

**OPEN
POWER
FOR A
BRIGHTER
FUTURE.**

WE EMPOWER
SUSTAINABLE
PROGRESS.



Our performance 2022
Clean electrification

enel





Our performance

Ambition of zero emissions and clean electrification

lies at the heart of the strategy we are implementing in a sustainable and innovative way, to favor a **just transition**.

People are the mainstays of sustainable progress,

not only ours, but also customers, suppliers, communities, institutions, the financial community, the media, companies and trade associations.

Innovation, circular economy, digitalization and sustainable finance

are the growth accelerators, and embrace and enhance all strategic themes across the board.

Protection of nature and respect for human rights

form our daily commitment to the current and future generations.

Clean electrification

Material topics (I level)



- Products and services for electrification and digitalization
- Customer centricity
- Infrastructure and Networks

Plan



SDG



Below the 2022 results related to the targets of the previous 2022–2024 Sustainability Plan, the resulting progress and the targets of the 2023–2025 Sustainability Plan, which may be redefined, added to, or surpassed with respect to the previous Plan.

SDG	Activities	2022 results	Progress	2023–2025 targets	Tag
7 13	Development of additional renewable capacity and reduction of thermal capacity ⁽¹⁾	5.2 GW of built renewable capacity ⁽²⁾ 63.3% of installed renewable capacity ⁽⁴⁾ -6.0 GW of thermal capacity ⁽¹⁾	● ● ●	21 GW additional renewable capacity in 2023–2025 ⁽³⁾ -13% of conventional capacity in the period 2023–2025	I E
7 13	Energy production from renewable sources ⁽⁵⁾	49.4%	● ● ●	70% in 2025	I E S T
4 6 7 8 12 13 14 15	Sustainable construction site	Promoting the adoption of the sustainable construction site model (no. sustainable construction sites/total construction sites) 100% renewable construction sites ⁽⁶⁾ 100% hydroelectric, geothermal and thermal sites <i>Target outdated as it is considered achieved</i>	● ● ●		I E S T
		Monitoring the efficacy of the adoption of sustainable practices (no. practices adopted/no. practices defined in the CSV Plan) 95% renewable construction sites ⁽⁶⁾ 75% hydroelectric, geothermal and thermal sites	● ● ●	Monitoring the efficacy of the adoption of sustainable practices (no. practices adopted/no. practices defined in the CSV Plan) 95% renewable construction sites ⁽⁶⁾ in 2023 80% hydroelectric, geothermal and thermal construction sites in 2023	I E S T

(1) Includes nuclear.

(2) Includes managed capacity. The value of renewable capacity built in 2022 includes 0.4 GW of BESS.

(3) The target includes managed and BESS capacity for about 4 GW in the period 2023–2025.

(4) Consolidated perimeter. From the calculation of the percentage of renewable installed capacity for the purpose of the Sustainability-Linked Financing Framework, 531.1 MW of purchased capacity from power plants acquired by the Group was excluded in accordance with the contractual documentation of the individual instruments.

(5) Excludes generation from managed capacity, equal to 11 TWh in 2022 and 25 TWh in 2025.

(6) Except hydroelectric and geothermal.

Goals

I Industrial E Environmental S Social
G Governance T Technological



New



Redefined



Outdated

Progress



Not in line









In line



Achieved





N.A. = not applicable

SDG	Activities	2022 results	Progress	2023-2025 targets	Tag
<div> <div>4</div> <div>6</div> <div>7</div> <div>8</div> <div>12</div> <div>13</div> <div>14</div> <div>15</div> </div> Sustainable plant		N.A.	N.A.	Sustainable Plant Index -  Monitoring the efficacy of sustainable practices implementation 6% in 2023 	<div>I</div> <div>E</div> <div>S</div> <div>T</div>
		Promoting the adoption of the sustainable plant model (sustainable plants/ total eligible plants)  100% <i>Target outdated as it is considered achieved</i>			<div>I</div> <div>E</div> <div>S</div> <div>T</div>
		Improving the adoption of the sustainable plant model (practices implemented in the year/practices implemented in the previous year)  10.3% <i>Target outdated as, after an initial novelty phase of the model in which it was important to maximize its adoption to enable its internalization, the model is now known and applied and the focus is on measuring and maximizing the results of applications</i>			<div>I</div> <div>E</div> <div>S</div> <div>T</div>



Read more

The **Sustainable Plant Index** summarizes the sustainability of a plant on the basis of environmental and social factors.

SDG	Activities	2022 results	Progress	2023-2025 targets	Tag
 	SAIDI (min)	231		~150 in 2025 ⁽⁷⁾	  
 	SAIFI (no.)	2.6		2.1 in 2025	  
 	Innovation and digitalization of the distribution networks	45.8 mil end users with active smart meters		48.3 mil end users with active smart meters in 2025 	   
  	New producer connections (Italy and Spain)	212 thousand new connections		748 thousand new connections in the period 2023-2025 	 
		4.2 GW of power		25.3 GW of power in the period 2023-2025 	 
 	Rural and suburban electrification - grid extension and microgrid solutions ⁽⁸⁾ 	179 thousand connections in rural and suburban areas		499 thousand connections in rural and suburban areas in the period 2023-2025 	  
		690 thousand beneficiaries in rural and suburban areas		1.9 mil beneficiaries in rural and suburban areas in the period 2023-2025 	  
 	Cabling ratio (km of cable line/total km of line)	60.7%		60.8% in 2025 	  
 	Network losses (Italy)	4.7%		4.7% in 2025 	 
 	Network losses (Europe)	5.8%	N.A.	5.6% in 2025 	 



Read more






Rural and suburban electrification projects adopt grid extension or microgrid solutions in rural areas. Parallel to this, we work for the process of normalizing connections in large megacities in Latin America (suburban electrification), where we support the resolution of commercial losses related to irregular connections and where we work for regulated access to electricity that ensures the necessary security conditions for everyone.

(7) The 2030 target is ~100 minutes.

(8) The 2030 target is 1.8 mil connections and 7.1 mil beneficiaries. The scope includes Argentina, Brazil, Chile, Colombia, Peru and Romania.

Goals

Progress

 Industrial  Environmental  Social
 Governance  Technological



New



Redefined



Outdated



Not in line



In line



Achieved

N.A. = not applicable

Quality of customer relations and satisfaction of their needs

Quality of customer relations and satisfaction of their needs

SDG	Activities	2022 results	Progress	2023-2025 targets	Tag
9 11	Automatic payments (% payments through direct debit/ total payments)	34.7%	● ● ●	37.2% in 2025	I S T
9 11	E-billing (% bills issued and delivered paperless/total bills)	30.4%	● ● ●	40.0% in 2025	I S T
9 11	Digital clients (% customers registered via web or app/total customers)	37.0%	● ● ●	50.0% in 2025	I S T
9 11	Commercial claims (no./10k customers)	212	● ● ●	200 in 2023	I S T
9 10 11	Inclusive activities, products and services - Customer experience	Analysis of the customer experience for customers with disabilities and final qualitative assessment: <ul style="list-style-type: none"> country-level analysis (Italy) of vulnerable customer categories carried out for Doga; analysis of the Social Inclusion Boosting Program with the Disability Inclusion Community: in Colombia on architectural lighting; in Brazil on electric buses; in Italy on Homix, on Enel X Pay, on JuicePole and on JuiceBox 	● ● ●	Analysis of the customer experience for customers with disabilities and final qualitative assessment	I S
9 10 11	Inclusive activities, products and services - Products and services	10 inclusive products and services (including standard charging points for electric vehicles also prepared for people with disabilities; "Un pannello in più con Legambiente"; Confia for energy poverty in Spain; adaptation of electric buses for people with disabilities)	● ● ●	36 inclusive products and services in the period 2023-2025	I S
9 10 11	Inclusive activities, products and services - Slow shopping	111 shops and/or call centers that use slow shopping methods in Italy and Chile	● ● ●	35 shops and/or call centres that use slow shopping methods in the period 2023-2025	I S
9 10 11	Inclusive activities, products and services - Training	238 Enel people in our shops trained to welcome customers with disabilities in Romania, Peru and Colombia	● ● ●	500 Enel people in our shops trained to welcome customers with disabilities in the period 2023-2025	I S

SDG	Activities	2022 results	Progress	2023-2025 targets	Tag
7 9 13	Real-time demand response	8.5 GW	● ● ●	12.4 GW in 2025 ⁽⁹⁾	<div> <div> <div>I</div> <div>E</div> <div>S</div> <div>T</div> </div> <div> <div>+</div> </div> </div>
9 13	Storage behind the meter	75 MW	● ● ●	352 MW in 2025	<div> <div> <div>I</div> <div>E</div> <div>S</div> <div>T</div> </div> <div> <div>+</div> </div> </div>
9 11 13	Charging points ⁽¹⁰⁾	22.6 thousand public owned charging points	● ● ●	31.4 thousand public owned charging points in 2025	<div> <div> <div>I</div> <div>E</div> <div>G</div> <div>T</div> </div> <div> <div>+</div> </div> </div>
7 9 11 13	Lighting points	3.0 mil	● ● ●	3.3 mil in 2025	<div> <div> <div>I</div> <div>E</div> <div>T</div> </div> </div>
9 11 13	Electric buses	5,321 electric buses	● ● ●	Around 13 thousand in 2025	<div> <div> <div>I</div> <div>E</div> <div>T</div> </div> </div>
9 11 13	Digitalization of services for municipalities (YoUrban platform)	N.A.	N.A.	4,000 municipalities connected in 2025	<div> <div> <div>I</div> <div>E</div> <div>G</div> <div>T</div> </div> <div> <div>+</div> </div> </div>



Read more

YoUrban is a platform for monitoring and managing the urban infrastructure ecosystem, that integrates services (including geolocation, real time monitoring) and assets such as lighting points, electric vehicle charging points, and environmental sensors. Sustainable urban development models such as CO₂ City Index, Circular City Index, 15Min City Index are also available on the platform.

(9) The 2030 target is >20 GW.

(10) KPI changed from previous year, with a focus on public owned infrastructure.

I Industrial	E Environmental	S Social
G Governance	T Technological	

Goals



New



Redefined



Outdated

Progress



Not in line



In line



Achieved

N.A. = not applicable



Clean electrification

| 2-6 | EU3 | EU4 |



The energy sector underwent a profound revolution in 2022 that required a twofold acceleration: diversifying and ensuring security of supply at predictable prices, as well as continuing on the path taken in achieving an increasingly sustainable energy mix.

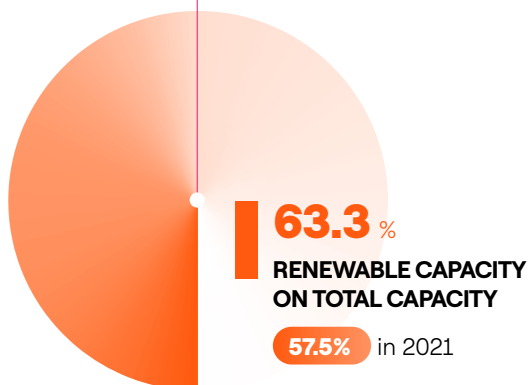
To reduce the dependence on raw materials, we are promoting greater diversification of the supply chain of key technologies for the transition, including investments to locate photovoltaic panel production in Europe, particularly with the 3SUN Gigafactory in Sicily, whose generation capacity will grow 15 times over current output, reaching 3,000 MW per year in 2024.

Electrification is the common strategic horizon toward the progressive decarbonization of the economy, which cannot disregard the efficiency and digitalization of infrastructure and, in particular, distribution networks. As a global player distributing to both rural areas and some of the largest megacities on the planet, we are committed to developing a unique integrated operating model to manage the transformation of the traditional distribution business model and the evolution of electricity grids into resilient, participatory and sustainable platforms.

Electrification is also the lever through which customers can participate first-hand in the change taking place, choosing and tapping into the benefits of sustainable solutions that are affordable, innovative, flexible and digital. The change starts

precisely with individuals and households who, with the choices they make, can help accelerate the energy transition, not only by purchasing energy generated from renewable sources rather than fossil fuels, but also by becoming “prosumers”, that is, generators of energy as well as consumers, through, for example, the new Renewable Energy Communities (RECs).

Electrification of final energy consumption is confirmed as the optimal solution to decarbonize the economy, make transportation more efficient, reduce environmental impacts and digitalize our homes and cities. It must therefore be understood as an essential tool to achieve the energy transition and shape a sustainable development model. We continue to lead the development of innovative technologies that make the use of clean electricity increasingly affordable and widespread in homes, businesses and government entities, while accelerating the digitalization of services for greater efficiency in the use of energy itself. In addition, 2022 saw the birth of the Enel X Way Business Line, fully dedicated to electric mobility and in particular the expansion of charging infrastructure for electric vehicles, with the goal of meeting the rapidly growing market, the development of advanced charging technologies and flexible solutions aimed at improving customer experience and supporting the electrification of transportation for consumers, businesses and cities.



Commitments to electrification: Enel's Energy Compact

Enel is among the companies that participated from the beginning in the United Nations High-Level Dialogue on Energy (HLDE), which led to the launch of a global roadmap to set specific goals in accelerating the energy transition and ensuring access to affordable, reliable, sustainable and modern energy systems for all by 2030.

In order to monitor the overall progress of the more than 200 Energy Compacts launched to date and counting over USD 600 billion in investments, **in 2022 the UN launched the first data collection process to monitor the progress of SDG 7 commitments**, the results of which were **published in the Annual Progress Report 2022**. Commitments to date have resulted in **USD 46 billion of investment**, providing better access to electricity and clean, sustainable cooking for **6 million and 14 million people** worldwide respectively; **88 GW of renewable energy capacity** has been installed and 2,450 GWh of electricity will be saved between 2021 and 2022 through energy efficiency.

Enel's commitment includes several objectives underpinning the electrification strategy, such as increasing renewable capacity and demand response, reducing GHG emissions in line with the 1.5 °C scenario (certified by SBTi), installing new electric vehicle charging points, and committing to achieving new connections in rural and suburban areas in the countries where the Group maintains a presence. The commitments reported in the Energy Compact are in line with the Strategic and Sustainability Plans so as to ensure transparency and traceability in the Group's path to clean electrification. The Group's commitment is complemented by:

- **the Energy Compact for the electrification of Sardinia**, which aims to phase out coal, increase generation from renewable sources, and electrify final demand;
- **Enel Chile Energy Compact**, promoted in collaboration with the Universidad del Desarrollo and the Government of the Santiago Metropolitan Region, with the goal of electrifying the entire bus fleet by 2030. In addition, efforts will be made to accelerate the replacement of wood-burning stoves in residential, commercial and government buildings with electric heating systems, from the 10,000 substitutions made by Enel to date, to over 60,000 planned by 2030.



Sardinia: the perfect island for a sustainable model

Thanks to the many renewable resources on the island, Sardinia can act as a driving force for electrification and sustainability.

Sardinia has all the characteristics to become a **green model** for the energy transition of the near future. An ambitious goal to which our Group intends to contribute, powering the entire Mediterranean island with the **abundant renewable resources** available there. Sardinia has geographical, economic and demographic characteristics that differentiate it from other Italian regions: its insularity has limited the development of **energy infrastructure**, to the extent that it has been excluded from methanization. On the other hand, natural resources such as wind, water and solar energy are present in abundance due to the advantageous location, making it possible to create plants capable of producing large amounts of energy. In line with the Enel Group's nationwide commitment, the sustainability goal can only be to reduce to zero the use of both coal and natural gas, starting with the promotion of **alternative, green solutions**. When completed, the electrification process will at the same time promote **sustainable tourism** through the spread of **environmentally friendly vehicles** by land and sea as fossil-fueled means of transportation gradually disappear. In this regard, Enel X Way has signed a memorandum of understanding with the Region of Sardinia that entails the installation of 1,200 charging points in the island's urban centers to support the energy transition.

Based on estimates of Sardinia's energy needs, it is predicted that by 2040 it will be possible to reduce the use of coal and natural gas to zero, using only renewable sources. Most of the installations will be **photovoltaic** and **wind** plants: together with the existing hydroelectric power plants and storage systems, therefore, the aim is to have an energy mix that can guarantee continuity in the availability of electricity. With the **acceleration** of enabling regulatory factors and authorization time lines, within a few years this scenario will bring concrete benefits for people's health and especially the environment, making Sardinia an **energy benchmark model** for green development, potentially replicable elsewhere. The public will also be the main players in this transaction through a model of distributed generation on the ground and also active through participation in energy communities.

Thanks to the creation of partnerships and agreements, in which the Enel Group will play an active role, the state-of-the-art facilities and innovative infrastructure will also allow for significant development of the island from an economic point of view, with the creation of new jobs and the arrival of investments.



Renewable energies

EU1 | EU2

112.4 TWh

NET RENEWABLE ELECTRICITY GENERATION

108.8 TWh in 2021 **+3.3%**

Despite the difficult geopolitical context and the energy crisis triggered by the war in Ukraine, the Group **generated** around **124 TWh⁽¹⁾** of electricity from renewable sources in 2022 (119 TWh in 2021), of which more than 50% (66 TWh) from wind and solar power. We installed and commissioned **new capacity of 5,223 MW**, up from 5,120 MW in 2021, thanks to more than 80 plants divided between solar and wind power. In addition, we reached **387 MW of battery storage**, an element of flexibility that is becoming increasingly strategic in the energy transition process we are currently experiencing. In 2022, the process of shutting down coal-fired power plants

proceeded. In September, we shut down the last coal-fired unit at the Bocamina power plant, decommissioning the entire coal-fired fleet 18 years ahead of the 2040 targets set in Chile's National Decarbonization Plan. In Spain, the Teruel thermal power plant was also dismantled with the demolition of the cooling towers. For more details, please refer to the chapters "Zero emissions ambition" and "Our commitment to a just transition: leaving no one behind" in this Report. As of the end of December 2022, **the Group's net renewable installed maximum capacity reached 53.6 GW⁽²⁾**, up by 3.5 GW from 2021, **and corresponding to 63.3% of the total net installed maximum capacity**. This achievement enabled Enel to meet the target set in all those financial instruments related to attaining a renewable installed capacity percentage in excess of or equal to 60%.⁽³⁾ For further details, please refer to the chapter "Sustainability-linked finance according to Enel" in this document.

THE SUSTAINABLE SITE AND PLANT MODEL

The Design and Site models of the sustainable plant were created to integrate sustainability into the business along the value chain (phases of Business Development, Engineering & Construction, Operation & Maintenance, Repurposing) and are based on the principles of Creating Shared Value (CSV) to forge synergies between the needs of the business and those of the region. These are constantly evolving pillars centered on best practices and procedures that aim to mitigate the impact of our plants on the local areas, increase and foster collaboration with communities and generate efficiency by promoting and applying the

principles of CSV, circular economy and innovation, based on a deep knowledge of the context in which we operate. The use of local labor for construction activities and actions taken to maximize the recycling of waste produced and reduce water consumption are examples of the application of the models. Specifically, the sustainable Design and Site pillar applies to the construction phase of a plant up to its completion, while the Sustainable plant pillar applies to the Operation & Maintenance (O&M) phase, i.e. the plant's operations and generation activities. In 2022, the sustainable Design and Site model was applied at all construction sites, and the sustainable practices under the model were adopted at 75% at the hydroelectric, geothermal and thermal sites and 95% at the remaining renewable sites.

According to studies by the IEA (International Energy Agency), the pace of growth of renewables must increase year after year. They must support the electrification of sectors such as private transport or domestic heating, which until now have been almost entirely based on fossil fuels. We have therefore set ourselves the ambitious goal of **generating 100% energy from renewable sources by 2040**.

To achieve this goal, we must also invest in the supply chain. In April 2022, Enel Green Power signed a subsidized

loan agreement with the European Union for the transformation of **3SUN into a solar panel Gigafactory** in Catania, Sicily, Italy, which will become Europe's largest factory for the production of high-performance double-sided photovoltaic modules. The Gigafactory will help raise efficiency standards in the market while improving the reliability and sustainability of the panels manufactured, and will make an important contribution to the growth and maintenance of a solar power industry in Europe.

(1) 124 TWh equals about 50% of total net production and excludes generation from managed capacity of 11 TWh in 2022.

(2) Including managed renewable capacity and BESS in 2022, 59 GW of installed capacity or 66% of total capacity was reached.

(3) From the calculation of the percentage of renewable installed capacity for the purpose of the Sustainability-Linked Financing Framework, 531.1 MW of purchased capacity from power plants acquired by the Group was excluded in accordance with the contractual documentation of the individual instruments.

3SUN Gigafactory: the future of energy takes shape in Catania

A hub of technological excellence for energy self-dependence

Our 3SUN photovoltaic module factory in Catania, established in 2010 and continuously growing, is preparing to become a true Gigafactory. By July 2024, 3SUN will see its annual generation capacity grow 15-fold, from the current 200 MW to 3 GW, becoming the largest photovoltaic panel factory in Europe. We expect an investment of around 600 million euros, of which almost 118 million euros from the EU Innovation Fund, which identified TANGO, i.e. iTaliAN Giga factOry, as one of the seven initiatives selected. The project has been included in funding requests for Italy's National Recovery and Resilience Plan and, if awarded, the total project funding could reach up to 188 million euros.

The selection process to recruit more than 500 secondary school graduates for technical and operational positions in the areas of generation, maintenance, auxiliary services, product quality and plant management has just begun. In 2022, 50 graduates were hired and the process to select another 100 is currently underway.



With these new recruits, 3SUN's team, which already includes more than 200 resources, will be significantly expanded to around 900 employees in total. Not only will the Gigafactory increase direct employment, it will also generate a total of 1,000 indirect jobs, including current ones, by 2024.



Digitalization of grids

3-3 | EU4 | DMA EU (former EU7)

507.7 TWh

**ELECTRICITY TRANSPORTED
ON THE GROUP'S DISTRIBUTION GRID**

510.6 TWh in 2021 **-0.6%**

231 min

SAIDI

243 min in 2021 **-5.2%**

0.7 million beneficiaries

**NEW CONNECTIONS IN RURAL
AND SUBURBAN AREAS**

0,8 million in 2021 **-12.5%**

Electricity distribution grids by country and region



		High voltage	Medium voltage	Low voltage
km	2,024,038	40,566	717,992	1,265,480
		2%	35%	63%
Europe and North America		5%	27%	68%
Iberia		6%	36%	58%
Italy		– (1)	31%	69%
Latin America		4%	50%	46%

(1) In Italy there are almost 20 km of high-voltage grid.

The grid is not an infrastructure for its own sake, but enables the interconnection of the different players in the energy market. Supply electricity is reliable only if it is guaranteed by a grid that, through innovation and digitization, is capable of ensuring the completion of the energy transition through the electrification of uses.

Aware of its strategic role, we now have one of the most innovative and digitalized electricity infrastructures in the world. We also launched an action plan called **Grid Futurability®**, a comprehensive, customer-oriented industrial approach aimed at renewing, strengthening and expanding the Enel Group's grids in the coming years. Our aim is to provide a more resilient, participative and sustainable grid, one which can anticipate, through an investment roadmap, the needs of stakeholders and harness innovative technological developments to meet them.

The grid is key to achieving decarbonization targets. In 2022, we presented the **Net-Zero strategy** for grid activity to counter direct emissions inherent in the infrastructure, acting on digitization, remote operations, the use of electric vehicles for work, measures to protect biodiversity and reducing technical grid losses. In addition, we are engaging suppliers, equipment manufacturers and construction companies in our supply chain to reduce indirect emissions and implement more sustainable processes and network components, such as SF₆-free switchgear, vegetable oils for transformers and environmentally friendly or standard cables for sustainable construction sites.

Over the past year, we have entirely rethought the value chain by applying the concept of **Sustainable by Design**, redesigning the production and end-of-life management processes of grid assets with the aim of decreasing raw material consumption, maximizing economic value and reducing environmental impacts, including greenhouse gas (GHG) emissions.

A **Sustainable Reference Model** tool has been developed which, integrated into our digitalized systems, makes it possible to monitor the number and type of solutions implemented at all active or opening sites and to measure their impacts, along four lines: decarbonization, social, environmental and circularity. The score associated with each solution makes it possible both to identify the most virtuous sites (*ex post* evaluation) and to carry out simulations (*ex ante* evaluation) to facilitate the choice of solutions to be implemented.

In order to make the value chain circular, we also defined **Grid Mining & Zero Waste** strategies, to review the end-of-life management processes of grid assets in a more sustainable way and identify New Life Cycle practices (recycling and reuse of materials at the end of their life). In this regard, in order to ensure complete tracking of the materials contained in grid assets, we have developed the "Digital Product Passport" in our systems, which enables us to monitor any materials considered critical, for which it might be useful to evaluate an alternative, but also to define *ex ante* the end-of-life reuse scenarios. Having an integrated and digitalized tracking system along the entire value chain is the driving force toward the ambition to open our "mine" (grid mining) to the outside world as well,

making it available to other companies or different sectors in order to involve their respective production chains and feed new markets for raw and secondary materials, promoting the development of the area and the saving of virgin materials, and creating new job opportunities related to waste material recovery initiatives while minimizing environmental impacts. More details can be found in the chapter “Circular economy” in this document.

Achieving such ambitious goals necessarily requires joint multi-stakeholder action, involving suppliers, partners, competitors, industry grids, etc. In the spirit of Open Power, we have:

- founded the **Open Power Grids Association**, which aims to share and develop grid-related technologies and methodologies with industry stakeholders in order to accelerate the adoption of safer, more efficient and sustainable solutions for faster achievement of the requirements towards the zero-emission ambition;
- launched specific challenges on the crowd sourcing platform **openinnovability.com**, covering, among other aspects:
 - a new concept for the design of the primary and secondary substations, as well as for the smart meter installed in end user’ homes, whose development and large-scale adoption will lead to a significant reduction in environmental impacts;
 - the identification of low-emission gensets to be used for emergency management or in all cases where they are needed for the operation and maintenance of the grid;
 - alternative technologies for the construction phase of traditionally concrete assets such as 3D printing.

In addition, tests were conducted on a new design of distribution infrastructure supports using alternative mate-

rials to traditional cement with a high clinker content with a high impact in terms of avoided emissions of up to 80%. Meanwhile, by way of application of the grid mining strategy, experiments continue on the reuse of composite material from wind turbines for the production of certain grid components and on the identification of solutions for the reuse of wood waste from logging near overhead lines.

In 2021 **Gridspertise** was established, a new industrial and commercial entity that offers innovative, flexible, sustainable and integrated solutions to electricity and distribution operators (DSOs), presenting itself to the market as a reliable partner to boost the digital transformation of power grids across the industry ecosystem as part of the energy transition. The priority areas for action are:

- **meter and grid edge digitalization**, focused on increasing customer engagement and stakeholder participation through smart meters and grid edge technologies that also enable engagement in electricity prosumer markets;
- **digitalization of grid infrastructure**, aimed at increasing the intelligence and flexibility of power grids to accelerate full-scale digitalization, increasing efficiency, reliability and service quality and supporting DSOs to manage the challenges facing network operations;
- **digitalization of field operations**, to increase operational efficiency thanks to innovative solutions for planning and operational processes and, at the same time, to increase the safety of internal and external operators in the field.

In October 2022, an agreement was signed for the sale of 50% of Gridspertise Srl to the international private equity fund CVC Capital Partners Fund VIII (CVC).

Record distributed renewable generation capacity with 5.6 GW connected to its grids in 2022

By 2022, we will have connected to our grids a record nearly 5.6 GW⁽¹⁾ of distributed renewable generation capacity equivalent to more than 400 thousand producers and prosumers worldwide, including more than 300 thousand in Europe and the rest in Latin America.⁽²⁾

This gives us a global cumulative capacity of 65.7 GW,⁽³⁾ equivalent to approximately 1.4 million producers and prosumers. These results were achieved thanks to the increasing capacity to accommodate distributed renewable generation (hosting capacity) and the high level of digitalization of the distribution networks operated by Enel.

For further details, see section “Renewable energies” in this chapter.

(1) Including about 300 MW corresponding to Enel Goiás in Brazil, sold at the end of December 2022.

(2) Including about 35,000 producers and prosumers added by Enel Goiás in Brazil, sold at the end of December 2022.

(3) Including about 700 MW corresponding to Enel Goiás in Brazil, sold at the end of December 2022.

Electrification of uses

3-3 | EU3 | DMA EU (former EU23)

321.1 TWh

ELECTRICITY SOLD

309.4 TW in 2021 **+3.8%**

212

COMPLAINTS (NO./10 THOUSAND CUSTOMERS)

22.6 thousand

OWNED PUBLIC CHARGING POINTS

18.1 thousand in 2021 **+24.9%**

45.8 million

END USERS WITH ACTIVE SMART METERS

45.2 million in 2021 **+1,5%**



Customers

		Electricity market	Gas market
Total	no.	60,225,898	6,558,997
Italy	no.	21,382,665	4,581,245
Iberia	no.	10,545,281	1,798,737
Rest of Europe and North America	no.	2,905,352	178,993
Latin America	no.	25,392,600	22

The final number of energy and gas customers was **close to 67 million** in 2022, down slightly from 2021, while energy sales amounted to 321.1 TWh in 2022 (309.4 TWh in 2021).

760 MW

STORAGE

375 MW in 2021

8.5 GW

DEMAND RESPONSE

7.7 GW in 2021 **+9.9%**

Customer centricity

The leadership of a company like Enel necessarily passes through customer care and attention to quality service, aspects that refer not only to the supply of electricity and/or natural gas, but also and above all to the intangible aspects of the service perceived by the customer.

We aim to **maximize value for customers** on a daily basis:

- through **a robust business model** that focuses on the continuous improvement of efficiency, effectiveness and

resilience in process management (activation of new services, billing, payments and credit, customer focus) and digitalization.

- **making them more aware** with offers geared towards increasing awareness of their consumption, different time slots, rewards for reducing consumption compared to the past, clear and simple communication;
- **proactively managing their needs;**
- **accompanying them towards electrification.**



Listen actively

Deeply understanding our customers and treating everyone with respect and kindness, taking their needs to heart and solving them with concrete solutions. We have consolidated activities focused on measuring and monitoring

customer satisfaction and happiness, as well as analyzing feedback to integrate the customer's point of view into the overall management of business processes.



Make life easier

Adopt an understandable language and always keep promises, respecting your customers' time and always working efficiently.

In order to simplify the experience of our customers, in 2022 we developed a specific platform to standardize and optimize internal processes, aware that in order to be able to offer efficient solutions to our customers, we must first simplify ourselves, also by using comprehensible

language, free of technicalities. To this end, we launched the Plain Language project, aimed at simplifying the communication language used through the different channels of customer interaction. In Spain, the new global app was launched to offer a higher level of customer experience. These actions have improved the efficiency of operations with a major impact on reducing complaints and optimizing operating costs.



Build the future

Accelerating electrification, anticipating customers' needs and offering sustainable solutions for families and businesses, accompanying them with honesty and determination to earn their trust.

Data-driven decision-making, an agile approach to design, customer centricity based on inclusiveness and accessibility, digitalization and simplification are the levers to generate value for customers and the Company.

Over the past few years, new payment methods have been introduced, digital channels have been strengthened, and customers have been provided with tools to control their consumption and improve energy efficiency, with a view to encouraging their participation in the Net-Zero transition.

Enel also focuses on the future, through open and sustainable innovation partnering with start-ups to engage customers towards a digital profile, standardize processes, personalize the service and ensure transparent and reliable information. We involve customers in the testing and co-design of new services, including through neuroscience and biofeedback tests in collaboration with universities and research centers.

We put customers at the center of the energy transition, offering a comprehensive product portfolio, commodity and beyond commodity, and a unique customer experience that ensures no one is left behind.

Customer satisfaction

| 2-29 | 3-3 | 417-1 |

"On a scale of 0 to 10, would you recommend Enel to your family and friends?" This simple question is the basis for the Net Promoter Score (NPS), which allows us to measure customer satisfaction globally through simple and immediately understandable data. It is calculated, in a range from -100 to +100, as the percentage of "promoters" (score of 9 or 10 out of 10) minus the percentage of "detractors" (score between 0 and 6 out of 10). Customers are interviewed by e-mail twice a year to maximize responses and to monitor trends over time.

We complement NPS, monitoring transactional aspects aimed at detecting overall satisfaction during some of the most sensitive phases of the customer experience (such as activation completion, contact center interaction, bill delivery, etc.). We survey our customers by e-mail to measure their level of Customer Satisfaction (CSAT), using an international standard that is based on the question "On a scale of 1 to 5, how satisfied are you with the 'moment of truth'?"⁽⁴⁾ The total is calculated as the average of all responses received. During 2022, CSAT survey coverage was

(4) Significant events in the relationship between customer and Company (e.g. completion of activation, interaction with the contact center, delivery of the utility bill, etc.) that determine the customer's opinion and evaluation of the service.

completed in Italy and Spain (30 “moments of truth” per Country), is ongoing in Brazil (8 “moments of truth”) and is about to be launched in 2023 in most other markets.

Thanks to the continuous feedback from the customer base, the dedicated Customer Happiness team and the constant monitoring of happiness and satisfaction val-

ues and insights – now integrated into the operational processes of Activation, Billing, Credit and Collection and Customer Care – 2022 saw **Enel achieve a solid increase in Global Net Promoter Score (weighted average of all NPS values at country level), from -2.8 in December 2021 to +5.6 in December 2022.**

Complaints management

| 2-25 | 2-26 | 2-29 | 3-3 |

In 2022, guidelines on the complaints monitoring and classification process were implemented in all countries where we operate, in order to maximize service quality and increase customer satisfaction, in accordance with applicable laws, regulations and governance rules. Our aim is the convergence of the current processes towards a common, effective and efficient model, through continuous performance monitoring and the development of internal benchmarking, aimed at highlighting a non-conformity on an existing product/service/functionality, which cannot be

resolved immediately (First Contact Resolution) and therefore requires further work by the Complaints Back Office. In addition, we have worked to standardize the monitoring and quality control of complaints management with homogeneous operating methods to make the performance of the Group’s different countries of presence comparable, also thanks to the creation of a global platform that enables monitoring of indicators and trends while at the same time ensuring the correct classification of complaints handled.

Focus on vulnerable groups

| 2-29 | 3-3 | DMA EU (former EU23) |

We want to remain attentive to the needs of citizens, improving and maintaining access to electricity in the most disadvantaged areas and among the poorest populations. All the countries in which the Group operates in fact provide forms of support, often linked to state initiatives, which make it easier for certain sections of the population

to pay electricity and gas bills, thus allowing equal access to energy. For further details on initiatives dedicated to vulnerable customers, please refer to the “Value for Disability” project in the “Managing human rights” chapter of this Report.

Transparent relations

| 3-3 | 417-1 | DMA EU (former EU24) |

In line with its commitments to mitigate the effects of climate change, our Group has intensified the process of digitalizing customer relations.

During 2022, digital services were further expanded, including the promotion of digital bills and payment channels with the possibility of flexible installment plans.

The emphasis was placed on developing and marketing a digital solution with simpler and more transparent bills. In 2022, thanks to **e-billing**, 30% of bills globally was sent electronically. This not only reduces the costs of paper, printing and delivery of traditional bills, but also the CO₂ emissions associated with all these activities.

By leveraging state-of-the-art technology standards, telephone customer service in Chile, Colombia and Peru was standardized. Thanks to a global control center, it is possible to monitor the flow of calls and manage their routing to available operators in order to minimize waiting time for our customers. In addition, the operating methods, defined at global level, tend to the highest quality standards, standardizing the “tone of voice” and style of handling customer issues.

Thanks to a data-driven approach and continuous benchmarking of best practices, both from energy companies and other leading digital industries, the following three

“Customer Centric Behaviors” have been defined in order to offer our customers simple, innovative, sustainable, fast and effective solutions, through a clear language that is accessible to everyone:

- listen actively,
- make life easier,
- build the future.

The focus on Customer Happiness takes shape when we call into question all those emotional factors that, parallel to the more rational ones related to the choice and “confirmation” of a brand, are built on a more human interaction in relation to the brand and its advocates. We want to exceed our client's expectations by optimally balancing the ratio of costs incurred against benefits received, thereby increasing the likelihood of a more stable and lasting relationship. Enhancing the perception of our work with an effective and efficient service leads to the building of a long-lasting relationship. Not only that: by focusing our energies on Customer Happiness we also

Energy-saving commercial offers, products and services

3-3 | DMA EU (former EU24) |

As a result of rising energy prices, the topic of energy saving has become even more important in 2022, and in all countries where we operate, efforts have been stepped up to make energy efficiency solutions available that can guarantee customers savings in terms of both consumption and CO₂ emissions. From household appliances to smart home solutions, from home services to heating and air-conditioning systems, from solar-powered systems to charging infrastructures for electric cars, solutions have been developed to help save energy, time and money. Among the proposed solutions we find Homix, the smart home solution to manage temperature, lighting and security easily and intelligently in the home, optimizing consumption on the basis of the habits and needs of the family. Induction hobs that replace traditional gas cookers and enable the cooking of food in less time, with almost twice the energy efficiency of gas cookers, greater safety and significant CO₂ savings. Enel X Sun Plug&Play is the innovative flat photovoltaic system that can be installed

optimize satisfaction, provide more stability in securing the Company's market share and give more support to pricing policies.

Enel complies with current customer privacy regulations in all the countries where it operates. We also strive to monitor third-party companies that may be in a position to use the personal data of customers. To this end, dedicated clauses are included in contracts with partners who use personal data to carry out specific activities, for example sales services or customer happiness surveys. Customer data is an expression of the individual's personality and identity, and must therefore be treated with due caution and guarantees. Enel considers personal data to be a shared and corporate asset at the same time. For this reason, we have appointed a Data Protection Officer who aims to guarantee full respect for the privacy of all the individuals with whom we interact. For further details, see the “Sound governance” chapter of this document.

on a balcony or on the façade of a building at a window, allowing the energy generated by the sun to contribute to the home's energy needs, saving up to 20% on energy bills. Heat pumps use thermal energy from air or water for heating and cooling and are up to four times more energy efficient than the best boilers, saving around 40% on utility bills. Another product that is of great importance for energy freedom is rooftop photovoltaics with a storage system: it harnesses solar energy to generate electricity, saving money on electricity bills through self-consumption and energy storage. In fact, the system stores in batteries the excess electricity generated by the photovoltaic system during the day, making it available during the night when the system is not generating, thus significantly reducing energy drawn from the grid and consequently costs on the bill.

In 2022, Enel X installed a total of about 73,000 Smart Home products and more than 5,000 photovoltaic products that contribute to energy savings and efficiency.

From need to solution, customer-driven change

3-3 | DMA EU (former EU24)

Encouraging the active participation of customers in the transition, the development of new services, a better understanding of their consumption and greater control over it is the basis of our daily commitment.

We aim to develop innovative technologies that make the

use of clean electricity increasingly affordable and widespread in homes (B2C), businesses (B2B) and the public sector (B2G), while accelerating the digitalization of services for more efficient energy use.

Businesses: B2B (Business To Business)

Our ambition is to be able to become a partner to companies and guide them towards the use of customized integrated solutions, starting from a simple consultancy to the implementation of articulated solutions such as self-generation of electricity, installation of trigeneration plants, products and services for energy efficiency and energy demand management solutions. We aim to optimize costs and consumption, to create value where it was not possible before, taking advantage of technological evolution and making businesses increasingly sustainable.

Among the most notable achievements in 2022 is the re-affirmation of our leadership in flexibility services, i.e. the service that allows companies to reduce their energy consumption temporarily or provide their own on-site generation in order to offer this flexibility to serve grid stabilization (balancing electricity supply and demand) and receive remuneration in return. In fact, we managed **8.5 GW** of capacity worldwide on behalf of our customers.

We have also installed 87.8 MW of power solutions that have enabled our customers to self-generate renewable energy.

DISTRIBUTED GENERATION

Enel X's largest distributed solar generation project in the world: Itaú Unibanco

Francisco Scroffa

Head of Enel X Brazil



"Two large companies with complementary strategies have found the opportunity to work together, with an integrated strategy, despite coming from different sectors. Enel X is able to propose diversified solutions, meeting all the needs of Banco Itaú and guaranteeing savings, energy efficiency and sustainability."

In August 2022, we signed an agreement with Itaú Unibanco, one of the largest private banks in Latin America, for the installation of **46 photovoltaic plants with a total capacity of 54.7 MWp**. It is one of Enel X's largest distributed solar power generation contracts in the world and will be used to power **1,557 branches in 14 locations in Brazil** (representing about 80% of the Brazilian bank's

branches) with renewable energy. Enel X will facilitate Itaú's energy transition in support of its commitment to become a zero-emission entity by 2050. Itaú Unibanco is present in 8 countries besides Brazil, with 90,000 employees and 60 million customers. It operates mainly in Brazil, but its international presence allows it to provide high-quality services to local and Brazilian clients abroad.

In addition, the implementation of the Utility Bill Management (UBM) platform will enable it to:

- digitalize the management of corporate payments;
- organize information on service providers' accounts;
- monitor the energy and water consumption of the 1,557 business units;
- monitor sustainability indicators.

Enel X's distributed energy system will enable Itaú to generate its own energy with significant cost savings on its bills and more efficient management of the company's accounts. In addition, the use of sustainable energy **will**

avoid the emission of 10,000 tons per year of CO₂, thus embarking on the road to carbon neutrality by 2050.



TELEMEDICINE

Smart Axistance e-Well

Alberto Piglia

Head of e-Health Enel X



"Enel X's mission is 'to discover, nurture, fuse and perfect cutting-edge technologies and services in order to improve and make people's lives easier'. This is why Enel X intends to meet customers' new needs related to the world of Health: to have the medical advice they need anywhere, any time and in any condition. Platforms and services, in turn, must comply with the principles of sustainability and circular economy."

Smart Axistance e-Well is the innovative application that accompanies users on a path to personal well-being and aims to help improve lifestyle and monitor key health risk factors. The use of the e-Well application is extremely simple despite encompassing years of medical-scientific research and cutting-edge technology: simply download the app, fill in a questionnaire on your initial health status and perform the check-up, either at Policlinico Gemelli or completely digitally. Thus commences a year-long wellness journey.

The distinctive elements that characterize the innovativeness and sustainability of Smart Axistance e-Well can be summarized in five areas:

- **Customization.** The Smart Axistance e-Well wellness program is fully customized to suit people's needs, characteristics and lifestyles and includes a nutrition program and a physical activity program.
- **Medical partnership.** It is made possible by the combination of Enel X's technology and the medical expertise of the doctors at Policlinico Gemelli, Italy's leading hospital according to Newsweek's World's Best Hospitals 2022

ranking and an internationally renowned medical-biological research center.

- **Wellness areas.** It considers the main health risk factors, recognized by the American Heart Association, such as physical activity performed, diet followed, sleep, smoking and mood.
- **Video consultations.** In the Smart Axistance e-Well program, the relationship between doctor and user takes place via video consultations: it is therefore digital, without geographical barriers..
- **Innovative technologies.** Smart Axistance e-Well is an application developed on the basis of the most advanced technologies and integrates its functionalities with smartbands for monitoring vital parameters.



The public sector: B2G (Business To Government)

The offerings for the public sector aim to make cities “smart” environments, accompanying them on a path of electrification and digitalization, through the integration of solutions aimed at efficiency and the improvement of services in favor of the public’s well-being and the reduction of polluting emissions.

We accompany small and large municipalities in their transition towards an innovative smart city model, providing them with a portfolio of solutions aimed at improving the integration and interconnection of their services.

For example, using state-of-the-art technology, we aim to transform street lighting into a smart, multifunctional and efficient infrastructure (sensors, cameras and electric car charging points) for the safety and convenience of the public and at all times connected with a digital platform for remote, real-time management and monitoring.

In addition, we promote solutions for the electrification of urban transport and public building efficiency that optimize the energy performance of buildings while opening up the possibility of active participation in the flexibility services already described for B2B customers.

With a view to facilitating the control and management of the solutions active in their region, we provide government authorities with a single digital access point, **Enel X YoUrban**, which allows them to monitor the status of their infrastructures, visualize performance indicators and stay connected and informed on the new technological possibilities offered by the market.

During 2022, we achieved major milestones in the efficiency of public lighting by installing more than **3 million LED lighting points** and operated more than **5,321 electric buses** worldwide.

ELECTRIC BUSES

The Enel X TransMilenio Project

Lucio Rubio

General Manager of Enel in Colombia



“We are proud to be part of this project because, by providing the charging infrastructure for the new bus fleet, we can contribute to the development of electric mobility, the energy transition and the transformation of Bogotá into a smart and sustainable city.”



In 2022, we completed the construction of the fifth electroterminal in Colombia, Fontibón – Escritorio, one of the largest in South America. It will serve 172 electric buses thanks to an electrical infrastructure with an installed capacity of 13.6 MW, and boasts more than 80 stations dual plug charging stations of 150 kW each provided by Enel X Way, another Group company whose mission is focused totally on electric mobility.

The project was developed within the framework of the concession contract signed with TransMilenio SA, the

public transport administration body of Bogotá’s Capital District, and is intended for the public transport operator Mueve Fontibón SAS.

It is the first large-scale electric mobility infrastructure in Colombia, contributing to the decarbonization and the technological and sustainable development of the capital Bogotá. Bogotá’s e-buses have enabled the municipal administration to reduce emissions by 600 tons of CO₂ per year. Six electroterminals capable of charging buses in a few hours have already been opened throughout the city in Fontibón Escritorio, Fontibón Refugio, Fontibón Aeropuerto, Suba Las Mercedes and Usme, serving 878 electric buses with 412 smart chargers. In addition to the partners already mentioned, there is the bus manufacturer, BYD.

The Mateu Orfila Hospital

Davide Ciciliato

General Manager of Endesa X



"Endesa X wants to be the energy partner of cities to help them achieve their decarbonization goals. We put all our knowledge of the energy world at their disposal to realize cleaner cities that save as much energy as possible. The Mateu Orfila Hospital is an example of this."

Endesa X built the first car park of a hospital covered by photovoltaic panels in the Balearic Islands (Spain). The project enabled the Mateu Orfila Hospital to have up to 976 kW peak power (kWp) in 100% renewable energy for its own consumption. The installation, located

in the hospital's 15,000 m² car park, will help to reduce the hospital's carbon footprint significantly, supplying 20% of the electricity consumed by the hospital and saving around €160,000 per year, according to the Balearic Islands government's Energy Transition Department.



Residential customers: B2C (Business To Consumer)

Our goal is to simplify and improve people's lives, through integrated solutions that combine convenience and efficiency and offer greater insight into consumption and consequently greater control over it, to enable residential customers to electrify their usage and participate in the change taking place, with an awareness of how their individual choices contribute to the transition.

Our solutions therefore accompany customers along this path, guaranteeing greater independence in the supply of energy through easily accessible distributed energy products such as Enel X Sun Plug&Play rooftop and balcony photovoltaic panels. Alternatively, they can optimize their

consumption, such as through the **Homix** smart thermostat, which optimally manages home heating, memorizing the family's habits and automating it according to different needs, also managing lighting and home security in an intelligent way, thus transforming it into a true smart ecosystem that saves consumption and respects the environment.

A commitment that resulted in the sale of **73,000 Smart Home products** and over **5,000 photovoltaic products** within a consumer customer portfolio that exceeded **63 million** units globally.

#UnPannelloInPiù: photovoltaics for installation on apartment buildings can make a difference

Stefano Ciafani

National President
of Legambiente



A fund-raising campaign promoted by Legambiente together with Enel X dedicated to the fight against energy poverty and the social and economic impact that solar home panels can have.

"With the #UnPannelloInPiù campaign that sees us alongside Enel X, we want to offer a concrete response to high utility bills and social inequalities. It is important to give the public a structural welfare solution with tools for self-generation from renewable energy that can bring lasting benefits, both from an economic and social point of view as well as from an environmental protection point of view, while also combating energy poverty that already affected more than 2.2 million households in our country before the pandemic."



How can we fight high energy prices and reduce the cost of utility bills? One of the simplest and most practical solutions comes in the form of photovoltaic installation on apartment buildings: cheap, easy to install and activate, and able to cover the consumption of certain household appliances, such as the television, refrigerator or air conditioner, with bill savings of up to 20%, while also generating environmental benefits. In fact, this technology makes it possible to generate clean energy, contributing to combating the climate crisis and reducing atmospheric pollution: it avoids the emission into the atmosphere of 103 kg of CO₂ per year, equivalent to the amount of CO₂ absorbed by about 6 trees.

For these reasons, in June 2022 Legambiente, together with Enel X, launched the fund-raising campaign "**#UnPannelloInPiù**" with the dual objective of helping families in need and informing and raising awareness of the great potential of this type of panel. With a simple donation on the Le-

gambiente website, individuals, associations and businesses were able to contribute to the purchase of photovoltaic panels for installation on apartment buildings for families in economic and social difficulty. The crowdfunding initiative was accompanied by a touring campaign that made stops in nine Italian cities from June 8 to 27, 2022. These were Naples, Brindisi, Palermo, Rome, Cagliari, Florence, Turin, Milan, and Bologna. The event included a series of events aimed at raising awareness of all the tools that exist today to reduce utility bills, including the role of solar photovoltaics in the fight against energy poverty, as well as savings and efficiency, energy communities, social bonuses and the sharing economy. In substance we are dealing with an inexpensive, easy-to-install and easy-to-activate solution that facilitates access to solar technology by making it truly affordable for everyone. Since its launch, the campaign has raised more than 80,000 euros, which will be used to donate apartment photovoltaic systems to families in a state of energy poverty.

Energy communities

Renewable Energy Communities (or RECs), recently introduced into our legal system, are associations of companies, businesses and members of the public who decide to join forces to equip themselves with one or more plants for the virtual and shared generation and self-consumption of electricity from renewable sources, achieving economic, environmental and social benefits.

Enel X and Enel Green Power offer stakeholders the solutions and services to bring the energy community to life and make it grow in a virtuous way: from the construction of photovoltaic plants to the creation and technical-economic management of the community itself, from monitoring the community's state of service to stimulating the electrification of consumption through efficient technologies (heat pumps, induction hobs, etc.) and digital platforms. All with a view to making every energy community a truly efficient and sustainable ecosystem.

In Italy, thanks to current legislation (still awaiting Executive Decree), it has become possible to set up a condominium

photovoltaic system and allow all condominiums to take advantage of it, thus creating an excellent opportunity to take advantage of a shared space that until now was almost unusable for the benefit of all.

The program involves the construction of a 10 kWp photovoltaic system for each condominium staircase, reaching a total installed system of 60 kWp, or generating about 70,000 kWh/year in total. A self-consumption of 62,300 kWh per year is estimated, which ensures the abatement of about 30 tons of CO₂ emitted. An estimated reduction of more than 60% in electricity use from the grid is expected, with clear benefits in terms of savings for apartment blocks. The project is not only limited to the generation and self-consumption of apartment block energy, but aims to offer a shared mobility and charging service. It would increase the overall consumption of the apartment building by 15-20% and the solution can also be implemented in existing, balanced situations.

Blufi: a reality projected towards the future

Blue Green Energy. This is the name of the project joined by Blufi, a small village located 800 meters above sea level, right in the heart of the Madonie Mountains, in the province of Palermo (Italy). A small village of about a thousand inhabitants that in the springtime sees the surrounding fields transformed into a carpet of thousands of wild red tulips. This "Little Holland" has decided to accept Enel X's proposal to found the first "inter-municipal" Renewable Energy Community, which will involve five other municipalities in the Madonie: Bompietro, Castellana, Geraci, Petralia Soprana and Petralia Sottana. Specifically, the project includes the

construction of three photovoltaic plants on the roofs of municipal school buildings, with a total capacity of 64 kWp, to which others will be added as soon as possible, by government-run or private entities.

This will result in the generation of around 90,000 kWh per year of clean electricity, which will be shared with an original core of 16 members. This will bring the following benefits:

- **environmental**, reducing emissions by about 29 tons of CO₂ per year;
- **economic**, thanks to the provision by the Gestore dei Servizi Energetici (GSE – Energy Services Operator) of a bonus of €15,000 per year (for 20 years) to be distributed among the members of the community;
- **social**, with a concrete contribution to savings on expenditure and reducing energy poverty.



Electric mobility to accelerate the energy transition

3-3 | DMA EU (former EU24)

We actively promote electric mobility as a key factor in reducing road transport emissions and contributing to the achievement of the European Union's energy efficiency goals.

Mobility is also a critical aspect of social inclusion and an important determinant of human well-being, especially for disadvantaged groups. Indeed, recognized as an essential service in the European pillar of social rights, transport meets a fundamental need in enabling citizens to integrate into society and the labor market.

We believe that an ecosystem of interconnected, intelligent products and services needs to be developed to

spread the world of e-mobility. Our aim is to improve, simplify and make the world of e-mobility accessible, and to do this we have developed smart charging solutions to suit every need.

Our journey in this direction started a long time ago, but in 2022, in order to cater to the rapidly growing market, we decided to create a separate Business Line, Enel X Way, fully dedicated to the expansion of infrastructure for charging electric vehicles, the development of advanced charging technologies and flexible solutions to improve the customer experience and support the electrification of transport for consumers, businesses and cities.

New frontiers of electric mobility: e-boating in Portofino

Lorenzo Rambaldi

Head of Innovability Enel X Way



"Through this installation we give continuity to our project of having a comprehensive infrastructure for the marine sector, both on the sea and on the lake. Equipping ourselves with these new technologies allows us to enhance the area and increasingly turn our sights toward sustainable tourism."

Our goal is to make electric mobility affordable and increasingly efficient, including in areas such as:

- **Urban Air Mobility (UAM):** we have signed an agreement with Urban V, the company founded by Aeroporti di Roma, to develop efficient and effective charging solutions for electric vertical take-off aircraft, the air mobility of the future;
- **electric boating:** we have developed charging infrastructure for electric boats now present in Portofino and Cernobbio (Italy) and on Lake Tahoe (California).

The electric boating market is booming, driven in part by increasing customer interest in sustainable tourism that reduces air and noise pollution, among other things.

It is precisely in this context that Enel X Way's initiative to support the Ligurian municipality's "Portofino Carbon Free" project was born, thanks to which a fast charging infrastructure for electric boats located at Molo Umberto I is now operational. This initiative represents a tangible sign of Enel X Way's commitment to an increasingly sustainable future for the area.



The transition to a decarbonized economy passes through sustainable transport for all

The full transition to e-mobility will only be possible through the widespread deployment of safe, reliable and user-friendly charging stations. This is why we have developed a wide range of public and domestic charging infrastructures, capable of charging electric vehicles anywhere at any time. We have also developed a business model that spans from the installation and management of charging points, the so-called **Charging Point Operator (CPO)**, in which we already rank among the most pervasive companies in the world, directly managing more than **22.6 thousand public charging points**, the provision of direct electric charging services to end customers (**Mobility Service Provider – MSP**), through more than 260,000 charging points, accessible through the Enel X Way APP™. Our solutions **in the public sector** are the **Enel X Way Waypole™**, for charging up to 22 kW in alternating cur-

rent, while for electric mobility on roads with a high volume of traffic, we have launched the **Enel X Way Waypump™**, which, thanks to a modular approach, can reach powers of up to 350 kW⁽⁵⁾ in direct current, enough to charge an electric vehicle to 80% in about 15 minutes.

In the **private sector**, on the other hand, we have developed the **Enel X Way Waybox™** to meet domestic charging needs. This can detect the consumption of other household appliances connected to the home meter, so that the maximum available capacity is never exceeded. In the world of relevant business offerings, there is the Set&Charge solution, which enables the creation of shared value for our B2B customers, allowing them to turn their charging infrastructure also into a source of revenue by making it available to the public and setting their own service tariffs.



Guillermo Fumanal Achon

Head of Sustainability Enel X Way



Circular by design by Enel X Way

“Circularity is a natural feature of our design, as we know that the use of innovative and sustainable materials increases the resilience of our product supply chains, mitigates impacts on the geopolitical and social front (less need for materials, less exposure to the risk of human rights violations), and finally allows us to foreshadow ourselves as a Net-Zero company.”

The Group's circular strategy is also applied in Enel X Way. Our main AC charging products use recycled polycarbonate as the main material (100% for Waybox and 75% for Waypole). In addition, we have optimized the use of raw materials on our Waypole™ and have reduced the overall product weight by about 32%.

Another example of a circular solution we have implemented is the recovery through remanufacturing of end-of-life components to be reused as spare parts.

(5) For vehicles with 800V batteries (under the plan only Audi, Kia, Hyundai, Genesis, Porsche, Volvo, Polestar, Stellantis, General Motors, BYD and Lotus have so far announced or launched electric cars with this feature).

Increasingly inclusive mobility

There is no real revolution in mobility if it is not truly accessible to everyone. That is why we promote and devise solutions that solve all mobility needs, so that even people with disabilities or reduced mobility conditions can benefit freely and independently from the opportunities offered by modern e-mobility, starting with the charging infrastructure. Our charging points dedicated to electric vehi-

cles can now also be used to charge electric wheelchairs, thanks to our **Enel X Way Wayability** device, a charging cable that enables use of the same infrastructure dedicated to electric cars. In this way, can take advantage of any charging point by booking through our app in the same way as for electric cars.

Creative common Universal Design

When it comes to designing electric car charging points, we cannot overlook motorists and passengers with reduced mobility. This is why our infrastructure has been redesigned in cooperation with ANGLAT (National Association of Transport Handicapped Drivers) on the basis of an inclusive design, called **Universal Design**, which provides parking stalls with an additional signposted maneuvering area for wheelchairs and bollards to protect the charging stations from impacts resulting from any incorrect and accidental maneuvers. In addition, the charging cable is lighter, so that it can be handled more easily by wheelchair users.



On the occasion of the International Day of Persons with Disabilities on December 3, 2022, we made the intellectual property of Universal Design accessible for free, allowing anyone to download our guidelines directly from our website.

E-mobility Emission Saving

Over the past year, Enel X Way has adopted the calculation methodology of the “**e-mobility Emission Saving Tool 4.0**” version, the tool developed to provide evidence of the organization’s commitment to sustainable mobility through the electrification of the vehicle fleet on the road. The algorithm was certified by RINA on December 28, 2021 according to the principles set out in the UNI EN ISO 14064-2:2019 Greenhouse gases Part 2 standard. In version 4.0, the tool has added, compared to

the previous version, quantification of the environmental benefit in terms of CO_{2eq} (CO_2 , CH_4 and N_2O) savings. Version 3.0 of the tool already made it possible to determine the savings, generated by the distribution of public and private charging stations on the territory, of CO_2 , equivalent trees per year, pollutants (NO_x , PM_{10}), noise and the associated economic quantification on health and environment. Compared to 2021, there has been an increase in the energy delivered by charging stations resulting in a significant increase in CO_2 savings, due to the increased deployment of both electric vehicles and Enel X Way’s public and private charging points connected to the grid.

Promoting access to energy and combating energy poverty

3-3 | DMA EU (former EU23)

Access to energy is a challenge and a primary need as stated by the United Nations SDG 7, which aims to ensure access to affordable, reliable, sustainable and modern energy systems for all, due to the role they play as a driving force for fighting poverty and ensuring long-term economic and sustainable growth.

In its “Energy Progress Report” 2022, the International Energy Agency (IEA) reports that, at the current rate, the world will fail to meet the targets of SDG 7 by 2030. In recent years, it reads, there has been a slowdown due to the increasing complexity of reaching remote unassisted populations and the impact of the Covid-19 pandemic. The latter, in particular, continues to hold back economic development, which is also weighed down by the energy crisis triggered by the Russia-Ukraine war.

According to the latest available data,⁽⁶⁾ there are still 733 million people without access to electricity, a figure that, although down from 1.2 billion in 2010, should be read in conjunction with the fact that the recent slowdown in the general trend has particularly affected the most vulnerable countries and those that were already lagging behind. At Enel, we are committed to ensuring that as many people as possible have access to energy, both by using traditional means (connections to the electricity distribution grid) and by developing off-grid solutions, and this enabled us to **connect around 690,000 people in rural and suburban areas in 2022**.

In **Brazil**, 25,800 connections were made in the State of Ceará through on-grid and off-grid solutions in remote areas. The project reached 103,200 people from different isolated communities and traditional populations (indigenous or quilombos).

In **Chile**, during 2022, 1,900 new suburban connections were built in the municipalities of Lampa, Pudahuel, Colina and Maipú. Enel Distribución, in alliance with Fundación Techo and Litro de Luz, installed solar lights and a Wi-Fi point in the “El Esfuerzo 2” camp in the municipality of Cerrillos, as well as offering workshops and training on renewable energies, entrepreneurship and digital literacy, thus attempting to promote social and economic development in the camp. Enel Grids is constantly committed to promoting and implementing training activities related to energy efficiency, electrical risk prevention for communities and climate change workshops, as well as carrying out initiatives to improve local employability such as the development of sustainable lighting in col-

laboration with the Litro de Luz foundation, initiatives that focus on the installation of technical tools that enable the autonomy required to ensure the long-term sustainability of the project. The monitoring process in each field is accompanied by a context analysis to measure the project's impact on the sustainability of electrification, as well as to establish a socio-energy analysis of the communities.

In the recent past, following the widespread **increase in the prices of raw materials** on international markets, there has been an increase in consumers who **find it difficult to manage the energy expense**, especially families with low incomes.

The main responsibility for guaranteeing safe and economic access to basic energy services obviously lies with governments, but the electric sector is also called on to provide a tangible contribution by promoting fair and sustainable social-economic development.

In all the countries where we operate we, together with governments and local institutions, have always been at the forefront of the **fight against energy poverty** and the campaign to facilitate access to energy for customers in vulnerable conditions, through specific initiatives to support the deployment of energy efficiency and responsible consumption solutions, the modernization of infrastructure and the growth of renewable energy sources, in line with our sustainable business model and our commitment to an **just transition**.

In this respect, our approach has two lines of action:

Pro-active actions aimed at anticipating critical situations through:

- new offers that restructure the prices and reward reduced consumption;
- support for vulnerable customers in accessing the benefits offered to them;
- initiatives to disseminate practical tips for reducing consumption, etc.

Reactive actions when critical situations arise with *ad hoc* interventions:

- suspension/deferral of payments;
- access to tax bonuses or credits for customers in economic difficulties or affected by natural disasters.

In 2022, in developing countries alone, more than 182 energy access projects were developed that reached around

(6) 2020.

1.9 million beneficiaries and roughly 134 related partnerships were in place.

Some examples of projects developed on an international level are provided below:

Training program on access to energy and social services (Spain). This initiative is based on training courses on issues such as energy saving and efficiency measures, optimization of the electricity bill, the new Social Bonus and protection against having electricity cut off if the bills are overdue, and is directed towards NGOs and social services so they are able to improve their consultancy and their efforts for supporting families living in situations of vulnerability. In 2022 more than 106,000 beneficiaries were involved in the project, which was developed together with the trainers at Endesa Energía and with the participation of approximately 100 institutions (NGOs). The purpose of this initiative is to demonstrate the Group's commitment to vulnerable groups and to contribute to the fight against energy poverty, improving the relationships with stakeholders, from local institutions, to municipalities and Non-Governmental Organizations. Involving the NGOs and social services in the task of observing and fighting fuel poverty increases their knowledge in order to help vulnerable families and as a result minimize the barriers to access to energy.

Enel Shares Citizenship Goiás (Brazil). In 2022, more than 13,471 beneficiaries were involved in the project that stages workshops and home visits to socially vulnerable families, disseminating information on how to reduce consumption, in line with other social projects carried out by the Company. The initiative promotes the inclusion of families in public social assistance policies, such as the low-income social tariff, which provides a discount of up to 65% on electricity bills.

We are committed to promoting access to energy in developing countries not only by supplying electricity, but also clean, innovative technologies to the population in order to generate energy that has a reduced impact on the environment. Approximately 1,364 MW of energy from renewable sources was commissioned in Latin America in 2022, increasing the total renewable capacity to approximately 20,808 MW. In Africa, Enel Green Power is currently the main private operator in the renewable sector in terms of installed capacity (more than 1,500 MW in operation and 598 MW under construction), with a presence in different countries, including South Africa, Zambia and Morocco. In Asia, the Group is present in India through its subsidiary Enel Green Power India, one of the country's main renewable energy companies, which owns and manages 340 MW of wind capacity, producing approximately 620 GWh a year in Gujarat and Maharashtra.

PERU - Enlightening my community

This is a program that provides clean and efficient energy to the most vulnerable rural communities close to our sites which currently lack electricity, aiming to contribute to their development and to the improvement of their living conditions by opening up a range of opportunities in relation to education, business development, connectivity, recreation inside and outside the home,

and security, thus generating inclusive and sustainable growth. The communities we target are located in areas that are not part of the districts in our concession area, so they cannot be served as customers. Since 2021, we have installed renewable hybrid systems at 6 locations in 3 regions of the country, with a total installed power of 30,130 MW, benefiting more than 3,500 people, as well as educational centers, sports grounds, public lighting, and municipal premises, thus avoiding the emission of 52.34 tons of CO₂ per year.

Our governance for promoting access to energy

Our commitment to guaranteeing access to energy is also confirmed in our 2023-2025 Strategic Plan through the definition of specific objectives, including an increase in renewable sources, the development of sustainable and circular products and services, engaging local communities through a model for creating shared value (please see the chapter, "Engaging communities"). The Strategic Plan, the Sustainability Plan that describes in detail the goals and commitments from an ESG point of view, including access to energy and the corresponding financial and non-financial reporting are analyzed and monitored by the Board of Directors, by means of the Corporate Governance and Sustainability Committee and the Control and Risk Committee (see the Corporate Governance report, available at www.enel.com).

Top management is committed on a daily basis to realizing these strategic objectives by contributing towards supporting the global challenge of guaranteeing access to energy. To support Top Management, each Country is responsible for managing relationships with institutional bodies, regulatory authorities on a national, regional and local level, and associations for promoting the development of solutions for access to energy according to different needs. The Innovability® Function, both on a holding level as well as a Business Line/Country level, also promotes the dissemination of a shared value model. It supports innovative solutions that can promote access to energy in remote areas with limited access to electricity.



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