



Battery Energy Storage Systems

A portfolio of integrated solutions to save energy and boost your company business.



Adding Battery Energy Storage to Your Toolkit

With technology costs falling, and an increasing **need for flexibility and resilience** to accommodate the fast penetration of renewable resources, **Energy Storage** represents a unique opportunity for Commercial and Industrial (C&I) **energy customers**. Battery Energy Storage System (BESS) is becoming a key

technology to support the energy transition. Therefore, choosing the right **System Integrator** able to seamlessly combine Artificial Intelligence with reliable hardware solutions is a long-term investment for your business.

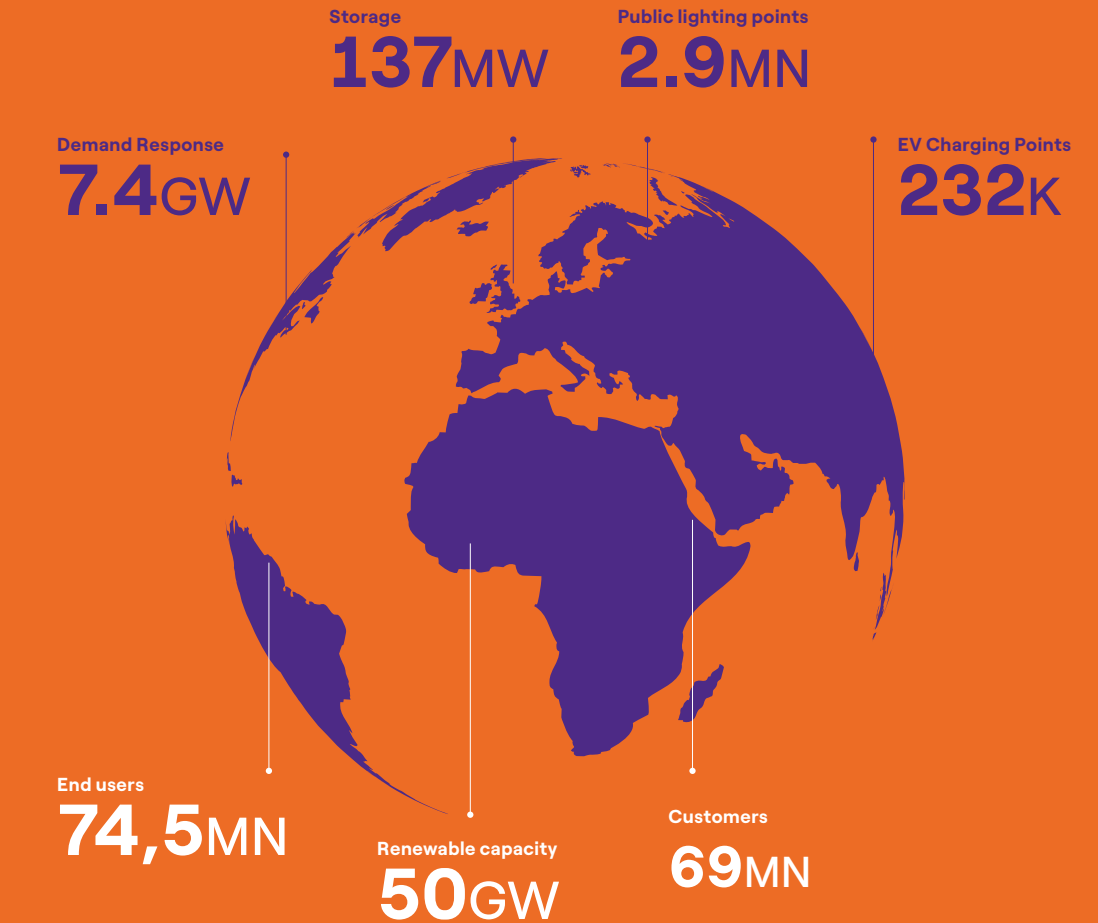


Enel X in the World

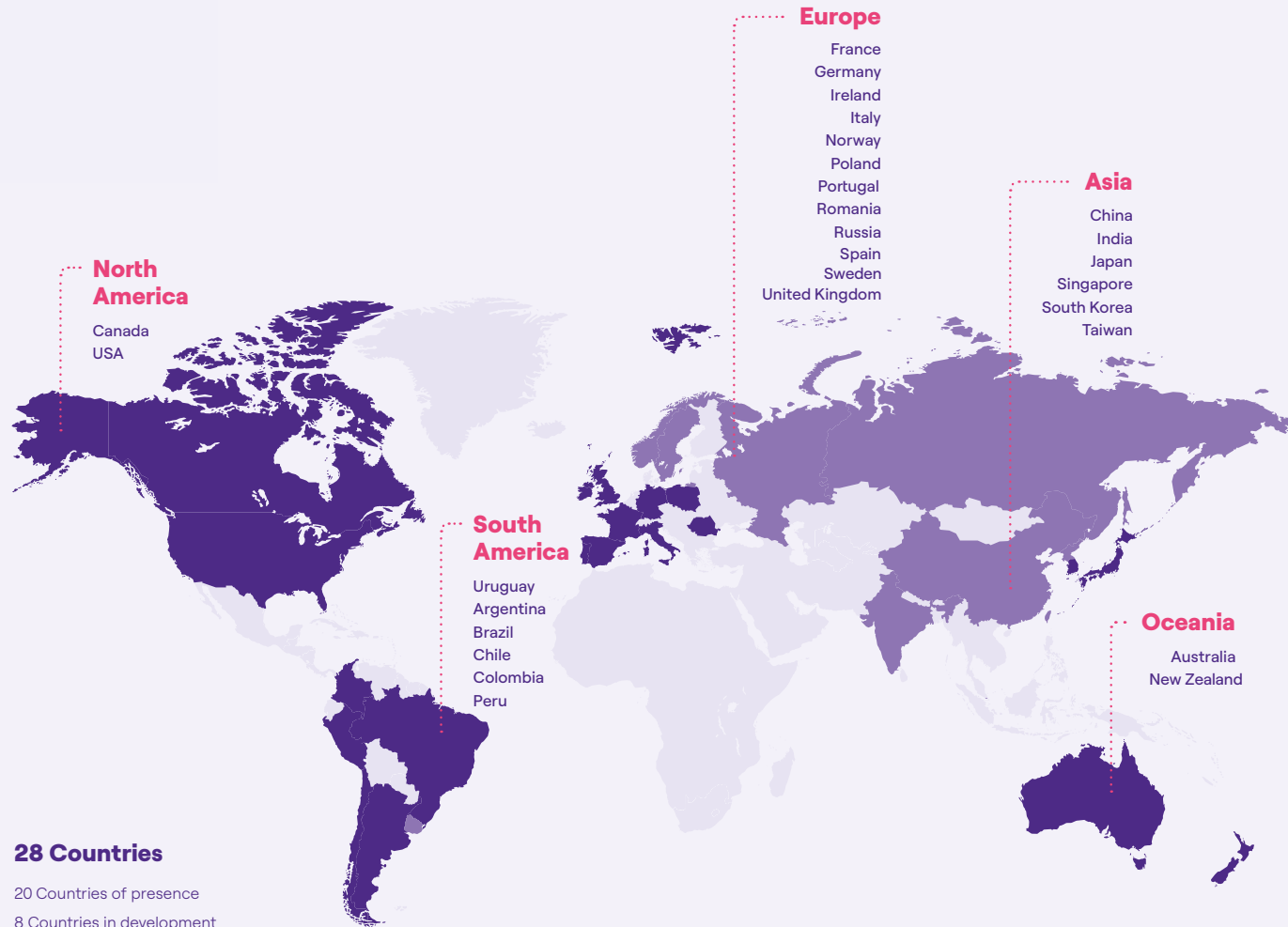
With a global reach and decades of experience in the energy industry, **Enel X** is a one-stop-shop energy partner with local teams of experts available 24/7/365, and offering **efficient, sustainable and reliable** solutions designed around clients' needs and tailored to their business priorities.

Enel X offers the opportunity to create new value for customers with a **platform-based approach**, which leads to an innovative and sustainable use of energy.

Enel X is a **global market leader in flexibility services and electric mobility**, with around 232K public and private EV charging points made available around the globe.



Enel X in the World



The benefits of Enel X BESS for C&I customers

Enel X's Storage portfolio includes custom-fit systems aligned with the business priorities of each client.

Enel X offers three solutions which enable C&I businesses to lower their electricity bills, improve their sustainability across the supply chain, and access backup power to avoid disruptions to daily operations:

Standalone Storage

An independent Battery Energy Storage System (BESS) which allows users to store electricity during hours when it is cheaper, and then dispatch it later when prices are higher. Standalone Storage enables C&I businesses to capitalize on energy price volatility, prevent power outage and contribute to balancing the grid, thus enabling a higher penetration of renewables.

Solar-plus-Storage

Pairing a solar photovoltaic system (PV) with a BESS allows C&I customers to extract added value from their on-site asset, and access new revenue streams. The battery, indeed, stores the self-generated energy by the PV for later use providing resiliency and backup power. Consequently, businesses can benefit from energy cost reduction, reach the highest sustainability value and maximize the on-site utilization of self-generated green electricity.

Microgrid

Small-scale Distributed Energy Systems – usually composed of PV, Storage and a genset – allow the customer to self-produce energy on-site while being connected to the utility grid. It offers the highest degree of resiliency by ensuring power supply for the duration of an outage.

Whether as a standalone battery or paired with other distributed energy resources, adding a BESS to your toolkit can bring new revenue streams. By enrolling these systems into **market programs** (e.g. Demand Response and Ancillary Services), Enel X allows its customers to generate **extra revenues** with no disruption to their core business operations, while improving their corporate and social responsibility.



The Brain behind the Operations

Enel X in-house Distributed Energy Resources Optimization Software (DER.OS) is designed to extract the highest value from the Battery Energy Storage System.

Through its **artificial intelligence and machine learning algorithms**, Enel X DER.OS learns the facility's operational behaviour and analyses it alongside external data, such as weather forecasts, energy market prices, tariffs, demand charges, and available incentive programs. Then, based on an optimization algorithm, the software uses the BESS to optimize the facility's load and so **create the most value for the customer**.

Enel X holds a leading position among the **global system integrators for energy storage solutions** as recognized by **Guidehouse Insights** -given its customer-centric approach and platform-driven infrastructure projects.

Source:
Guidehouse Insights Leaderboard - Commercial
and Industrial Energy Storage Systems Integrators, May 2020

The uniqueness of Enel X's in-house software, which can optimize both Behind-the-Meter and Front-of-the-Meter projects, lies in its ability to:

- 1** create a Virtual Power Plant (VPP) via the aggregation of on-site assets;
- 2** provide reports specifying bill savings "before" and "after" installing a BESS;
- 3** monitor real-time system performance;
- 4** re-calculate optimal performance every 15 minutes;
- 5** connect 24/7 with the Network Operations Center (NOC) Control Room for remote and on-site operations.

Financing Options

Enel X allows customers to invest in BESS projects under various financing options:



Direct Sale

Following a one-time payment, the client purchases and receives full ownership of the asset, benefiting from 100% of the savings and revenues generated by the system. Enel X installs the hardware with DER.OS and provides ongoing management and monitoring services.



Benefit Share

Enel X finances the storage system at the customer site. The customer then shares the ongoing energy savings and revenues generated from the storage system with Enel X based on a predetermined split.



Lease

Enel X finances and owns the storage system at the customer site in exchange for a leasing fee paid by the customer. The customer benefits from 100% of the economic returns generated by the asset.



Site Lease

Customers with unused land in areas with high electricity prices can lease their land to Enel X in exchange for a monthly lease fee. Enel X has the rights to install a battery at the customer's site and retains 100% of the benefits.



PPA & hPPA

Enel X finances Solar-plus-Storage projects, where customers pay Enel X a flat rate in €/kWh based on energy produced from the PV system (PPA) and can opt to also share the revenues generated by the battery (i.e. Demand Charge Management and Demand Response services) with Enel X under a hybrid PPA.

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