

Build the
through

FUTURE

SUSTAINABLE

POWER.

Beyond Reports: Enel's Graphic Journey to a Sustainable Tomorrow

The graphic design of Enel's corporate reporting project powerfully reflects our commitment to building a better future.

The design featured in this publication underscores our strong commitment to translating our **"Purpose—Build the future through sustainable power"** into concrete actions.

Specifically, **"we are dedicated to actively shaping a better tomorrow by reducing environmental impact through clean, innovative, and responsible energy solutions for future generations"**.

Our visual narrative is crafted to express Enel's commitment to our long term aim and how we embody our core values: trust, innovation, flexibility, respect, and proactivity.

We build trust within our teams and with our stakeholders through clear communication and a focus on our customers. By fostering curiosity and a practical approach, we drive innovation to meet changing needs and create sustainable solutions. Our ability to adapt enables us to seize new opportunities in a rapidly changing world, while our respect for individuality and inclusivity fosters teamwork. Together, we work diligently to achieve results with integrity and responsibility, shaping a sustainable future.

As a result, **every element of our corporate reporting resonates with Enel's commitment and core values**, creating a narrative designed to inspire others to join us on our journey toward a sustainable future.

2024 GHG INVENTORY
QUANTIFICATION AND REPORTING
OF GREENHOUSE GAS EMISSIONS IN
ACCORDANCE WITH THE CORPORATE
GHG PROTOCOL

INDEX

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CHAPTER 1

Enel's Zero Emission **AMBITION**





1. Enel's Zero Emission ambition

The Enel Group is committed to developing a business model aligned with the goals of the Paris Agreement (COP 21), aiming to limit the average global temperature increase to below 1.5°C and to achieve zero emissions by 2040. The Group promotes the fundamental role of electricity as an energy carrier to drive the transition toward a net-zero global economy by 2050.

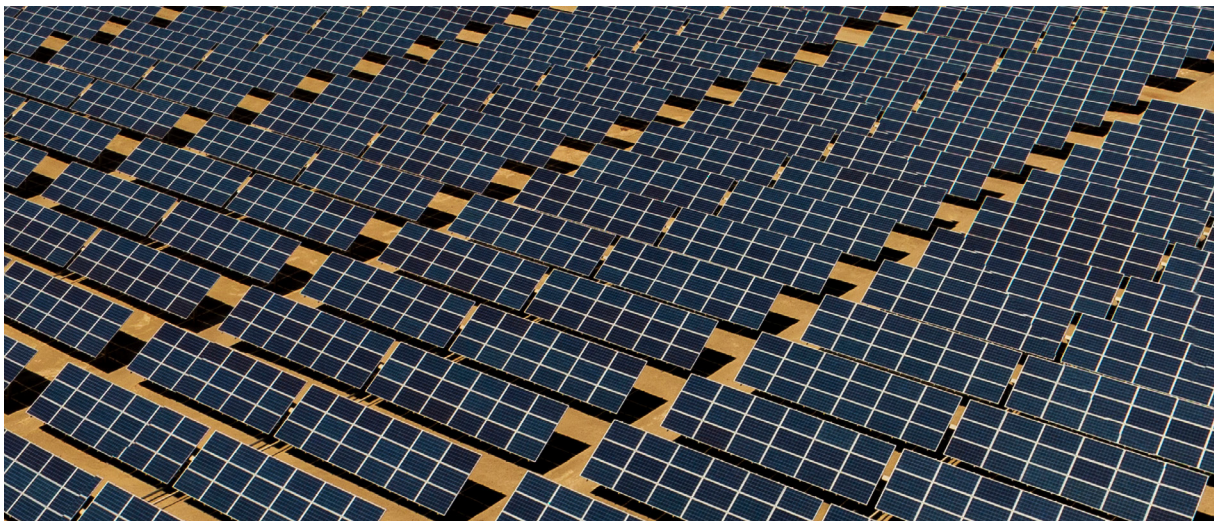
Enel's decarbonization roadmap is built upon four different targets that cover direct and indirect emissions across the value chain, validated by Science Based Targets initiative (SBTi) in coherence with a 1.5°C pathway.

The three main GHG reduction targets, covering power generation and power and gas sale activities, seek to mitigate 100% of related GHG emissions from 2017 baseline. Such ambition will be reached by promoting energy generation from renewable sources, completing the phase-out of fossil fuels, digitizing and upgrading power grid, and accelerating sustainable electrification. Specifically:

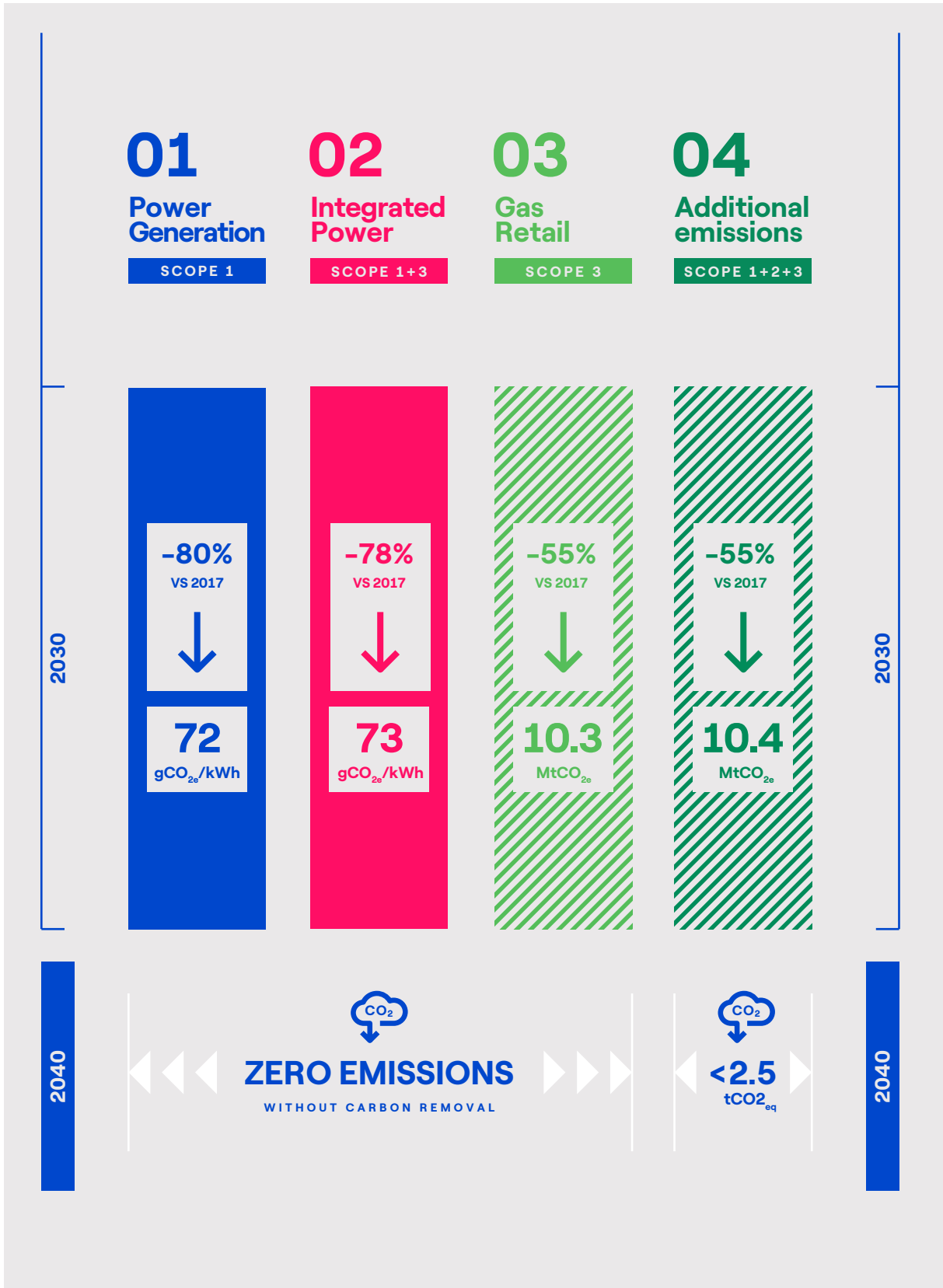
- **by 2027**, Enel's renewable capacity is expected to reach about 76 GW (including managed capacity), with the share of zero-emission generation reaching about 86% (including managed production). In addition, progress towards digitalization of networks will increase the share of digitalized customers to around 70%;

- **by 2027**, Enel will complete the phase-out of all its coal-fired power plants;
- **by 2030**, around 85% of the installed capacity will be renewable (including managed capacity), with the share of zero-emission generation reaching about 90% (included managed production), and 100% of network customers will be fully digitalized;
- **by 2040** all installed capacity will be 100% renewable, the Group will have phased-out both thermoelectric generation and retail gas activities and 100% of the electricity sold will be produced from renewable sources.

Enel's four GHG targets will consent a reduction of nearly 99% of total Group GHG emissions compared to 2017, beyond the overall 90% threshold expected by global standards. However, Group's ambition aims at reaching a complete decarbonization across its value chain, for which several exogenous factors shall be overcome in the short to medium term (including new carbon free solutions in the supply chain at large-scale, change of certain market conditions and policies to enable zero emissions business models). In case a marginal volume of residual emissions remains by 2040, expected to be below 2.5 MtCO_{2e}, it will be neutralized through carbon removal and mostly related to indirect emissions (scope 2 and 3).



GHG REDUCTION TARGETS VALIDATED BY SBTI IN COHERENCE WITH 1.5 PATHWAY





CHAPTER 2

Greenhouse gas Emissions Inventory

REPORT





2. Greenhouse gas Emissions Inventory Report

Introduction

Enel is committed to ensuring increased transparency and accountability on the Group's progress towards reducing greenhouse gas emissions across the entire value chain. As result, the Group discloses the GHG emissions inventory from its business activities - including the generation and distribution of electricity and the

sale of electricity and gas to end customers - every year.

This public report is carried out in accordance with the international Greenhouse Gas Protocol - published by the World Business Council for Sustainable Development and World Resource Institute.

Organisational and Operational boundaries

Enel organizational and operational boundaries for GHG emission reporting are defined in accordance with the GHG Protocol.

Concerning, the operational boundaries, direct and indirect greenhouse gas emissions are reported covering the following activities:

- Power Generation: including commodities supply chain, the construction and operation of thermoelectric, renewables and nuclear power plants.
- Power Distribution: including the construction and operation of electricity grids.
- Market: including the sale of electricity, gas and other energy solutions.
- Real Estate: including the management of buildings and vehicles fleet.
- Others: including the manufacturing of photovoltaic panels in proprietary assets, management of port terminals in Spain, and management of the Santa Barbara site in Italy (ex-mining site).

Concerning the organizational boundaries, Enel applies a combination of financial and operational control approach:

- GHG data includes 100% of GHG emissions from facilities and activities where Enel has the financial control over the operations; except for the nuclear activity, managed under a shared financial control approach, so data is reported based on criteria in proportion to ownership.
- Furthermore, for the purpose of the elaboration of the annual Sustainability Statement and in coherence with ESRS E2 requirements, GHG data is also collected for investees such as associates, joint ventures, or unconsolidated subsidiaries that are not fully consolidated in the financial statements of the consolidated accounting group, as well as contractual arrangements that are joint arrangements not structured through an entity (i.e., jointly controlled operations and assets), for which it has operational control.

Baseline year and recalculation

Enel defined 2017 as baseline year for its science-based targets in order to provide a more comprehensive view of the backward and forward looking progress on its decarbonization roadmap.

However, the Group has defined 2022 financial year as the baseline for the purpose of the GHG emissions inventory. This is mainly due to relevant changes that took place in the company's perimeter after the dis-

posal of some thermoelectric assets, as well as the last validation carried out by SBTi in December 2022 on Enel's mid and long terms according to the Net Zero Standard that caused several changes in the GHG accounting methodology of some GHG sources.

2022 baseline has been recalculated in accordance with the following perimeter and methodological changes:

• **Perimeter changes that took place throughout 2023:**

- Thermal Power plants in Argentina: Enel finalized the sale of its entire stake in "Costanera" and "Dock Sud" Power plants. As result of the transaction, Enel disposed power generation assets which included approximately 3 GW of conventional capacity.
- Central Cartagena. Enel sold this 180 MW Thermal Power Plant in Colombia.
- Romania: Enel finalized the sale to the Greek company Public Power Corporation S.A. ("PPC") of all the equity stakes held by the Enel Group in Romania in October 2023.
- Greece: The company's subsidiary Enel Green Power (EGP) closed the sale of the 50% stake in its Greek renewable company.

• **Methodology changes implemented in 2024 with impact on 2022 baseline:**

- Scope 2:
 - GHG emissions from auxiliary services in grids are now accounted as a single GHG source and they are no longer included in the calculation of the related emissions from technical grid losses. Furthermore, 2022 technical grid losses ratio and formula were updated.
 - GHG emissions from electricity consumption from activities related to Battery Energy Storage System (BESS).

- The national electricity emission factor for Argentina was updated as Enel now relies on sources from the National Authority.
- Scope 3:
 - **Purchased goods and services (category 1):** Emissions from the supply chain related to capital goods (corresponding to supplies) were excluded.
 - **Capital goods (category 2):** A new category that includes emissions from the supply chain related to capital goods (supplies), which were previously reported under category 1.
 - **Fuel- and energy-related activities not included in Scope 1–2 (category 3):** The calculation methodology for the extraction and transport of fuel oil consumed in thermoelectric plants using oil & gas technology has been updated. In addition, for the calculation of **Scope 3 – category 3.D** (Generation of purchased electricity that is sold to end users), Argentina's emission factor of the power system was updated to consider data from National Authorities.
 - **Upstream transportation (category 4):** Some minor GHG emissions from the transportation of coal subproducts were reclassified from category 3 into category 4. However, this methodological change had no impact as no GHG emissions were reported neither in 2024 nor in 2022.
 - **Business travel (category 6):** A new category included in the GHG emissions inventory.
 - **Employee commuting (category 7):** A new category included in the GHG emissions inventory.
 - **Use of sold Products (category 11):** the factors to convert gas sales expressed in high heating value into low heating value for Italy, Chile and Colombia have been updated.

As result, 2022 the restated baseline is the following:

TCO _{2eq}	Total		Scope 1	Scope 2		Scope 3
	Location Based	Market based		Location Based	Market based	
2022 Baseline reported in 2023 GHG Inventory	121,440,642	122,723,835	47,622,170	3,755,810	5,039,002	70,062,662
Restated 2022 Baseline reported in 2024 GHG Inventory	117,129,028	118,417,108	43,493,551	3,658,532	4,946,613	69,976,944



Calculation methodology and process

The **internal policy** in place “**Definition and Method of GHG Emissions calculation**”, sets the common framework for the collection and analysis of GHG data and performance, considering internal and external purposes and both Group’s and Enel stakeholders’ possible benefits. The procedure collects and harmonizes definitions and methods, internally adopted and based on international standard, to quantify the impact of the Enel Group in GHG terms, describing all the business processes aimed to measure the various GHG related aspects.

GHG data and primary operational data are collected through the **Group’s environmental database** on annual basis, except for specific GHG data in which the frequency is greater. Data is collected by technology and geography, directly from the different organisational levels (either site level or country level, depending on the source) and undergo internal formal controls and consistency assessment and subsequent validation by the different business lines and at consolidated level.

Enel takes into account the principles, requirements, and guidelines set out in the **Corporate Accounting and Reporting Standard (2004 edition)** of the **Greenhouse Gas Protocol**. Furthermore, it includes emissions of CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, and NF₃, and uses the most recent global warming potential (GWP) values published by the IPCC in its Sixth Assessment Report (AR6), based on a 100-year time horizon, to calculate CO₂-equivalent (CO_{2eq}) emissions for gases other than CO₂. Additionally, all data included in the inventory refer to gross greenhouse gas emissions and therefore do not include the use of carbon credits.

During 2024 further actions were implemented such as including new categories and refining methodologies. Therefore, the methodology and the main assumptions considered in the calculation of GHG emissions in 2024 are as follows:

GHG source	Calculation method
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Scope 1

GHG emissions (CO₂, CH₄ and N₂O) from the combustion of fuels for Thermoelectric generation activities, including CCGT, Oil&Gas, coal thermal plants and biomass.

GHG direct emissions are calculated for each combustion unit and fuel type at thermal power plant level, based on fuel consumption (for CO₂, CH₄ and N₂O) and the corresponding fuel-specific IPCC GHG emission factor; and/or through direct measurement at the chimney (only for CO₂).

CO₂ emissions from thermoelectric generation operated within EU are subjected to yearly certification by an external certifier for the participation to the European mechanism of the Emission Trading System (ETS).

CO₂ emissions from thermoelectric generation operated in Chile are subjected to yearly certification by environmental authority (Impuestos Verdes).

<p>GHG emissions (CO₂, CH₄ and N₂O) from the combustion of fuels for:</p>	<p>GHG direct emissions are calculated based on fuel consumption and the corresponding fuel-specific IPCC GHG emission factor</p>
<ul style="list-style-type: none"> • Auxiliary services (including gensets) in nuclear and renewable plants. • Auxiliary services (including gensets) in Power distribution activities. • Transportation of fuel and subproducts on vessels under own operational control. • Heating systems and canteens in buildings and offices • Company vehicles fleet. 	
<p>Fugitive NF₃ emissions in photovoltaic panels manufacturing</p>	<p>NF₃ is used as a cleaning agent in the photovoltaic panel manufacturing process at the 3SUN factory. Emissions are periodically calculated based on replenishments, and the equivalent atmospheric CO₂ emissions are determined by applying the corresponding GWP (AR6).</p>
<p>Fugitive CH₄ emissions in gas-fired power plants</p>	<p>Methane losses are assessed by measuring CH₄ quantities and calculated using the LDAR (Leak Detection and Repair) methodology.</p>
<p>Fugitive HFCs emissions in thermoelectric and hydro-power thermal plants, offices, and PV manufacturing sites</p>	<p>HFC losses used in air conditioning and refrigeration systems are periodically calculated based on plant replenishments and/or failures leading to replacement. Emissions are reported using the commercial name of the gas and the corresponding CO_{2eq} emission value calculated based on the GWP (AR6).</p>
<p>Fugitive SF₆ emissions in power generation and distribution activities</p>	<p>SF₆ losses in the distribution network are calculated periodically through two components: replenishment of equipment with SF₆ and failures in the equipment leading to replacement.</p>
<p>Fugitive biogenic CH₄ emissions in hydroelectric basins</p>	<p>Fugitive methane emissions from hydroelectric reservoirs originate from the decomposition of floodplain organic material and algal material. They are calculated using the IPCC method, considering the reservoir area and the climatic zone of their location.</p>



Scope 2

GHG emissions associated with electricity consumption

GHG emissions are calculated based on the total energy consumed by the Group's various assets (power plants, grids, buildings and ports) at the national level, applying the corresponding emission factor of the country's electricity system according to the following criteria:

- **Location-based model:** The coefficient used represents the amount of GHG emissions released by power plants connected to the energy system per unit of energy produced by those plants, measured in grams of CO_{2eq} per kWh. Factors are collected from National Authorities for core countries (Italy, Spain, Brazil, Colombia, Chile, Argentina and the USA), while for non-core countries, data is sourced from reliable third-party databases (Enerdata).
- **Market-based model:** The volume of energy consumed associated with renewable attributes (with certificates of origin in Europe) is considered zero-emission, while a residual emission factor is applied to the remaining energy. This residual factor excludes the energy input into the electricity system associated with renewable attributes. In particular, in the case of Spain, the residual mix factor used is that published by The National Commission for Markets and Competition (CNMC In Spanish), while in the case of Italy the thermoelectric emissions factor published by ISPRA has been used as the residual mix factor was not available from this or any other competent authority at the time this report's publication. Furthermore, in countries where there are no local government-managed renewable energy certification schemes, location-based factors are used.

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GHG emissions associated with technical network losses

It includes GHG emissions from grids losses as consequence of the Joule effect and the use of meters, while it does not include auxiliary services or consumption for own use (already considered in scope 2 emissions from electricity consumption).

GHG emissions are calculated based on the amount of energy fed into the grid that exceeds the energy produced by the Group in each country. This approach avoids potential double counting of GHG emissions already included in Scope 1. Finally, the corresponding grid loss rate and the country's emission factor are applied (following the same criteria as described above for location-based and market-based models).

Scope 3

Category 1. Products and Services

It includes GHG emissions from the supply chain related to works and services. These are calculated based on the amount ordered (€) for each commodity group and its corresponding specific emission factor.

For works, specific emission factors are calculated using data from sustainable construction sites for wind and solar projects, as well as from operation and maintenance activities of networks.

For services, average emission factors from international databases are considered, based on the corresponding economic sector.

Category 2. Capital Goods

It includes GHG emissions (GHG) from the supply chain related to the production of supplies. These are calculated based on the amount ordered (€) for each commodity group and its corresponding specific emission factor.

For major supplies, emission factors are used from data provided by suppliers via their environmental product declarations (EPD) or ISO CFP 14067 certifications, or from international databases based on the LCA (Life Cycle Assessment) methodology.

For other supplies, emission factors are estimated based on average sector emissions.

Category 3. Fuels and energy-related activities not included in Scope 1 and 2

Indirect GHG emissions (GHG) related to:

- Coal logistics: Considers fugitive CH₄ emissions from mining activities related to the amount of coal consumed at the Group's coal plants, based on standard factors and assumptions. Also, indirect emissions from the maritime transport of coal are considered, calculated based on the estimated fuel consumption of third-party ships.
- Fuel-oil and gas logistics: Covers the entire value chain from extraction to delivery, using secondary data for each specific phase and including CO₂, CH₄ (from both combustion and leaks), and N₂O emissions. The calculation includes indirect emissions from both the volume of fuel-oil and gas consumed at thermoelectric plants and natural gas sold on the retail market to end customers.
- Biomass logistics: Calculated based on the volume transported by road, using secondary data, standard factors, and assumptions.
- Electricity purchase for resale: Energy purchased from other producers and resold to end customers is calculated by assuming the Group's integrated position at the national level, estimating the amount of energy as the difference between energy sales (including also from distribution system operators in regulated markets) and own production, applying the same national emission factors used for Scope 2 (location-based).



Category 4. Upstream transportation and distribution

Indirect GHG emissions (GHG) from fuel consumption for the road transportation of other fuels (not included in category 3), raw materials, and waste, as well as from third-party maritime transport of ash and other by-products from coal, are calculated based on the volume transported by road, using secondary data, standard factors, and assumptions.

Category 6. Business Travel

Emissions from business travel are calculated using the distance-based methodology, considering the mode of transport (air and train) and hotel accommodations, applying DEFRA emission factors for each type.

Category 7. Employee Commuting

Emissions from employee commuting are calculated based on available information from employees and/or surveys regarding the means of transport used to commute to and from work each day. In countries where no data is available, standard values are applied based on results from other Group countries.

Emission factors for each mode of transport are applied using local sources when available or international databases such as DEFRA.

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Category 11. Use of sold products

Indirect GHG emissions (GHG) from the use of natural gas sold to end customers in the retail gas market are calculated based on the amount of energy sold, applying the corresponding emission factors from the IPCC.

The following Scope 3 categories of the GHG Protocol are currently excluded from Enel's GHG emissions inventory:

- **Category 5 (Waste from Operations):** Enel is currently developing the calculation methodology and data collection process; therefore, it may be reported in the future if relevant.
- **Category 8 (Upstream Leased Assets):** GHG emissions related to buildings and offices are already accounted for in Scope 1 and Scope 2 calculations.
- **Category 9 (Downstream Transportation and Distribution):** Not applicable, considering the types of products and services sold by the company.
- **Category 10 (Processing of Sold Products):** Not applicable, considering the types of products and services sold by the company.
- **Category 12 (End-of-Life Treatment of Sold Products):** These emissions could be considered as part of Category 5.
- **Category 15 (Investments):** Currently considered not relevant.

Uncertainty Assessment

Scope 1

94.8% of Scope 1 emissions relate to the combustion of fossil fuels for electricity generation in thermoelectric power plants (including, oil, gas and CCGT), while 84.1% are regulated by Emission Trading Systems or similar, so that the uncertainty is assured by local regulation certification schemes.

The greenhouse gas emissions (measured in CO_{2eq}) for the generation of CH₄ and N₂O are calculated based on the fuels consumption uploaded in the Group's da-

tabase on annual base and subject to internal control mechanisms. The fuel volumes used in power plants are subject to metrological checks also for billing purposes.

For other greenhouse gas emissions values, related to fugitive emissions, data is collected and calculated using official sources, including the IPCC emission factors (Sixth Assessment Report (AR6 - 100 year) and GWP of the GHG Protocol.

Scope 2

Scope 2 emissions calculation from technical network losses relies on operational data, naming the volume of energy injected in the network and the percentage of technical network losses, whose calculation is governed by internal procedures compliant with local regulation and with recognized standards. Enel considers most updated operating data available at the time of elaboration of the GHG inventory report, which might be slightly different from with respect to final data certified by national authorities, even though with

a negligible impact on GHG emissions and hence with minimum degree of uncertainty.

Country energy mix factors are extracted from official sources for Group's core countries (Italy, Spain, Chile, Colombia, Brazil, Argentina and United States), while from reliable third data providers for non-core countries. The selection of these emission factors is intended to minimise uncertainty as much as possible.

Scope 3

With reference to Scope 3 – Category 1 (Products and services), it is possible to qualitatively assess a low level of uncertainty for the calculation of the emissions of the strategic categories, based on the average of the data obtained directly from suppliers through EPD (Environmental Product Declaration) or ISO CFP 14067 certifications; an average level of uncertainty can be assessed for the categories estimated through international databases based on LCA methodologies and a medium / high level of uncertainty can be reported for the tail categories be estimated using the average

emission factors of the economic sector to which they belong.

Concerning Scope 3 – Category 3 (Fuel and energy related activities not included in scope 1 or 2) Scope 3 – Category 4 and Scope 3 – Category 11 GHG emissions are calculated based on operational data collected through certified financial and non-financial accounting systems, implementing carbon factors derived from IPCC, National Authorities, reliable third party data providers or even existing contracts.



CHAPTER 3

2024 GHG Emissions

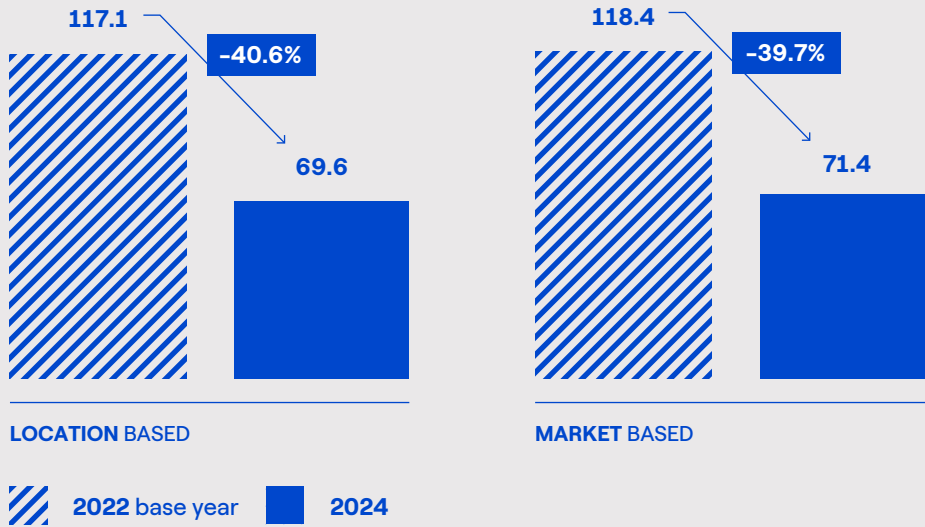
INVENTORY





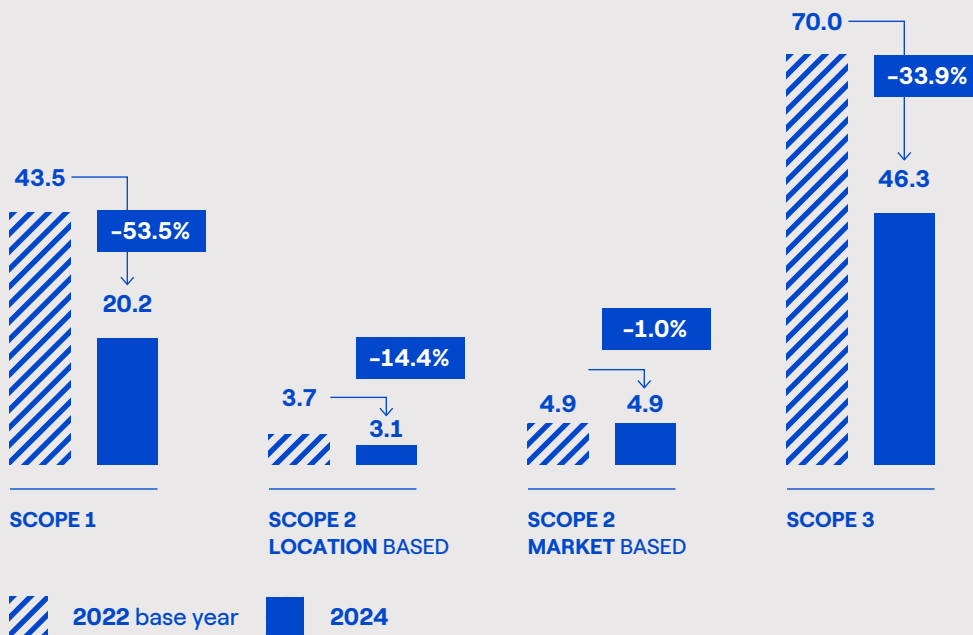
3. 2024 GHG Emissions Inventory

Total Absolute GHG emissions (MtCO_{2eq})



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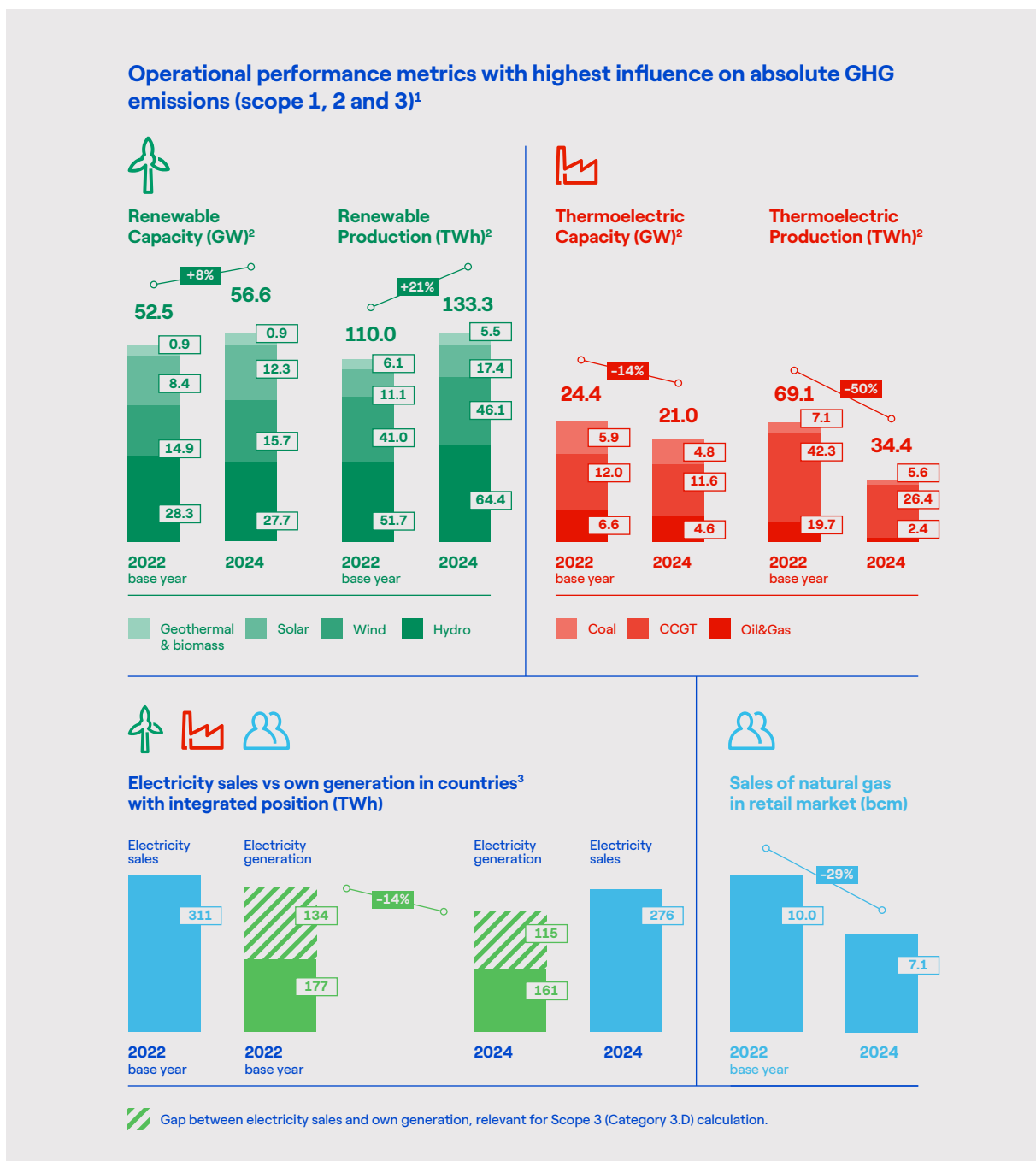
Absolute GHG emissions by Scope (MtCO_{2eq})



In 2024, direct and indirect absolute emissions (including scope 1, 2 and 3) amounted to **69,599,563 tCO_{2eq}**, reaching the lowest rate ever. Total emissions were reduced by 40.6% with respect to 2022 restated baseline.

This is mainly due to an overall improvement in main operational performance metrics, which contributed to reduce direct and indirect emissions across the entire value chain, including, among others: renewables capacity and production, thermoelectric capacity and




production, the gap between electricity sales in the retail market and own production in specific countries; natural gas sales in retail market; the digitalization and automation of the power grids also contribute by reducing network losses and enabling the development of renewables, playing a key role in the Group's decarbonization performance, while also in the decarbonization of the energy systems in which the group operates.



1) 2022 base year exclude data from assets disposed in 2023 as described in section "baseline year and recalculation".
 2) Consolidated capacity and production. In addition, Enel produced 24.2 TWh from nuclear in 2024 (with respect to 26.5 TWh in 2022), with an installed capacity of 3.3 GW.
 3) Italy, Spain, Brazil, Chile, Colombia, Argentina and Peru (until its disposal in 2024).



Scope 1 Emissions

Activity	GHG Source description	TOTAL (TCO _{2eq})			2024 - Fuel combustion (TCO _{2eq})			2024 - Fugitive emissions (TCO _{2eq})				
		2024	2022 Baseline (Restated)	%	CO ₂	CH ₄	N ₂ O	SF ₆	HFCs	NF ₃	CH ₄ non bio	CH ₄ bio
 Power Generation	Thermoelectric generation activities, including gas and coal fired power plants, while also non CO ₂ emissions from biomass	19,156,301	42,552,748	-55.0%	19,113,098	12,537	30,666	-	-	-	-	-
	Auxiliary engines in nuclear and renewable plants.	16,032	19,077	-16.0%	15,987	15	30	-	-	-	-	-
	Transportation of fuels (LNG and coal) on vessels under own operational control	84,041	148,917	-43.6%	83,043	7	990	-	-	-	-	-
	Transportation of byproducts (ashes and gravel) on vessels under own operational control	-	-	-	-	-	-	-	-	-	-	-
	Fugitive CH ₄ emissions in gas fired power plants	8,338	4,141	101.3%	-	-	-	-	-	-	8,338	-
	Fugitive SF ₆ emissions in insulating systems for power generation	40,221	37,743	6.6%	-	-	-	40,221	-	-	-	-
	Fugitive HFCs emissions in thermoelectric and hydropower plants, and PV manufacturing sites	3,886	4,392	-11.5%	-	-	-	-	3,886	-	-	-
	Fugitive NF ₃ emissions in photovoltaic panels manufacturing	-	4	-100.0%	-	-	-	-	-	-	-	-
Fugitive biogenic CH ₄ emissions in hydroelectric basins	338,771	323,598	4.7%	-	-	-	-	-	-	-	338,771	
 Power Distribution	Auxiliary engines in power distribution activities.	335,584	222,931	50.5%	334,456	382	747	-	-	-	-	-
	Fugitive SF ₆ emissions in insulating systems for power distribution	107,372	104,785	2.5%	-	-	-	107,372	-	-	-	-
 Real Estate Management	Heating systems and canteens in offices (diesel and natural gas), including all properties in all Business Lines and Group offices.	33,706	6,011	460.7%	33,673	17	17	-	-	-	-	-
	Company vehicles fleet (diesel and gasoline)	85,014	68,472	24.2%	83,064	334	1,616	-	-	-	-	-
	Fugitive HFCs emissions in buildings	44	730	-94.0%	-	-	-	-	44	-	-	-
TOTAL		20,209,310	43,493,551	-53.5%	19,663,320	13,292	34,066	147,593	3,930	0	8,338	338,771

In 2024, **Scope 1** GHG emissions amounted to **20,209,310 tCO_{2eq}**, representing 29.0% of total GHG emissions and entailing a 53.5% reduction with respect to 2022 restated baseline.

The share of Scope 1 GHG emissions (including CO₂, CH₄ and N₂O) related to fuel combustion process for power generation accounted for 94.8% of the total value of Scope 1. These emissions, which amounted

19,156,301 tCO_{2eq} were reduced by 55.0% compared to 2022 restated baseline as consequence of a remarkable reduction in thermoelectric production with respect to 2022, along with the increase in renewable production that contributed to displace energy production from fossil fuels.

The percentage of emissions subject to local regulatory schemes were of 84%, with the following breakdown:




- 73% of total Scope 1 emissions related to power

plants under the EU-ETS program in Italy and Spain.

- 11% of total Scope 1 emissions related to power plants under the green tax system in Chile (Sistema de Impuestos Verdes).

Other Scope 1 GHG emissions (including those from auxiliary services in power plants and distribution sites, fugitive emissions, vehicles fleet, buildings and fuel transportation in own vessels) amounted to 1,053,009 tCO_{2eq} combined, representing 5.2% of total Scope 1 emissions.

Scope 2 Emissions

Activity	GHG Source description	LOCATION BASED			MARKET BASED		
		TOTAL (TCO _{2eq})			TOTAL (TCO _{2eq})		
		2024	2022 Baseline (Restated)	%	2024	2022 Baseline (Restated)	%
 Power Generation and others	Electricity consumption from the grid in power plants, including hydro pumped-storage plants	386,787	635,237	-39.1%	634,762	846,206	-25.0%
	Electricity consumption from the grid in terminal ports in Spain, PV manufacturing site in Italy (3SUN) and non-operating mine site in Italy (Santa Barbara)	12,468	3,975	213.7%	1,939	1,630	18.9%
 Power Distribution	Electricity consumption from auxiliary services in grids	87,507	105,717	-17.2%	142,956	149,254	-4.2%
	Technical network losses	2,622,347	2,882,695	-9.0%	4,111,451	3,927,496	4.7%
 Real Estate Management	Electricity consumption in buildings and offices	22,054	30,909	-28.6%	7,169	22,027	-67.5%
Subtotal from electricity consumption		508,816	775,837	-34.4%	786,825	1,019,117	-22.8%
Subtotal from technical network losses		2,622,347	2,882,695	-9.0%	4,111,451	3,927,496	4.7%
Total Scope 2		3,131,164	3,658,532	-14.4%	4,898,276	4,946,613	-1.0%

In 2024, **Scope 2** GHG emissions amounted to **3,131,164 tCO_{2e}** according to the location-based approach, representing 4.5% of total GHG emissions, while 14.4% lower than 2022 restated baseline. Instead, they amounted to 4,898,276 tCO_{2e} considering the market-based model.

The two sources related to Scope 2 emissions experienced a decreased with respect to 2022 restated baseline. In particular:

rienced a decreased with respect to 2022 restated baseline. In particular:

- **Scope 2 emissions from electricity consumed by the Group** decreased by 34.4% as consequence of the 13% reduction of electricity consumption and the improvement in the local emission factors in some countries where the Group operates, and the








amounting to 508,816 tCO_{2eq}.

- **Scope 2 emissions from technical networks losses** decreased by 9.0%, as consequence of the technical losses' reduction in most countries with power dis-

tribution activities, while also supported by the improvement of some local emission factors, amounting 2,622,347 tCO_{2eq}.

Scope 3 Emissions

Activity	GHG Source description	TOTAL (tCO _{2eq})		
		2024	2022 Baseline (Restated)	%
Upstream Scope 3 emissions				
 All	Category 1 - Purchase of goods and Services	4,344,969	6,396,561	-32.1%
	Category 2 - Capital Goods	3,830,188	8,014,555	-52.2%
 Power Generation	Category 3 - Fuels and energy-related activities not included in Scope 1 and 2:			
	• Category 3A - Upstream emissions of purchased coal	209,936	1,882,384	-88.8%
	• Category 3A - Upstream emissions of purchased natural gas	4,584,523	7,065,275	-35.1%
	• Category 3A - Upstream emissions of purchased fuel oil	927,437	771,997	20.1%
	• Category 3A - Upstream emissions of purchased biomass	2,136	2,554	-16.4%
 Market	• Category 3D - Third parties' generation of purchased electricity that is sold to end customers	18,010,637	25,617,368	-29.7%
 All	Category 4 - Upstream transportation and distribution	7,518	9,824	-23.5%
	Category 6 Business Travel	21,243	29,894	-28.9%
	Category 7 Commuting	36,399	24,422	49.0%
Downstream Scope 3 emissions				
 Market	Category 11 - Use of sold products: Use of natural gas sold to end customers in retail market	14,284,105	20,162,109	-29.2%
	TOTAL	46,259,089	69,976,944	-33.9%

In 2024, **Scope 3** GHG emissions amounted to **46,259,089 tCO_{2eq}**, representing 66.5% of total GHG emissions, and were decreased by 33.9% compared to 2022 restated baseline.

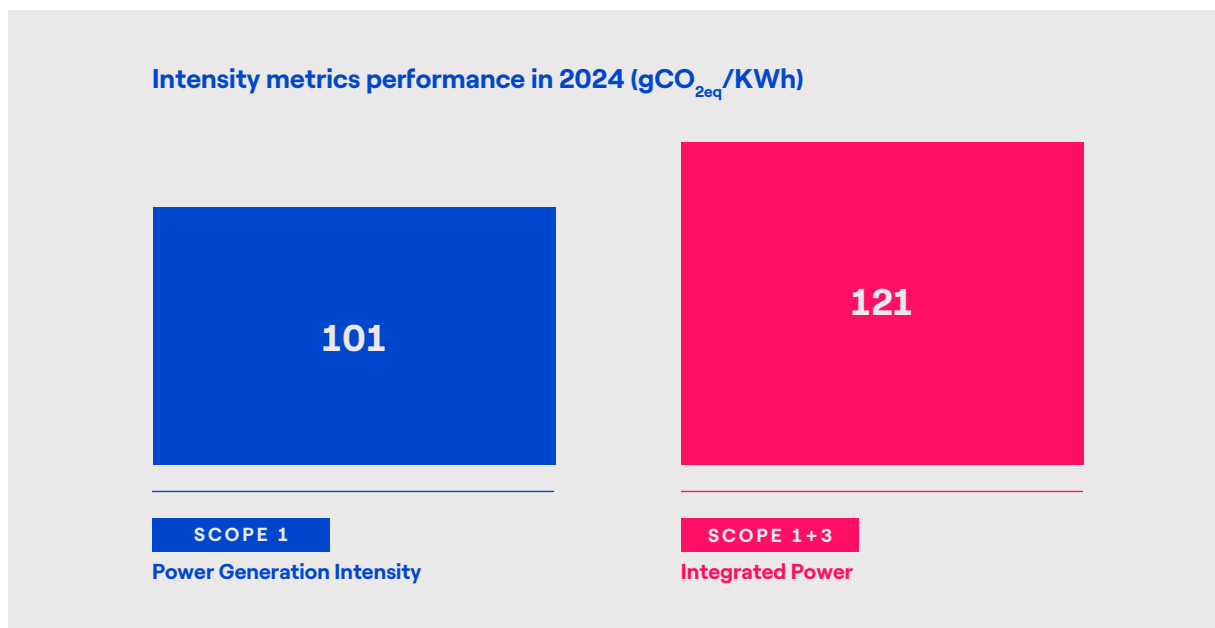
Almost all scope 3 categories considered in 2024 GHG inventory decreased compared to 2022 baseline, namely:

- Indirect GHG emissions from the **supply chain** amounted to 4,344,969 tCO_{2eq} from works and services (considered in category 1), while 3,830,188 tCO_{2eq} from supplies (considered in category 2). These emissions were reduced by 32.1% and 52.2% respectively compared to 2022 restated baseline, due to a reduction in the absolute amount of order expenses and the purchase of materials with a lower carbon footprint.

- Indirect GHG emissions from **upstream coal** (Category 3.A), equal to 209,936 tCO_{2eq} in 2024, experienced a decrease of 88.8%, as consequence of the 88% reduction in the production of coal-fired power plants (from 19.7 TWh 2022 to 2.4 TWh in 2024)
- Indirect GHG emissions from **upstream gas** (category 3.A), including extraction and transportation of natural gas consumed in gas-fired power plants and natural gas sold in retail market, amounted to 4,584,523 tCO_{2eq}, which entails a decrease of 35.1% from 2022 restated baseline, influenced by a 35% reduction in gas-fired production (both CCGT and oil&gas), as well as the 29% reduction in gas retail sales.
- Indirect GHG emissions from **upstream fuel oil** (category 3.A), including production and transportation, amounted to 927,437 tCO_{2eq} and they were increased by 20.1% from 2022 restated baseline.

- Indirect GHG emissions from **upstream biomass** (category 3.A), amounted to 2,136 tCO_{2eq} were reduced by 23.5% from 2002 restated baseline.
- Indirect GHG emissions from **third parties' generation of purchased electricity that is sold to end customers** (category 3.D), amounted to 18,010,637 tCO_{2eq}. They decreased by 29.7% from 2022 restated baseline due to, firstly, an overall reduction of 14% in the gap between energy sales to end customers (including also from distribution system operators in regulated markets) and own production in the countries in which the Group has an integrated position (Italy, Spain, Brazil, Chile, Colombia, Argentina and Peru until its disposal date), and secondly, the improvement of local emission factors in some of these countries.
- Indirect GHG emissions related to the **fuel consumed from road transportation of other fuels not included in category 3, raw materials and waste** (category 4) amounted to 7,518 tCO_{2eq}, 23.5% lower than 2022.
- Emissions from **business travel** (category 6) amounted to 21,243 tCO_{2eq}. These emissions were reduced by 28.9% due to a decrease in the number of trips taken leading to a reduction in both the travel distances and hotel nights considered for the calculation.
- Emissions from **employee commuting** (category 7) amounted to 36,399 tCO_{2eq}. They were increased by 49.0% due to an increase in the frequency of employees commuting to the office.
- Indirect **GHG emissions from sold products** (category 11), related to the use of natural gas sold to end customers in retail market, amounted to 14,284,105 tCO_{2eq}. They were decreased by 29.2% from 2022 due to the same reduction in gas volumes sent to end customers (from 10.0 bcm in 2022 to 7.1 bcm in 2024).

Intensity metrics



The main indicators related to Group's specific emissions, which constitute the two GHG intensity reduction targets validated by SBTi, experienced the following performance:

- The ratio between total Group Scope 1 GHG emissions (including CO₂, CH₄ and N₂O) from power generation and the Group's total production (excluding hydro-pump storage), amounted to **101 gCO_{2eq}/kWh** in 2024.
- The ratio between the combination of Group Scope 1 GHG emissions (including CO₂, CH₄ and N₂O) (measured in gCO_{2eq}) along with Group Scope 3 greenhouse gas emissions from the generation of purchased electricity that is sold to end customers (measured in gCO_{2eq}), and the amount of electricity production (measured in kWh) (excluding hydro-pumping) along with purchased electricity (measured in kWh), amounted to **121 gCO_{2eq}/kWh**.



An aerial photograph of a winding asphalt road cutting through a dense, lush green forest. The road curves from the left towards the right. A white car is visible on the right side of the road. The trees are thick and vibrant green, creating a textured canopy. The overall scene is serene and natural.

ANNEXES



Annexes

2024 GHG inventory statement

The GHG inventory statements for 2024 were audited by DNV, with a reasonable level of certainty for Scope 1 and scope 2 emissions and with a limited level of certainty for Scope 3 emissions. The audit was conducted according to Standard ISO 14064-3 for the

compliance of Greenhouse Gas (GHG) Inventories with the WBCSD/WRI Corporate accounting and Reporting Standard (GHG Protocol). The total emissions subject to verification are shown below:

GHGs (tons CO ₂ -eq)	2024						
	TOTAL	CO ₂	CH ₄	N ₂ O	SF ₆	HFCs	NF ₃
DIRECT EMISSIONS (SCOPE1)	20,209,310	19,663,320	360,401	34,066	147,593	3,930	0
From Electricity Power Generation (fossil combustion to produce electricity)	19,156,301	19,113,098	12,537	30,666			
Other ² Scope 1 emissions	1,053,009	550,222	347,865	3,400	147,593	3,930	0
ENERGY INDIRECT EMISSIONS (SCOPE2)							
Location based	3,131,164						
From electricity purchased and consumed from the grid	508,816						
From technical losses on the distribution grid	2,622,347						
Market based	4,898,276						
From electricity purchased and consumed from the grid	786,825						
From technical losses on the distribution grid	4,111,451						
OTHER INDIRECT EMISSIONS (SCOPE3)	46,259,089						
Cat.1 Purchased goods and services	4,344,969						
Cat.2 Capital Goods	3,830,188						
Cat.3 Fuel and Energy related activities	23,734,668						
Cat.4 Upstream transportation and distribution	7,518						
Cat.6 Business travel	21,243						
Cat.7 Commuting	36,399						
Cat.11 natural gas sold in the retail market	14,284,105						
TOTAL EMISSIONS (Location Based)	69,599,563						
TOTAL EMISSIONS (Market Based)	71,366,675						
CO₂ emissions from Biomass (not included in Scope 1)	72,411						

30

² It includes:

- fuel combustion emissions from: auxiliary engines in nuclear and renewable plants and in distribution sites; transportation of fuels and sub-products on vessels under own operational control; heating systems and canteens in offices; company vehicles;
- fugitive emissions from: photovoltaic panels manufacturing (NF₃), methane leakages in gas fired power plants (CH₄), HFC leakages in thermoelectric and hydropower plants, offices and PV manufacturing site; SF₆ leakages in insulating systems for power generation and distribution; biogenic CH₄ emissions in hydroelectric basins.

2022 GHG inventory statement – Restated

GHGs (tons CO ₂ -eq)	2022						
	TOTAL	CO ₂	CH ₄	N ₂ O	SF ₆	HFCs	NF ₃
DIRECT EMISSIONS (SCOPE1)	43,493,551	42,843,475	380,108	122,313	142,528	5,122	4
From Electricity Power Generation (fossil combustion to produce electricity)	42,552,748	42,380,228	51,882	120,638			
Other ³ Scope 1 emissions	940,803	463,247	328,227	1,675	142,528	5,122	4
ENERGY INDIRECT EMISSIONS (SCOPE2)							
Location based	3,658,532						
From electricity purchased and consumed from the grid	775,837						
From technical losses on the distribution grid	2,882,695						
Market based	4,946,613						
From electricity purchased and consumed from the grid	1,019,117						
From technical losses on the distribution grid	3,927,496						
OTHER INDIRECT EMISSIONS (SCOPE3)	69,976,944						
Cat.1 Purchased goods and services	6,396,561						
Cat.2 Capital Goods	8,014,555						
Cat.3 Fuel and Energy related activities	35,339,578						
Cat.4 Upstream transportation and distribution	9,824						
Cat.6 Business travel	29,894						
Cat.7 Commuting	24,422						
Cat.11 natural gas sold in the retail market	20,162,109						
TOTAL EMISSIONS (Location Based)	117,129,028						
TOTAL EMISSIONS (Market Based)	118,417,108						
CO₂ emissions from Biomass (not included in Scope 1)	114,838						

3 It includes:

- fuel combustion emissions from: auxiliary engines in nuclear and renewable plants and in distribution sites; transportation of fuels and sub-products on vessels under own operational control; heating systems and canteens in offices; company vehicles
- fugitive emissions from: photovoltaic panels manufacturing (NF₃), methane leakages in gas fired power plants (CH₄), HFC leakages in thermoelectric and hydropower plants, offices and PV manufacturing site; SF₆ leakages in insulating systems for power generation and distribution; biogenic CH₄ emissions in hydroelectric basins.



DNV Verification Statement



STATEMENT

DNV Business Assurance (DNV) has been commissioned by the management of ENEL SpA to carry out an independent verification of:

- its Greenhouse Gas (GHG) emissions Inventory relative to the 2024 Calendar Year
- the recalculation of its GHG Baseline Year (2022 Calendar Year)
- the “Scope 1 GHG emissions intensity related to Power Generation” & “Scope 1 and 3 GHG emissions intensity related to Integrated Power” metrics for 2024 Calendar Year

ENEL SpA has sole responsibility for preparation of the data and external report. DNV, in performing our assurance work, is responsible to the management of ENEL SpA. Our assurance statement, however, represents our independent opinion and is intended to inform all stakeholders including ENEL SpA.

Verified GHG Emissions (tCO₂-eq)

<u>Greenhouse Gas Emissions Scopes</u>	<u>2024</u>	<u>2022</u>
Direct (Scope 1) GHG Emissions (*)	20 209 310	43 493 551
Energy Indirect (Scope 2) GHG Emission (Location Based)	3 131 164	3 658 532
Energy Indirect (Scope 2) GHG Emission (Market Based)	4 898 276	4 946 613
Other Indirect (Scope 3) GHG Emissions	46 259 089	69 976 944
CO ₂ biogenic from biomass combustion (**)	72 411	114 838

(*) it includes CH₄ and N₂O biogenic emissions

(**) direct CO₂ biogenic emissions are reported separately as per §4 of The GHG Protocol

Verified GHG Intensity Metrics (gCO₂-eq/Kwh)

<u>Metrics (***)</u>	<u>2024</u>
Scope 1 GHG emissions intensity related to Power Generation	101
Scope 1 and 3 GHG emissions intensity related to Integrated Power	121

(***) Metrics definitions can be found in the annex of this statement.

Assurance Opinion

Based on the verification process conducted by DNV as explained in the annex of this statement:

- We provide a reasonable assurance of Scope 1, Scope 2 GHG emissions as DNV found them to be
 - materially correct;
 - a fair representation of GHG emissions information; and
 - in accordance with the Verification Criteria
- We provide a limited assurance of the Scope 3 GHG Emissions as DNV found no evidence showing them to be
 - not materially correct;
 - not a fair representation of GHG emissions information; and
 - not in accordance with the Verification Criteria

DNV Business Assurance USA, Inc.

1 April 2025

Lead Verifier
Francisco Zamarron

Technical Reviewer
Piergiorgio Moretti

Bachamanda,
Shruthi
Poonacha
Digitally signed
by Bachamanda,
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Approver
Shruthi Bachamanda



DNV Business Assurance USA, Inc., 1400 Ravello Dr., Katy, TX 77449



STATEMENT ANNEX

Verification Objective

To assess conformance with applicable verification criteria, including the principles and requirements of relevant standards or GHG programmes within the scope of the verification; of: 1) the organization's GHG emissions inventory as reported in the external GHG Inventory Report, "2024 GHG Inventory - Quantification and Reporting of greenhouse gas emissions in accordance with the Corporate GHG Protocol" rev. 31 March 2025; 2) any significant changes in the organization's GHG inventory since the last reporting period; and 3) the organization's GHG-related controls.

Verification Scope

- The organizational boundaries defined by the legal entities of the ENEL group described in this Annex.
- Direct (Scope 1) GHG emissions from the following sources: combustion of fuels in stationary and mobile sources, HFCs leaks from cooling systems, SF₆ leaks from generation and distribution systems, CH₄ fugitive from hydro-basins and NF₃ leaks from solar panel production and other process emissions.
- Indirect (Scope 2) GHG emissions from the following sources: electricity consumption and technical network losses from distribution.
- Other indirect (Scope 3) GHG emissions from activities of the following GHG Protocol Categories:
 - Cat. 1 – Purchased good and services from the supply chain.
 - Cat. 2 – Purchased capital goods from the supply chain.
 - Cat. 3 – Fuel and energy related activities: coal, fuel-oil and natural gas extraction and fuel transport and purchase of electricity to third party producers to be sold in the retail market.
 - Cat. 4 - Transportation of raw materials and waste.
 - Cat. 6 – Business Travel.
 - Cat. 7 – Employee Commuting.
 - Cat. 11 – use of natural gas sold in the retail market.
- The following greenhouse gases: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulphur hexafluoride (SF₆), nitrogen trifluoride (NF₃), hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs).
- The following carbon intensity metrics:
 - "Scope 1 GHG emissions intensity related to Power Generation"- Ratio between the Group Scope 1 GHG emissions (including CO₂, CH₄ and N₂O) from thermal electricity production, expressed in grams of CO_{2eq}, and net electricity produced sent to the grid, excluding the electricity produced by hydro-pump storage, expressed in kwh.
 - "Scope 1 and 3 GHG emissions intensity related to Integrated Power" - Ratio between the sum of the Group Scope 1 GHG emissions (including CO₂, CH₄ and N₂O) from thermal electricity production plus the Group Scope 3 GHG emissions from production of purchased electricity sold to end customers, expressed in grams of CO_{2eq}, and the sum of the net electricity produced sent to the grid - excluding the electricity produced by hydro-pump storage – and the purchased electricity, expressed in kwh



- ENEL GHG Inventory for the Reporting Period from 1 January 2024 to 31 December 2024 and the recalculation of the GHG Baseline Year (from 1 January 2022 to 31 December 2022) quantified according to the financial and operational control consolidation approach

Verification Level of Assurance

The verification was conducted by DNV, to a reasonable level of assurance for all Scope 1 and Scope 2 GHG emissions and a limited level of assurance for Scope 3 GHG emissions

Materiality Level

Errors / omissions which represent, single or aggregated, the 5% of total emissions are considered material.

Verification Criteria

“The Greenhouse Gas Protocol” and its amendment “GHG Protocol Scope 2 Guidance” issued by the World Business Council for Sustainable Development (WBCSD) and the Word Resources Institute (WRI)

Verification Protocols

“ISO 14064-3: 2019: Greenhouse gases - Part 3: Specification with guidance for the verification and validation of greenhouse gas statements”

List of ENEL Legal Entities within the GHG Inventory Boundaries

Enel Argentina SA	Endesa
Edesur	Endesa Generación
Enel Brasil S.A	Endesa Red
Enel Green Power Brasil participacoes Ltda	Enel Green Power India Privated Limited
Enel Green Power Cachoeira Dourada	Enel Italia SpA
Enel Green Power Volta Grande	Enel Produzione IT
Enel Cien	Enel Green Power Italia SRL
Enel Distribución Ceará	Enel Green Power SpA
Enel Distribución Río	e-distribuzione
Enel Distribución Sao Paulo	Enel Green Power Mexico S de RL de CV
Enel Chile SA	Enel Green Power Panama
Enel Generación Chile	Enel Peru SA
Enel Green Power Chile Ltda	Enel Generación Perú
Enel Distribución Chile	Enel Generación Piura
Enel Colombia SA	Enel Distribución Perú
Enel Green Power Costa Rica	Enel Green Power RSA (Pty)
Enel Green Power Guatemala	Enel North America INC
	Enel X



Independence

DNV was not involved in the preparation of any part of ENEL’s data or report. We adopt a balanced approach towards all stakeholders when performing our evaluation.

DNV Business Assurance USA, Inc.

1 April 2025

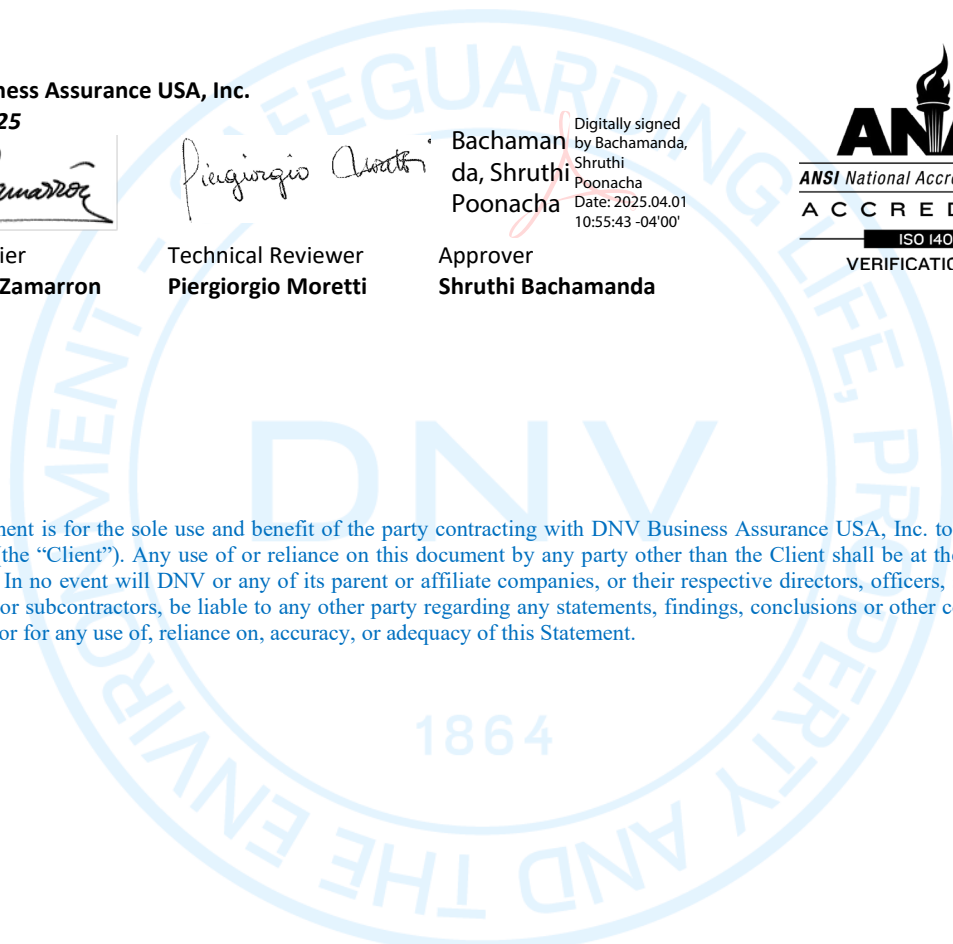
Lead Verifier
Francisco Zamarron

Technical Reviewer
Piergiorgio Moretti

Bachamanda, Shruthi Poonacha

Digitally signed by Bachamanda, Shruthi Poonacha Date: 2025.04.01 10:55:43 -04'00'

Approver
Shruthi Bachamanda



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List of Companies within the scope of the inventory

Note: Group companies with thermoelectric, nuclear and renewable energy production plants, photovoltaic panels production, and offices in the countries of op-

erational presence relating to energy production and distribution activities fall within the perimeter.

Company
Enel Argentina SA
Edesur
Enel Brasil S.A
Enel Green Power Brasil participacoes Ltda
Enel Green Power Cachoeira Dourada
Enel Green Power Volta Grande
Enel Cien
Enel Distribución Ceará
Enel Distribución Río
Enel Distribución Sao Paulo
Enel Chile SA
Enel Generación Chile
Enel Green Power Chile Ltda
Enel Distribución Chile
Enel Colombia SA
Enel Green Power Costa Rica
Enel Green Power Guatemala
Endesa
Endesa Generación
Endesa Red
Enel Green Power India Privated Limited
Enel Italia SpA
Enel Produzione IT
Enel Green Power Italia SRL
Enel Green Power SpA
e-distribuzione
Enel Green Power Mexico S de RL de CV
Enel Green Power Panama
Enel Peru SA
Enel Generación Perú
Enel Generación Piura
Enel Distribución Perú
Enel Green Power RSA (Pty)
Enel North America INC
Enel X

