

## Indicators

### G4-EN3

#### ENERGY CONSUMPTION WITHIN THE ORGANIZATION

- a. Report total fuel consumption from non-renewable sources in joules or multiples, including fuel types used.
- b. Report total fuel consumption from renewable fuel sources in joules or multiples, including fuel types used.
- c. Report in joules, watt-hours or multiples, the total:
  - Electricity consumption
  - Heating consumption
  - Cooling consumption
  - Steam consumption
- d. Report in joules, watt-hours or multiples, the total:
  - Electricity sold
  - Heating sold
  - Cooling sold
  - Steam sold
- e. Report total energy consumption in joules or multiples.
- f. Report standards, methodologies, and assumptions used.
- g. Report the source of the conversion factors used.

#### GUIDANCE

##### Relevance

Energy consumption has a direct effect on operational costs and can increase exposure to fluctuations in energy supply and prices. The environmental footprint of an organization is shaped in part by its choice of energy sources. Changes in the balance of these sources can indicate the organization's efforts to minimize its environmental impacts.

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

The consumption of non-renewable fuels is usually the main contributor to direct greenhouse gas (GHG) emissions (Scope 1), which are reported in Indicator G4-EN15. The consumption of purchased electricity, heating, cooling, and steam contributes to an organization's energy indirect (Scope 2) GHG emissions, which are reported in Indicator G4-EN16.

##### Compilation

Identify the types of energy (fuel, electricity, heating, cooling, and steam) consumed within the organization.

Identify the amount of energy (fuel, electricity, heating, cooling, and steam) consumed within the organization, in joules or multiples.

When reporting self-generated energy consumption, the organization does not double-count fuel consumption. For example, if an organization generates electricity from coal and then consumes the generated electricity, the energy consumption is counted once under the fuel consumption.

Energy may be purchased from sources external to the organization or produced by the organization itself (self-generated). Only energy consumed by entities owned or controlled by the organization is expected to be reported in this Indicator.

##### Fuel

Report fuel consumption separately for non-renewable and renewable fuel sources as follows:

- Non-renewable fuel sources include fuel for combustion in boilers, furnaces, heaters, turbines, flares, incinerators, generators and vehicles, which are owned or controlled by the organization. Non-renewable fuel sources cover fuels purchased as well as fuels generated by the organization's

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activities, such as mined coal and gas from oil and gas extraction

- Renewable fuel sources are sources owned or controlled by the organization, including biofuels (purchased for direct use) and biomass

**Electricity, heating, cooling, and steam**

Using the identified types of energy purchased for consumption and self-generated, calculate the total energy consumption within the organization in joules or multiples using the following formula:

$$\begin{aligned}
 &\text{Total energy consumption within the organization} \\
 &= \\
 &\quad \text{Non-renewable fuel consumed} \\
 &\quad + \\
 &\quad \text{Renewable fuel consumed} \\
 &\quad + \\
 &\quad \text{Electricity, heating, cooling and steam purchased for consumption} \\
 &\quad + \\
 &\quad \text{Self-generated electricity, heating, cooling and steam} \\
 &\quad - \\
 &\quad \text{Electricity, heating, cooling and steam sold}
 \end{aligned}$$

Organizations are expected to report standards, methodologies, and assumptions used to calculate and measure energy consumption, with a reference to the calculation tools used. Organizations subject to different standards and methodologies should identify the approach to selecting them.

Organizations are expected to apply conversion factors consistently for all data reported under the Energy Aspect. Local conversion factors to convert fuel to joules, or multiples, are to be used when possible. When local conversion factors are unavailable, the generic conversion factors may be used.

Organizations are expected to select a consistent Boundary for energy consumption. When possible, the Boundary should be consistent with the Boundary used in Indicators G4-EN15 and G4-EN16.

Organizations may further disaggregate energy consumption data where this aids transparency or comparability over time. For example, they may disaggregate data by:

- Business unit or facility
- Country
- Source type (See Definitions for the listing of non-renewable and renewable energy sources)
- Activity type

**Definitions**

See Glossary in *Implementation Manual*, p. 244

- Non-renewable energy sources
- Renewable energy sources

**Documentation sources**

Potential sources of information include invoices, measurements or calculations, or estimations. The reported units may be taken directly from invoices or meters, or converted from the original units to the reported units.