

An aerial night photograph of a city, showing a dense grid of buildings and streets illuminated by city lights. A large, semi-transparent teal rectangle is overlaid on the left and center of the image, serving as a background for the title and logo.

Note on the methodology of environmental indicators



3.5.3 Performance control and measurement systems, a prerequisite for environmental responsibility

To monitor the implementation of its environmental policy, control environmental risks and encourage the communication of its environmental performance to stakeholders, ENGIE implements a specific reporting system that goes beyond the requirements of French law and which takes into account the Global Reporting Initiative (GRI) recommendations.

Environmental reporting is closely tied to operational performance reporting, thus becoming a management tool. The Group's Executive Board transmits this goal of making environmental concerns an integral part of management responsibilities.

A system of letters for environmental compliance ensures operational management involvement.

Methodological elements

ENGIE conducts its environmental reporting using a dedicated tool that allows data to be reported following a defined methodology. This tool, called EARTH, is an environmental reporting IT solution used to manage the network of environmental correspondents and coordinators; to handle the management and documentation of the scope of environmental reporting; to manage data entry, monitoring and consolidation of indicators; to draft reports; and to provide the documentation necessary for producing and collecting data (reporting procedures and instructions).

EARTH is deployed in each of the BUs and thus covers the entire ENGIE organization.

The legal entities included in the reporting scope are those whose operations are relevant in terms of environmental impact and that are consolidated fully or proportionately under the rules of financial consolidation (IFRS). Legal entities solely engaged in energy trading, financial activities or engineering are excluded. The selected entities report on the performance and impacts of the industrial facilities over which they have technical operational control, including facilities operated on behalf of third parties. Legal entities consolidated at equity are excluded.

Thus, in accordance with the rules of financial consolidation, 100% of the impact data collected is consolidated when the entities are fully consolidated. For entities proportionately consolidated, the environmental impact data are consolidated in proportion to the Group's consolidation rate provided that it has 100% technical operational control or that, as a minimum, this is shared with other shareholders.

The scope is determined on June 30 of the fiscal year. For disposals after that date, the entity is expected to complete the environmental questionnaire with the data available on the last day of the month prior to the disposal. Acquisitions made after June 30 are not taken into account, unless the relevant BU has requested an exception, and subject to the data being available.

To calculate environmental management indicators such as the "share of relevant revenue covered by an environmental certification, an environmental crisis management plan, etc.", the relevant revenue is estimated for each legal entity. To obtain the relevant revenue, operations regarded as "not relevant in terms of environmental impact" (e.g. trading, finance and engineering) are stripped out of the consolidated revenue figure for each legal entity.

The environmental data reporting procedures encompass general procedures defined as standard guidelines to be implemented at the appropriate levels of the reporting process. Procedures and guidelines are rolled out Group-wide via a network of duly mandated environmental contacts and coordinators. These procedures and guidelines at Group and BU level describe in detail the environmental data collection, control, consolidation, validation and transmission phases at the different levels of the organization, as well as the rules for defining the scope of consolidation. They include technical documents that provide methodological guidelines for the calculation of some specific indicators. Depending on its activities, each entity is assigned a profile that determines the indicators to answer. The list of the entities included in the scope of environmental reporting is approved by each BU.

The definitions of the indicators used to measure the environmental performance of Group businesses have been revised based on comments made by the Statutory Auditors. They also take into account the comments by line managers represented in dedicated work groups. All the documentation is available from the Group upon request (CSR Department).

Previously, ENGIE used to provide a "coverage rate" for each indicator published, corresponding to the response rate obtained from all the entities surveyed. Thanks to the implementation of the new EARTH reporting tool, the coverage rate is now 100% for all indicators.

The following points should be noted with regard to the data published in this report:

- the reliability of the scope of environmental reporting is a priority for ENGIE, which is evolving in an international context of business disposals and acquisitions. Before every reporting campaign, the financial scope for consolidation is compared against the information fed back by the BU's environmental managers in order to check which industrial entities contributing to EARTH report to which financial entities;
- for facilities burning natural gas that do not have automated measurement systems, default emission factors for SOx and fine particle emissions has been set up (factors recommended by the EMEP, the European Monitoring and Evaluation Programme);
- since 2007, ENGIE has been a signatory to the CEO Water Mandate, thus demonstrating its commitment to the preservation of water resources. The water indicators are consistent with the GRI indicators in 2011 and fall into four categories: withdrawal, discharge, consumption, reuse/recycling. Since 2015, the materiality of the water indicators published has been reviewed and the Statutory Auditors verify the inputs, outputs and consumption of fresh and non-fresh water;
- as it is concerned about what becomes of the waste generated by its activities, the Group has indicators on the production and recovery of the waste generated by its activities. These are based on definitions of waste and recovery established by local regulations. To avoid erroneous data about stock, only the tonnages taken away and weighed on site are reported as disposed of. The tonnages that must be reported are wet or dry, depending on the way they are disposed of: if the waste disposed of was wet, the reported tonnages are wet and the converse for dry waste. As an exception, if the waste is permanently stored on site, the associated dry tonnages must also be reported as disposed of. In the latter case, the waste is never recovered. Waste generated by the construction or dismantling of plant and equipment, by the repowering or upgrading of facilities, and by soil rehabilitation, are not covered by the indicators for waste generated by activities;

- CO₂ emissions from the combustion of fossil fuels were calculated based on the most recent emission factors published by the IPCC (IPCC Guidelines for National GHG Inventories, Vol. 2 Energy – 2006). However, the emission factors for coal can vary greatly depending on the provenance. For this reason, each reporting entity consuming coal provides a factor locally calculated emission levels. This is also the case for alternative fuels for which it is not possible to use standard emission factors;
- The global warming potential (GWP) compares the warming capacity of the various greenhouse gases to CO₂. The GWP used to convert the Group's greenhouse gas (GHG) emissions to CO₂ equivalent are the latest GWP published by the IPCC (5th Assessment Report – 2014), considered on a 100-year scale;
- specific GHG emissions from energy generation in kg CO₂ eq./MWh are calculated for the BUs where this is a main activity: Generation Europe, North America, Latin America, Brazil, Asia Pacific, Middle East, South and Central Asia, and Turkey, Benelux, North, South and Eastern Europe, UK, France BtoB, France Networks, and France Renewable Energy;
- for the sake of consistency, the factor for converting thermal energy produced (GWh_{th}) into electric power (GWh_e) is set at 0.44 for all Group power generation businesses and at 0.25 for incinerators;
- significant environmental impacts resulting from subcontractors during services performed at one of the Group's facilities must be included in the Group's impacts except when a specific contractual clause provides that a subcontractor is liable for impacts generated at the site while providing the service. Data provided by subcontractors is not subject to systematic internal verification before being included in Group data and is the responsibility of the subcontractors alone. Regulations and legal obligations related to the environment may differ from one country to another, and certain data may thus be sometimes more difficult to gather;
- the energy efficiency indicator covers fossil fuel and biofuel power plants and also includes heat supplied by third parties;
- ENGIE operates hydraulic installations, some of which have water tanks. Given the difficulties in modeling the evaporation of each site, the evaporated water is not yet included in environmental reporting; for category 11 of scope 3 (use stage of product), only gas sales to end customers are taken into account. Market sales are now excluded and data reported for the years 2016 and 2017 have been restated;
- for the category "Use of sold products" in Scope 3, a change in methodology has been made to exclude sales of natural gas on financial markets and to intermediaries with retroactive effect from 2017. This is also the case for LNG sales on financial markets and to intermediaries with retroactive effect from 2018. In addition, although emissions from sales of coal to end customers have fallen sharply over the last three years, they have been added for completeness with retroactive effect from 2017. Also for the "Use of sold products" category of Scope 3, natural gas sales are expressed in TWh HCV, for Higher Calorific Value, while the emission factors used until 2018 were defined for TWh LCV, for Lower Calorific Value. As this leads to a 10% overestimation of the emissions linked to the use of gas sold to end users, the TWh HCV have been converted into TWh LHV and the data restated accordingly with retroactive effect from 2017;
- emissions of NO_x, SO_x and particulate matters are calculated locally on the basis of measurements. Where it is not possible to measure these emissions, a calculation method is provided for NO_x emissions and standard emission factors based on fuel consumption are used for SO_x and particulate matters. These emission factors are taken from the standards of the US Environmental Protection Agency (US EPA).