



Note on the methodology of Environmental indicators

extract from 2020 Universal registration document



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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.

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.

For disposals occurring during the year, the entities concerned complete the environmental questionnaire with the data available as of the last day of the month preceding the disposal. If it is not possible to collect all the environmental indicators,

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

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

they are extrapolated on the basis of the main activity (e.g., energy production for a power plant) and historical data. For acquisitions made during the year, it may happen that their environmental management system is not sufficiently mature to meet all the environmental indicators. In this case, the missing indicators are extrapolated on the basis of the main activity and indicators available in entities with a similar technical profile. A correction of these extrapolated values can be made a posteriori the following year, at the end of the first full fiscal year.

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 SO_x and fine particle emissions have 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 locally calculated emissions factor. 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. It 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;
- NO_x, SO_x and fine particulate matters emissions are calculated locally on the basis of measurements. As of this year, if discontinuous measurements are carried out on a site, an average of the measurements over the last five years is taken where possible. This methodological change, which avoids inconsistencies due to one-off measurements, has notably led to a 3% increase in NO_x emissions in 2019. When 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 fine particles. These emission factors are taken from the US Environmental Protection Agency (US EPA) standards;
- ENGIE carries out residual gas recovery services for its steel producing customer ArcelorMittal. This service allows ArcelorMittal to meet the majority of its electricity needs and thus reduce its GHG emissions by avoiding a high level of energy use by the network. When analyzing the GHG emissions relating to these services, ENGIE has noted that 100% of the emissions relate to the steel manufacturing process. At the end of this process, regulations require that steel producers burn residual gases, generally through flaring. ENGIE only intervenes in this process to extract energy that would otherwise have been lost to flaring, by taking over for ArcelorMittal in the burning of the residual gases, but without generating additional GHG emissions. This is why ArcelorMittal's reporting methodology includes direct emissions from the external plants to which the residual gases are delivered for recovery. This state of affairs is confirmed by the 2019 French law on climate and energy and the related decrees which set the greenhouse gas emissions ceiling for fossil-fueled power plants. Decree No. 2019-1467 of December 26, 2019 states that "Emissions from waste gases used in electricity generation facilities are not recognized." As a result, ENGIE now excludes these GHG emissions from its Scope 1 (-6.7 Mt in 2020) and has restated data for 2018 and 2019 for consistency purposes (-8.53 Mt in 2018 and -8.9 Mt in 2019). As these are residual gases and not fuel with a supply chain, ENGIE does not include emissions from an upstream fuel chain in its Scope 3. With the exception of GHG emissions related to the combustion of steel gases, all environmental indicators for these entities are included in the consolidated data;

- In 2018, Glow's power plants in Thailand were sold to Global Power Synergy Public Company Ltd. (GPSC). These power plants were initially set to exit the scope by the end of 2018, but remained within ENGIE's scope until March 18, 2019 for administrative reasons. For the sake of consistency, 2019 values were corrected to take this activity into account. This mainly included fuel consumption, 1.8 Mt of direct GHG emissions and energy production. Other indicators (management, waste, air, water) were estimated based on 2019 production and data collected in 2018. Two other smaller entities, Viking Energy of Lincoln and Viking Energy of McBain, were reintegrated for the same reason in the same manner;
- the methodology for calculating the "Purchases of goods and services" item in "Other indirect GHG emissions" was reviewed in 2020. On the one hand, purchasing sub-categories have been created to calculate more precisely the GHG emissions associated with purchases. On the other hand, the volume of expenditures not yet categorized has been taken into account by extrapolating the nature of these expenditures on the basis of the volume already categorized. This extrapolation made it possible to estimate the GHG emissions associated with this volume of expenses not yet categorized. The 2018 and 2019 data have been restated for consistency.