

Methodology used to calculate the Group's total GHG emissions

[AR 39a] The Group's GHG emissions calculation (Scopes 1, 2 and 3) relies on the principles, requirements and guidance of the GHG Protocol Corporate Standards (2004 version) and ISO 14064 (supplemented by ISO 14069).

[AR 39b] The key assumptions and methodologies used to perform the Group's GHG emissions assessment are described below for each of scope (1, 2 and 3).

[AR 39c] The Group's GHG emissions assessment includes emissions of the Kyoto Protocol greenhouse gases: CO₂, CH₄, N₂O and fluorinated gases.

[AR 39d] Global Warming Potential (GWP) compares the warming capacity of the various greenhouse gases to CO₂. The GWPs used to convert the Group's GHG emissions to CO₂ equivalent are the latest updated and published by the Intergovernmental Panel on Climate Change (IPCC), considered on a 100-year scale.

Perimeter

[AR 40] The perimeter of the Group's GHG emissions reporting is the perimeter of the Group's consolidated financial statements, i.e., controlled (fully consolidated) companies and joint ventures on a pro rata basis to the Group's share of ownership, excluding trading entities and securities of non consolidated companies, as they are not material in terms of environmental impact. This perimeter is supplemented by the contribution of entities accounted for using the equity method (associates and joint ventures). No cases have been identified in which ENGIE could have operational control according to the interpretation of the ESRS and the GHG Protocol, in entities not controlled by the Group.

[AR 41] The Group's GHG emissions break down for Scope 1 into emissions from energy production and emissions from gas networks, and for Scope 3 into emissions from fuel and energy activities and emissions from the use of sold products (fuel sales) related to the Group's activities.

Scope 1

Scope 1 emissions verified by the Statutory Auditors with reasonable assurance for 2024 (see Section 3.1.7).

[AR 43a] The Group's Scope 1 GHG emissions include emissions from stationary and mobile combustion, process emissions and fugitive emissions. Emissions calculations are based on operating data on the different fuels consumed, as reported by the installations.

The Group 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: 100% of emissions are inherent to the steelmaking process. At the end of this process, regulations require that steel producers burn residual gases, generally through flaring. The Group 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 external plants to which the residual gases are delivered for recovery. This state of affairs is confirmed by French Act No.2019-1147 of November 8, 2019 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 production installations are not recognized." Consequently, the Group excludes these GHG emissions from its Scope 1 GHG emissions, while the DK6 power plants in France and the Knippegroen and Rodenhuijze power plants in Belgium no longer report emissions associated with steel gases. As these are residual gases and not fuel with a supply chain, the Group does not include emissions from an upstream fuel chain in its Scope 3 emissions. With the exception of GHG emissions related to the combustion of steel gases, all environmental indicators for these entities are accounted for in the consolidated data, as well as their energy production which is included in the calculation of the Group's specific GHG emissions.

[AR 43b] The emission factors used are based on the most recent emission factors published by the IPCC (IPCC Guidelines for National GHG Inventories, Vol. 2 Energy - 2006).

[AR 43c] The Group's GHG emissions reporting includes biogenic CO₂ emissions resulting from the combustion or biodegradation of biomass, as well as emissions of other types of GHGs, notably CH₄ and N₂O.

[AR 43d] The Group's reported GHG emissions do not include purchased, sold or transferred removals or carbon credits, or GHG allowances.

[AR 43e] For activities falling within the scope of EU-ETS regulations, emissions reported under Scope 1 follow the same methodology.

[AR 44] In calculating the percentage of Scope 1 GHG emissions covered by the EU ETS regulations presented above, the Group:

- takes into account the GHG emissions of the installations it operates and which are subject to the EU-ETS regulations;
- includes emissions of CO₂, CH₄, N₂O and fluorinated gases;
- follows the same annual reporting periods for Scope 1 GHG emissions and emissions covered by the EU ETS;
- calculates the percentage using the following formula: (GHG emissions (in t CO₂ eq.) from installations subject to the EU-ETS regulations + national ETS + non-EU ETS)/(total Scope 1 GHG emissions in t CO₂ eq.).

Scope 2

Scope 2 location-based emissions verified by the Statutory Auditors with reasonable assurance for 2024 (see Section 3.1.7).

[AR 45] For the assessment of Scope 2 GHG emissions, the Group:

- applies the principles, requirements and guidance of the GHG Protocol Corporate Standards (Scope 2 guidance document, 2015 version);
- includes purchases of electricity, steam, heat and cooling;
- excludes from Scope 2 any emissions reported in Scopes 1 and 3 to avoid double counting;
- applies the same principles to pumped storage facilities as to batteries, in accordance with the European Taxonomy recommendations. Accordingly, electricity consumption corresponds to the difference between electricity supplied by the network and that returned to the network. The latter, as a result, is no longer accounted for under the Group's electricity production;
- applies for Scope 2 the location-based method (quantification based on average emission factors of energy production for defined geographical locations) and the market-based method (quantification based on GHG emissions emitted by producers from which the Group contractually purchases either electricity bundled with instruments or contractual instruments alone);
- discloses biogenic emissions of CO₂ from the combustion or biodegradation of biomass separately from Scope 2 GHG emissions, where applicable;
- does not include any removals, or any purchased, sold or transferred carbon credits or GHG allowances in the calculation of Scope 2 GHG emissions.

Scope 3

[AR 46] For the assessment of Scope 3 GHG emissions, the Group:

- draws on the principles, requirements and guidelines of the GHG Protocol Corporate Value Chain (Scope 3) (Version 2011) and breaks down its total Scope 3 emissions into the 15 categories defined by the GHG Protocol;
- performs an annual reassessment of Scope 3 emissions for each reported category;
- identifies and discloses the significant Scope 3 categories in relation to the Group's total GHG emissions and according to the criteria defined by the GHG Protocol;
- excludes from the carbon footprint reporting presented for the Group the following Scope 3 GHG emissions categories as they are not significant compared with the total GHG emissions reported by the Group or because they are not relevant given the Group's scope of activities:
 - Scope 3.4 "Upstream Transportation and Distribution",
 - Scope 3.5 "Waste Generated in Operations",
 - Scope 3.8 "Upstream Leased Assets",
 - Scope 3.9 "Downstream Transportation and Distribution",
 - Scope 3.10 "Processing of Sold Products",
 - Scope 3.12 "End-of-Life Treatment of Sold Products",
 - Scope 3.13 "Downstream Leased Assets",
 - Scope 3.14 "Franchises";
- provides the source data used:
 - Scope 3.1 "Purchased goods and services" and Scope 3.2 "Capital goods": these two categories are the only ones without primary data (3.7% of Scope 3). They are calculated on the basis of expenses recorded in the financial statements for the reporting year.
 - Scope 3.3 "Fuel- and Energy-Related Activities (not included in Scope 1 or Scope 2)": this category includes "Upstream emissions of purchased fuels and electricity (3.3.A., 3.3.B. and 3.3.C.)" and "Generation of purchased electricity that is sold to end users (3.3.D.)".
 - For "upstream emissions of purchased fuels and electricity": the Group uses all volumes of fuels consumed or sold by consolidated entities (Scope 1 combustion and category 3.11 use of sold products); as well as all volumes of energy consumed or lost by consolidated entities (Scope 2).
 - For "Generation of purchased electricity that is sold to end users (3.3.D.)": the Group uses all volumes of energy (electricity, heating, cooling) sold to end-users, distinguishing between the types of commodities (renewable, decarbonized or from the grid). To avoid double counting with GHG emissions related to energy production, country-by-country netting is performed to limit reporting to emissions related to the sale of energy not produced by Group installations.

- Scope 3.6 “Business Travel”: related GHG emissions (air or rail travel) are calculated either on the basis of GHG emissions data supplied by the carriers concerned or on the basis of estimated data if the carriers’ emissions data are not available. The Group’s main service provider has changed the emission factors used in 2024 for the domestic, short-haul and long-haul flight categories, resulting in a significant increase in emissions related to air travel within its scope. The data collected covers 97% of Group employees excluding GEMS. For GEMS, the data is extrapolated, as the reporting only covers 73% of employees in this perimeter.
 - Scope 3.7 “Employee Commuting”: related GHG emissions concern the energy consumption of the various means of transportation used by employees to commute to and from work (excluding company-owned vehicles, for which related GHG emissions are counted in Scope 1). These emissions cannot be accurately measured, and calculations are based on estimates made either from data collected on employees’ travel habits (mode used and distance) or from averages based on benchmarks. For 2024, the data collected to estimate commuting covers approximately 70% of the Group scope. The data collected has therefore been extrapolated to be representative of the entire Group perimeter.
 - Scope 3.11 “Use of sold products (fuel sales)”: the Group uses the volumes of fuels (gas, biomethane, biomass) sold to end-users.
 - Scope 3.15 “Investments”: this category includes Scope 1 and Scope 2 emissions from entities consolidated for using the equity method (associates or joint ventures). Their emissions are reported proportionally to their percentage of consolidation in the Group’s financial statements;
 - specifies below the emission factors used:
 - For energy (electricity, heating, cooling) purchased for consumption or resale: use of the emission factors described above and production volumes by country communicated by local carriers (e.g., ENTSO-E for Europe). For purchased heat: use of emission factors provided by FEDENE (Federation of Energy and Environment Services),
 - For purchased goods and services: use of emission factors applied on a case-by-case basis to expenditures by purchasing category. The emission factors used for 2024 reflect work to fine-tune the methodology used in previous years. The number of emission factors used has increased significantly, as has their granularity. At this stage, most remain generic emission factors or combinations of generic emission factors, a sign of the low maturity of the supplier market (few of which have yet conducted detailed carbon analysis of their goods).
- [AR 47] To determine the total GHG emissions presented above, the Group applies the following formulas:

$$\begin{array}{l} \text{Total} \\ \text{location-based} \\ \text{GHG emissions} \\ \text{(t CO}_2 \text{ eq.)} \end{array} = \begin{array}{l} \text{Gross} \\ \text{Scope 1} \end{array} + \begin{array}{l} \text{Gross} \\ \text{Scope 2} \\ \text{location-based} \end{array} + \begin{array}{l} \text{Gross} \\ \text{Scope 3} \end{array}$$

$$\begin{array}{l} \text{Total} \\ \text{market-based} \\ \text{GHG emissions} \\ \text{(t CO}_2 \text{ eq.)} \end{array} = \begin{array}{l} \text{Gross} \\ \text{Scope 1} \end{array} + \begin{array}{l} \text{Gross} \\ \text{Scope 2} \\ \text{market-based} \end{array} + \begin{array}{l} \text{Gross} \\ \text{Scope 3} \end{array}$$