

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 Itau 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.

SMART AND EFFICIENT PUBLIC BUILDINGS

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.

