse gas (GHG) emissions (not included in Scope 2 GHG emissions) that occur in the organization's upstream and downstream value chain

Source: World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), *GHG Protocol Scope 2 Guidance,* 2015 and *GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard*, 2011

senior executive
high-ranking member of the management of the organization, such as the Chief Executive Officer (CEO) or an individual reporting directly to the CEO or the highest governance body

severity (of an impact)
The severity of an actual or potential negative impact is determined by its scale (i.e., how grave the impact is), scope (i.e., how widespread the impact is), and irremediable character (how hard it is to counteract or make good the resulting harm).

Source: Organisation for Economic Co-operation and Development (OECD), *OECD Due Diligence Guidance for Responsible Business Conduct*, 2018; modified
United Nations (UN), *The Corporate Responsibility to Respect Human Rights: An Interpretive Guide*, 2012; modified

Note: See section 1 in *GRI 3: Material Topics 2021* for more information on 'severity'.

stakeholder
individual or group that has an interest that is affected or could be affected by the organization's activities

Source: Organisation for Economic Co-operation and Development (OECD), *OECD Due Diligence Guidance for Responsible Business Conduct*, 2018; modified

Examples: business partners, civil society organizations, consumers, customers, employees and other workers, governments, local communities, non-governmental organizations, shareholders and other investors, suppliers, trade unions, vulnerable groups

Note: See section 2.4 in *GRI 1: Foundation 2021* for more information on 'stakeholder'.

supplier
entity upstream from the organization (i.e., in the organization's supply chain), which provides a product or service that is used in the development of the organization's own products or services

Examples: brokers, consultants, contractors, distributors, franchisees, home workers, independent contractors, licensees, manufacturers, primary producers, sub-contractors, wholesalers

Note: A supplier can have a direct business relationship with the organization (often referred to as a first-tier supplier) or an indirect business relationship.

supply chain
range of activities carried out by entities upstream from the organization, which provide products or services that are used in the development of the organization's own products or services

sustainable development / sustainability
development that meets the needs of the present without compromising the ability of future generations to meet their own needs

Source: World Commission on Environment and Development, *Our Common Future*, 1987

Note: The terms 'sustainability' and 'sustainable development' are used interchangeably in the GRI Standards.

T

temporary employee
employee with a contract for a limited period (i.e., fixed term contract) that ends when the specific time period expires, or when the specific task or event that has an attached time estimate is completed (e.g., the end of a project or return of replaced employees)

V

value chain
range of activities carried out by the organization, and by entities upstream and downstream from the organization, to bring the organization's products or services from their conception to their end use

Note 1: Entities upstream from the organization (e.g., suppliers) provide products or services that are used in the development of the organization's own products or services. Entities downstream from the organization (e.g., distributors, customers) receive products or services from the organization.

Note 2: The value chain includes the supply chain.

vulnerable group
group of individuals with a specific condition or characteristic (e.g., economic, physical, political, social) that could experience negative impacts as a result of the organization's activities more severely than the general population

Examples: children and youth; elderly persons; ex-combatants; HIV/AIDS-affected households; human rights defenders; Indigenous Peoples; internally displaced persons; migrant workers and their families; national or ethnic, religious and linguistic minorities; persons who might be discriminated against based on their sexual orientation, gender identity, gender expression, or sex characteristics (e.g., lesbian, gay, bisexual, transgender, intersex); persons with disabilities; refugees or returning refugees; women

Note: Vulnerabilities and impacts can differ by gender.

W

waste
anything that the holder discards, intends to discard, or is required to discard

Source: United Nations Environment Programme (UNEP), *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, 1989

Note 1: Waste can be defined according to the national legislation at the point of generation.

Note 2: A holder can be the reporting organization, an entity in the organization's value chain upstream or downstream (e.g., supplier or consumer), or a waste management organization, among others.

worker
person that performs work for the organization

Examples: employees, agency workers, apprentices, contractors, home workers, interns, self-employed persons, sub-contractors, volunteers, and persons working for organizations other than the reporting organization, such as for suppliers

Note: In the GRI Standards, in some cases, it is specified whether a particular subset of workers is required to be used.

worker representative
person who is recognized as such under national law or practice, whether they are:

- a trade union representative, namely, a representative designated or elected by trade unions or by members of such unions; or
- an elected representative, namely, a representative who is freely elected by the workers of the undertaking in accordance with provisions of national laws, regulations, or collective agreements, whose functions do not include activities which are recognized as the exclusive prerogative of trade unions in the country concerned.

Source: International Labour Organization (ILO), *Workers' Representatives Convention*, 1971 (No. 135)

Bibliography

This section lists authoritative intergovernmental instruments and additional references used in developing this Standard, as well as resources that the organization can consult.

Authoritative instruments:

1. Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change,* 2022.
2. United Nations (UN), *Declaration on the Rights of Indigenous Peoples*, 2007.
3. United Nations (UN), Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework, 2011.
4. United Nations (UN), *United Nations Framework Convention on Climate Change*, 1992.
5. United Nations Environment Programme (UNEP), *Montreal Protocol on Substances that Deplete the Ozone Layer*, 1987.
6. United Nations Framework Convention on Climate Change (UNFCCC), *Kyoto Protocol to the United Nations Framework Convention on Climate Change*, 1997.
7. United Nations Framework Convention on Climate Change (UNFCCC), *Paris Agreement*, 2016.
8. United Nations Framework Convention on Climate Change (UNFCCC), *3/CMA.3 Rules, modalities and procedures for the mechanism established by Article 6, paragraph 4, of the Paris Agreement*, 2021.

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9. International Labour Organization (ILO), *ILO Guidelines for a just transition towards environmentally sustainable economies and societies for all*, 2015.
10. Science-Based Target initiative (SBTi), *FLAG Science Based Target Setting Guidance*, 2022.
11. Science-Based Target initiative (SBTi), *SBTi Corporate Net Zero Standard, Version 1.1*, 2023.
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14. World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), *GHG Protocol Corporate Accounting and Reporting Standard, Revised Edition*, 2004.
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18. World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), *'Greenhouse Gas Protocol Accounting Notes, No. 1, Accounting and Reporting Standard Amendment'*, 2012.

Resources:

19. Carbon Disclosure Project (CDP), *Technical Note: Accounting of Scope 2 emissions*, 2024.
20. Science-Based Target initiative (SBTi), *Science Based Targets Initiative Public Consultation on Beyond Value Chain Mitigation (BVCM), Version 1*, 2023.
21. Task Force on Climate-related Financial Disclosures (TCFD), *The Use of Scenario Analysis in Disclosure of Climate-related Risks and Opportunities, Technical Supplement*, 2017.
22. United Nations Framework Convention on Climate Change (UNFCCC), *3/CMA.5 United Arab Emirates just transition work programme*, 2023.

23. World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), *Technical Guidance for Calculating Scope 3 Emissions*, 2013.

Appendix

Table 1. Example template for presenting just transition metrics on workers by gender

	Men	Women	Other*	Not disclosed**	Total
Number of new employees recruited (102-3-a-i)					
Number of new workers who are not employees recruited (102-3-e)					
Number of employees whose work was terminated (102-3-b-i)					
Number of workers who are not employees whose work was terminated (102-3-f)					
Number of redeployed employees (102-3-c-i)					
Number of employees who received training for up- and re-skilling (102-3-d-i)					

* Gender as specified by the workers themselves.

** Gender is not disclosed by the workers themselves.

The organization is free to choose how to report the breakdowns by gender. It is not required to report the four categories suggested in Table 1. For example, instead of an ‘other’ category, the organization can report any gender category specified by workers.

Table 2. Example template for presenting information on just transition impacts on employees by employee type

	Permanent employees	Temporary employees	Non-guaranteed hours employees	Full-time employees	Part-time employees	Total
Number of new employees recruited (102-3-a-ii)						
Number of employees whose work was terminated (102-3-b-ii)						
Number of redeployed employees (102-3-c-ii)						
Number of employees who received training for up- and re-skilling (102-3-d-ii)						

Table 3. Example template for presenting information on GHG emissions reduction targets

	Information on target			Information on progress		Information on how the target was set					
GHG emissions reduction targets	Target year (102-4-a)	Target emissions (%) (102-4-a)	Target emissions ($mtCO_2e$) (102-4-a)	Progress (%) (102-4-i)	Progress ($mtCO_2e$) (102-4-i)	Base year (102-4-h)	Base year emissions ($mtCO_2e$) (102-4-h-ii)	Biogenic CO_2 emissions included in the target (yes/no) (102-4-b)	Gases covered (102-4-e)	Scope 3 categories covered (102-4-d)	Percentage of emissions included within each Scope[2]
Scope 1 target (102-4-a-i)											
Scope 2 target location-based (102-4-c)											
Scope 2 target market-based (102-4-c)											
Scope 3 target (102-4-a-i)											
Scope 1 and 2 target (102-4-a-i)											
Scope 1, 2, and 3 target[3]											

Note: Gray cells indicate non-applicable items.

2 Note that this is recommended, but not required.

3 Note that this is recommended, but not required.

Table 4. Example template for presenting information on Scope 1, Scope 2, and Scope 3 GHG emissions

Scope 1, Scope 2, and Scope 3 GHG emissions	**Base year [insert base year]**[4]		**Reporting period -2 [insert reporting period]**[5]		**Reporting period -1 [insert reporting period]**[6]		**Reporting period [insert reporting period]**	
	Emissions ($mtCO_2e$)	**Biogenic CO_2 emissions** (metric tons)	**Emissions** ($mtCO_2e$)	**Biogenic CO_2 emissions** (metric tons)	**Emissions** ($mtCO_2e$)	**Biogenic CO_2 emissions** (metric tons)	**Emissions** ($mtCO_2e$)	**Biogenic CO_2 emissions** (metric tons)
Scope 1 GHG emissions (102-5-a; 102-5-c)								
Scope 2 GHG emissions (102-6-a; 102-6-c)								
Location-based								
Market-based								
Scope 3 GHG emissions (102-7-a; 102-7-c)								
Category 1: Purchased goods and services (102-7-b)								
Category 2: Capital goods (102-7-b)								
Category 3: Fuel- and energy-related activities (not incl. in Scope 1 or Scope 2 GHG emissions) (102-7-b)								
Category 4: Upstream transportation and distribution (102-7-b)								
Category 5: Waste generated in operations (102-7-b)								
Category 6: Business travel (102-7-b)								

Category 7: Employee commuting (102-7-b)								
Category 8: Upstream leased assets (102-7-b)								
Category 9: Downstream transportation and distribution (102-7-b)								
Category 10: Processing of sold products (102-7-b)								
Category 11: Use of sold products (102-7-b)								
Category 12: End-of-life treatment of sold products (102-7-b)								
Category 13: Downstream leased assets (102-7-b)								
Category 14: Franchises (102-7-b)								
Category 15: Investments (102-7-b)								

Note: Gray cells indicate non-applicable items.

4 Note that this is recommended, but not required.

5 Note that this is recommended, but not required.

6 Note that the breakdown by Scope 3 categories for the Scope 3 emissions in the base year is recommended, but not required.

Table 5. Example template for presenting information on Scope 1 and Scope 2 GHG emissions by gas

Scope 1 and Scope 2 GHG emissions by gas		**Reporting period -2 [insert reporting period]**[7]		**Reporting period -1 [insert reporting period]**[8]		**Reporting period [insert reporting period]**	
		Emissions (metric tons)	**Emissions** ($mtCO_2e$)	**Emissions** (metric tons)	**Emissions** ($mtCO_2e$)	**Emissions** (metric tons)	**Emissions** ($mtCO_2e$)
Scope 1 GHG emissions (102-5-b)	CO_2						
	CH_4						
	N_2O						
	HFCs						
	PFCs						
	SF_6						
	NF_3						
Total Scope 1 GHG emissions (102-5-a)							
Scope 2 GHG emissions (location-based) (102-6-b)	CO_2						
	CH_4						
	N_2O						
Total Scope 2 GHG emissions (location-based) (102-6-a)							
Scope 2 GHG emissions (market-based)[9]	CO_2						
	CH_4						
	N_2O						
Total Scope 2 GHG emissions (market-based) (102-6-a)							

Note: Gray cells indicate non-applicable items.

7 Note that this is recommended, but not required.
8 Note that this is recommended, but not required.
9 Note that this is recommended, but not required.

Table 6. Example template for presenting information on GHG emissions intensity ratio(s)

Gross GHG emissions ($mtCO_2e$)	Scope(s) of GHG emissions (1,2,3)	Organization-specific metric	GHG emissions intensity ratio

Table 7. Example template for presenting information on GHG removals in the value chain

GHG removals in the value chain	Scope 1 GHG removals ($mtCO_2e$)	Scope 3 GHG removals ($mtCO_2e$)[10]
Storage pool [1]		
Storage pool [2]		
Storage pool [3]		
Storage pool [4]		
Storage pool [5]		
Total GHG removals		

Table 8. Example template for presenting information on carbon credits canceled and carbon credits purchased and not canceled by type of project

Carbon credits	$mtCO_2e$	%[11]
Total carbon credits canceled during the reporting period		
GHG emissions reduction projects		
GHG removal projects		
Total carbon credits purchased and not canceled during the reporting period[12]		

Note: Gray cells indicate non-applicable items.

10 Note that this is recommended, but not required.
11 Note that this is recommended, but not required.
12 Note that this is recommended, but not required.

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