



GRI 302: Energy 2016

EFFECTIVE DATE: 1 JULY 2018

TOPIC STANDARD

302

GRI 302: Energy 2016

Topic Standard

Effective Date

This Standard is effective for reports or other materials published on or after 1 July 2018

Responsibility

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ISBN 978-90-8866-105-1

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Introduction

GRI 302: Energy 2016 contains disclosures for organizations to report information about their energy-related impacts, and how they manage these impacts.

The Standard is structured as follows:

- [Section 1](#) contains a requirement, which provides information about how the organization manages its energy-related impacts.
- [Section 2](#) contains five disclosures, which provide information about the organization's energy-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 references used in developing this Standard.

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 energy.

An organization can consume energy in various forms, such as fuel, electricity, heating, cooling or steam. Energy can be self-generated or purchased from external sources and it can come from renewable sources (such as wind, hydro or solar) or from non-renewable sources such as coal, petroleum or natural gas).

Using energy more efficiently and opting for renewable energy sources is essential for combating climate change and for lowering an organization's overall environmental footprint.

Energy consumption can also occur throughout the upstream and downstream activities connected with an organization's operations. This can include consumers' use of products the organization sells, and the end-of-life treatment of these products.

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.

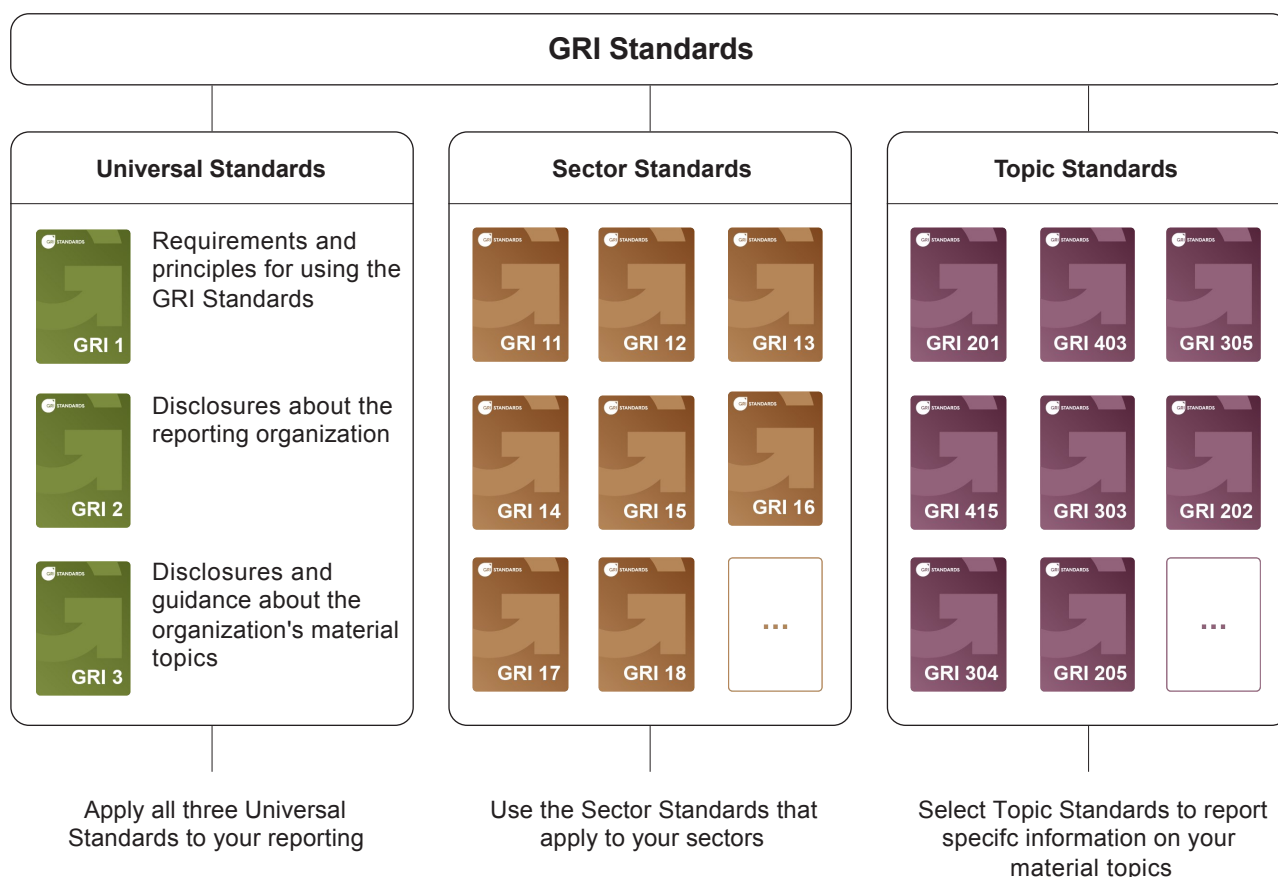
[GRI 3: Material Topics 2021](#) provides guidance on how to determine material topics. It also contains disclosures that the organization uses to report information about its process of determining material topics, its list of material topics, and how it manages each topic.

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 energy-related impacts.

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

- [Disclosure 3-3 in GRI 3: Material Topics 2021](#) (see clause 1.1 in this Standard);
- Any disclosures from this Topic Standard that are relevant to the organization's energy-related impacts (Disclosure 302-1 through Disclosure 302-5).

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: Foundation 2021](#) 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 energy to be a material topic is required to report how it manages the topic using [Disclosure 3-3 in GRI 3: Material Topics 2021](#) (see clause 1.1 in this section).

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

2. Topic disclosures

Disclosure 302-1 Energy consumption within the organization

REQUIREMENTS

The reporting organization shall report the following information:

- a. Total fuel consumption within the organization from non-renewable sources, in joules or multiples, and including fuel types used.
- b. Total fuel consumption within the organization from renewable sources, in joules or multiples, and including fuel types used.
- c. In joules, watt-hours or multiples, the total:
 - i. electricity consumption
 - ii. heating consumption
 - iii. cooling consumption
 - iv. steam consumption
- d. In joules, watt-hours or multiples, the total:
 - i. electricity sold
 - ii. heating sold
 - iii. cooling sold
 - iv. steam sold
- e. Total energy consumption within the organization, in joules or multiples.
- f. Standards, methodologies, assumptions, and/or calculation tools used.
- g. Source of the conversion factors used.

Compilation requirements

- 2.1 When compiling the information specified in Disclosure 302-1, the reporting organization shall:
 - 2.1.1 avoid the double-counting of fuel consumption, when reporting self-generated energy consumption. If the organization generates electricity from a non-renewable or renewable fuel source and then consumes the generated electricity, the energy consumption shall be counted once under fuel consumption;
 - 2.1.2 report fuel consumption separately for non-renewable and renewable fuel sources;
 - 2.1.3 only report energy consumed by entities owned or controlled by the organization;
 - 2.1.4 calculate the total energy consumption within the organization in joules or multiples using the following formula:

Total energy consumption within the organization = Non-renewable fuel consumed + Renewable fuel consumed + Electricity, heating, cooling, and steam purchased for consumption + Self-generated electricity, heating, cooling, and steam, which are not consumed (see clause 2.1.1) - Electricity, heating, cooling, and steam sold

RECOMMENDATIONS

- 2.2 When compiling the information specified in Disclosure 302-1, the reporting organization should:
- 2.2.1 apply conversion factors consistently for the data disclosed;
 - 2.2.2 use local conversion factors to convert fuel to joules, or multiples, when possible;
 - 2.2.3 use the generic conversion factors, when local conversion factors are unavailable;
 - 2.2.4 if subject to different standards and methodologies, describe the approach to selecting them;
 - 2.2.5 report energy consumption for a consistent group of entities. When possible, the group of entities should also be consistent with the group of entities used in [Disclosures 305-1](#) and [305-2](#) of *GRI 305: Emissions 2016*;
 - 2.2.6 where it aids transparency or comparability over time, provide a breakdown of energy consumption data by:
 - 2.2.6.1 business unit or facility;
 - 2.2.6.2 country;
 - 2.2.6.3 type of source (see definitions for the listing of non-renewable sources and renewable sources);
 - 2.2.6.4 type of activity.

GUIDANCE**Background**

For some organizations, electricity is the only significant form of energy they consume. For others, energy sources such as steam or water provided from a district heating plant or chilled water plant can also be important.

Energy can be purchased from sources external to the organization or produced by the organization itself (self-generated).

Non-renewable fuel sources can include fuel for combustion in boilers, furnaces, heaters, turbines, flares, incinerators, generators and vehicles that are owned or controlled by the organization. Non-renewable fuel sources cover fuels purchased by the organization. They also include fuel generated by the organization's activities – such as mined coal, or gas from oil and gas extraction.

Renewable fuel sources can include biofuels, when purchased for direct use, and biomass in sources owned or controlled by the organization.

Consuming non-renewable fuels is usually the main contributor to direct (Scope 1) GHG emissions, which are reported in [Disclosure 305-1 of GRI 305: Emissions 2016](#). Consuming

purchased electricity, heating, cooling, and steam contributes to the organization's energy indirect (Scope 2) GHG emissions, which are reported in [Disclosure 305-2 of GRI 305: Emissions 2016](#).

Disclosure 302-2 Energy consumption outside of the organization

REQUIREMENTS

The reporting organization shall report the following information:

- a. **Energy consumption outside of the organization, in joules or multiples.**
- b. **Standards, methodologies, assumptions, and/or calculation tools used.**
- c. **Source of the conversion factors used.**

Compilation requirements

- 2.3 When compiling the information specified in Disclosure 302-2, the reporting organization shall exclude energy consumption reported in Disclosure 302-1.**

RECOMMENDATIONS

- 2.4 When compiling the information specified in Disclosure 302-2, the reporting organization should:
 - 2.4.1 if subject to different standards and methodologies, describe the approach to selecting them;
 - 2.4.2 list energy consumption outside of the organization, with a breakdown by upstream and downstream categories and activities.

GUIDANCE

Guidance for Disclosure 302-2

The reporting organization can identify energy consumption outside of the organization by assessing whether an activity's energy consumption:

- contributes significantly to the organization's total anticipated energy consumption outside of the organization;
- offers potential for reductions the organization can undertake or influence;
- contributes to climate change-related risks, such as financial, regulatory, supply chain, product and customer, litigation, and reputational risks;
- is deemed material by stakeholders, such as customers, suppliers, investors, or civil society;
- results from outsourced activities previously performed in-house, or that are typically performed in-house by other organizations in the same sector;
- has been identified as significant for the organization's sector;
- meets any additional criteria for determining relevance, developed by the organization or by organizations in its sector.

The organization can use the following upstream and downstream categories and activities from the 'GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard' for identifying relevant energy consumption outside of the organization (see reference [2] in the [Bibliography](#)):

Upstream categories

1. Purchased goods and services
2. Capital goods
3. Fuel- and energy-related activities (not included in Disclosure 302-1)
4. Upstream transportation and distribution
5. Waste generated in operations
6. Business travel
7. Employee commuting
8. Upstream leased assets
- Other upstream

Downstream categories

1. Downstream transportation and distribution
2. Processing of sold products
3. Use of sold products
4. End-of-life treatment of sold products
5. Downstream leased assets

- 6. Franchises
- 7. Investments
- Other downstream

For each of these categories and activities, the organization can calculate or estimate the amount of energy consumed.

The organization can report energy consumption separately for non-renewable sources and renewable sources.

Background

Energy consumption can occur outside an organization, i.e., throughout the organization's upstream and downstream activities associated with its operations.

This can include consumers' use of products the organization sells, and the end-of-life treatment of products.

Quantifying energy consumption outside of the organization can provide a basis for calculating some of the relevant other indirect (Scope 3) GHG emissions in [Disclosure 305-3 of GRI 305: Emissions 2016](#).

Disclosure 302-3 Energy intensity

REQUIREMENTS

The reporting organization shall report the following information:

- a. Energy intensity ratio for the organization.
- b. Organization-specific metric (the denominator) chosen to calculate the ratio.
- c. Types of energy included in the intensity ratio; whether fuel, electricity, heating, cooling, steam, or all.
- d. Whether the ratio uses energy consumption within the organization, outside of it, or both.

Compilation requirements

2.5 When compiling the information specified in Disclosure 302-3, the reporting organization shall:

- 2.5.1 calculate the ratio by dividing the absolute energy consumption (the numerator) by the organization-specific metric (the denominator);
- 2.5.2 if reporting an intensity ratio both for the energy consumed within the organization and outside of it, report these intensity ratios separately.

RECOMMENDATIONS

2.6 When compiling the information specified in Disclosure 302-3, the reporting organization should, where it aids transparency or comparability over time, provide a breakdown of the energy intensity ratio by:

- 2.6.1 business unit or facility;
- 2.6.2 country;
- 2.6.3 type of source (see definitions for the listing of non-renewable sources and renewable sources);
- 2.6.4 type of activity.

GUIDANCE

Guidance for Disclosure 302-3

Intensity ratios can be provided for, among others:

- products (such as energy consumed per unit produced);
- services (such as energy consumed per function or per service);
- sales (such as energy consumed per monetary unit of sales).

Organization-specific metrics (denominators) can include:

- units of product;
- production volume (such as metric tons, liters, or MWh);
- size (such as m² floor space);
- number of full-time employees;
- monetary units (such as revenue or sales).

Background

Energy intensity ratios define energy consumption in the context of an organization-specific metric.

These ratios express the energy required per unit of activity, output, or any other organization-specific metric. Intensity ratios are often called normalized environmental impact data.

In combination with the organization's total energy consumption, reported in Disclosures 302-1 and 302-2, energy intensity helps to contextualize the organization's efficiency, including in relation to other organizations.

See references [1] and [3] in the [Bibliography](#).

Disclosure 302-4 Reduction of energy consumption

REQUIREMENTS

The reporting organization shall report the following information:

- a. Amount of reductions in energy consumption achieved as a direct result of conservation and efficiency initiatives, in joules or multiples.
- b. Types of energy included in the reductions; whether fuel, electricity, heating, cooling, steam, or all.
- c. Basis for calculating reductions in energy consumption, such as base year or baseline, including the rationale for choosing it.
- d. Standards, methodologies, assumptions, and/or calculation tools used.

Compilation requirements

- 2.7 When compiling the information specified in Disclosure 302-4, the reporting organization shall:
 - 2.7.1 exclude reductions resulting from reduced production capacity or outsourcing;
 - 2.7.2 describe whether energy reduction is estimated, modeled, or sourced from direct measurements. If estimation or modeling is used, the organization shall disclose the methods used.

RECOMMENDATIONS

- 2.8 When compiling the information specified in Disclosure 302-4, the reporting organization should, if subject to different standards and methodologies, describe the approach to selecting them.

GUIDANCE

Guidance for Disclosure 302-4

The reporting organization can prioritize disclosing reduction initiatives that were implemented in the reporting period, and that have the potential to contribute significantly to reductions. The organization can describe reduction initiatives and their targets when reporting how it manages this topic.

Reduction initiatives can include:

- process redesign;
- conversion and retrofitting of equipment;
- changes in behavior;
- operational changes.

The organization can report reductions in energy consumption by combining energy types, or separately for fuel, electricity, heating, cooling, and steam.

The organization can also provide a breakdown of reductions in energy consumption by individual initiatives or groups of initiatives.

Disclosure 302-5 Reductions in energy requirements of products and services

REQUIREMENTS

The reporting organization shall report the following information:

- a. **Reductions in energy** requirements of sold products and services achieved during the reporting period, in joules or multiples.
- b. **Basis for calculating reductions in energy consumption, such as base year or baseline, including the rationale for choosing it.**
- c. **Standards, methodologies, assumptions, and/or calculation tools used.**

RECOMMENDATIONS

- 2.9 When compiling the information specified in Disclosure 302-5, the reporting organization should:
 - 2.9.1 if subject to different standards and methodologies, describe the approach to selecting them;
 - 2.9.2 refer to industry use standards to obtain this information, where available (such as fuel consumption of cars for 100 km at 90 km/h).

GUIDANCE

Guidance for Disclosure 302-5

Use-oriented figures can include, for example, the energy requirements of a car or a computer.

Consumption patterns can include, for example, 10 percent less energy use per 100 km travelled or per time unit (hour, average working day).

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.

base year *

historical datum (such as year) against which a measurement is tracked over time

** Please note this term will be updated following the effective date of GRI 102: Climate Change 2025 and GRI 103: Energy 2025, as of 1 January 2027. Please see GRI 102/103 for the updated term.*

baseline *

starting point used for comparisons

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

** Please note this term will be updated following the effective date of GRI 102: Climate Change 2025 and GRI 103: Energy 2025, as of 1 January 2027. Please see GRI 102/103 for the updated term.*

conservation and efficiency initiative

organizational or technological modification that allows a defined process or task to be carried out using less energy

Examples: conversion and retrofitting of equipment such as energy-efficient lighting, elimination of unnecessary energy use due to changes in behavior, process redesign

energy reduction *

amount of energy no longer used or needed to carry out the same processes or tasks

Note: Energy reduction does not include overall reduction in energy consumption from reducing production capacity or outsourcing organizational activities.

** Please note this term will be updated following the effective date of GRI 102: Climate Change 2025 and GRI 103: Energy 2025, as of 1 January 2027. Please see GRI 102/103 for the updated term.*

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'.

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'.

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'.

non-renewable energy source

energy source that cannot be replenished, reproduced, grown or generated in a short time period through ecological cycles or agricultural processes

Examples: coal; fuels distilled from petroleum or crude oil, such as gasoline, diesel fuel, jet fuel, and heating oil; fuels extracted from natural gas processing and petroleum refining, such as butane, propane, and liquefied petroleum gas (LPG); natural gas, such as compressed natural gas (CNG), and liquefied natural gas (LNG); nuclear power

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

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.

Bibliography

This section lists references used in developing this Standard.

References:

1. World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), 'GHG Protocol Corporate Accounting and Reporting Standard', Revised Edition, 2004.
2. World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), 'GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard', 2011.
3. 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.



PO Box 10039
1001 EA Amsterdam
The Netherlands

www.globalreporting.org