



enel x

# Powering sustainable returns

Route to market optimisation

[enelx.co.uk](http://enelx.co.uk)



# With change comes opportunity

In response to the increased variability in supply that accompanies the growing adoption of energy generation from renewable sources, grid operators and utilities are now placing a premium on asset flexibility – the ability for supply and demand resources to modify their electrical production or consumption when required. This evolving market has created a complex energy landscape that requires deep expertise to navigate it.

With change comes opportunity, and the energy transition is no exception. Through more sophisticated energy market participation, flexible assets like battery energy storage systems can earn more revenue and achieve greater performance visibility enabling them to exceed investment returns and support the country in the journey to net zero.

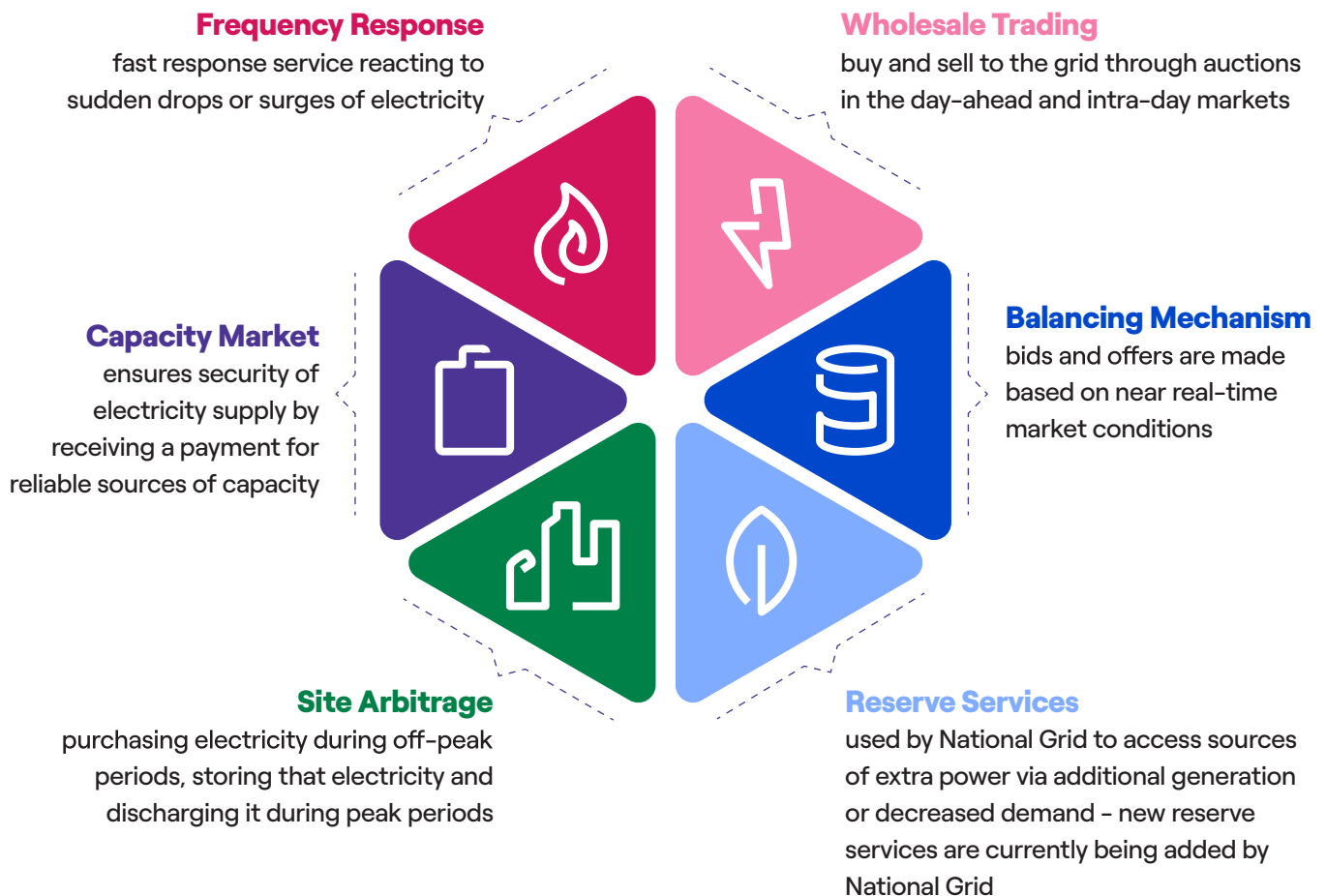
Enel X pioneered the demand side response industry, providing access to more energy markets worldwide than any other provider and delivering more than £1 billion in payments to our customers in the process. Now your battery energy storage and generation assets can take advantage of the same industry experts, world-class technology and market access that have been delivering unmatched value creation for our customers for decades.



# Value streams

Value streams represent payments or savings generated for enrolling energy assets into and actively participating in various ancillary, capacity or energy market programmes. Value can be realised via simple energy payments or through more complex mechanisms such as Frequency Response.

There are a huge variety of values streams for different assets in different markets. To access them requires an experienced partner that knows what value streams are available and how to participate. Here are a few notable examples of the many different value streams available in the GB market.



# Route to Market Optimisation

Energy markets and grid balancing programmes are maturing. Nowhere are the markets more mature than in GB, where the variety and complexity of these markets is unmatched. This creates a significant opportunity for energy storage and generation assets that can harness flexibility to capture the most value, by evaluating opportunity costs and achieving the highest priced MWh available.

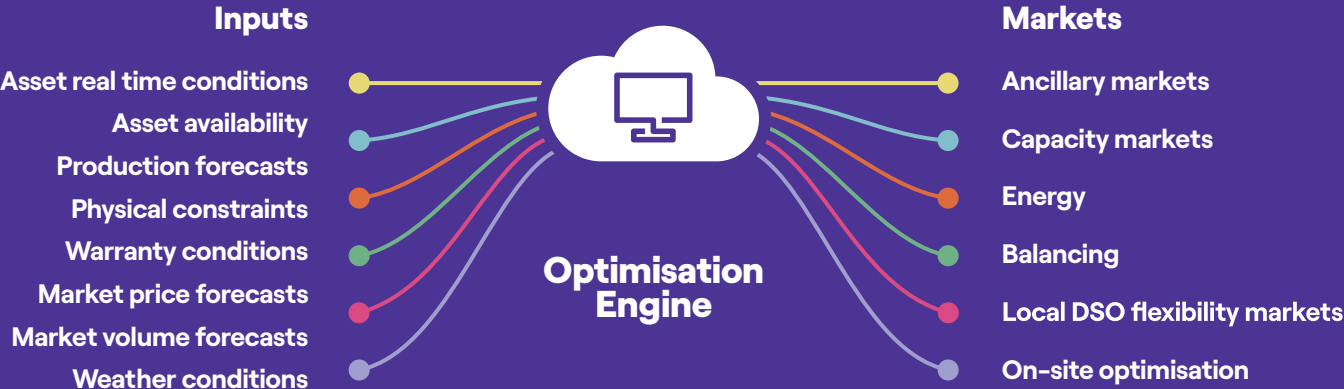
As GB energy markets and grid balancing programmes continue their transition into the merchant era, battery energy storage investors have been among the first to recognise the complexity of forecasting and achieving their return on investment. Traditional 'rules-based' control schemes are not effective enough to manage this complexity. In each market where Enel X operates, we choose the best proprietary or independent solution to deliver the best return for our customers.

## Our real-time optimisation engine

We have built a world-leading optimisation engine that utilises advanced machine learning algorithms to maximise the economic returns from battery systems in real-time.

Battery energy storage systems offer exciting possibilities for transforming how you power your business and create opportunities for infrastructure developers and investors.

If you are going to make an investment in battery energy storage, it is critical that you maximise the economic value you capture from its operation.





# What to look for in a route to market optimisation partner

Great Britain is a global leader in Battery Energy Storage System (BESS) deployment, with over 1.3GW in operation and many more GWs in development. Much of this capacity is to support National Grid with balancing the ever increasing renewable energy supply. The fast response time and ability to absorb and discharge power make battery energy storage systems the most desirable flexibility assets. These characteristics enable them to participate in many energy and grid balancing programmes.



## Energy Market Expertise

Any partner must have experience in and understanding of a variety of energy markets and grid balancing programmes. Many route to market partners are capable of participating in a number of markets and programmes, but do not have the project history to execute the complex prequalification and data requirements to ensure successful participation.



## Regulatory Expertise

To gain access to these programmes, and understand what new programmes are on the horizon, it's crucial to understand their often complex and changing details. These programmes are not simple to keep up with, and dedicated regulatory expertise is necessary to ensure participation is not only proper, but optimal. Enel X is a pioneer in the Demand Side Response industry and continues to sculpt the regulatory landscape of new and existing grid programmes in GB and around the world.



## Dedicated Operational Teams

Market revenue agility is all about timing and weighing opportunity costs and successfully forecasting the various markets. A dedicated trading and operational team is a necessity to ensure opportunities are being monitored at every moment.



## Technology

Technology is vital to enable reliable access, control and to prove performance in multiple markets. Furthermore, algorithms and machine learning help to automate and capture additional value by further optimising your energy assets.

# Battery energy storage

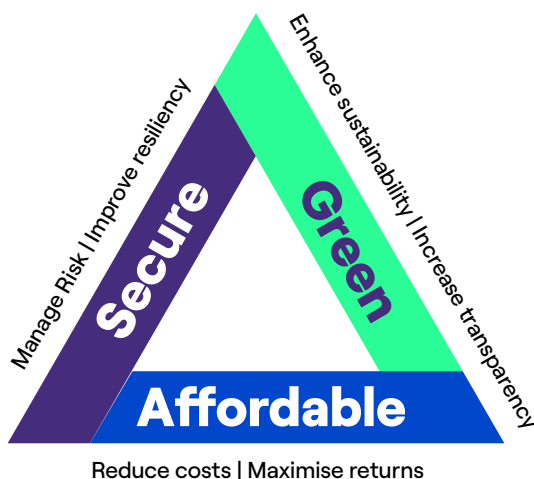
## Maximising your asset value

**“... the transition to net zero is a risk that needs to be managed as well as an enormous commercial opportunity to grasp.”**

**Mark Carney, Finance Adviser to the Prime Minister for COP 26 and UN Special Envoy for Climate Action and Finance**

With technology costs falling rapidly, battery energy storage systems (BESS) are becoming pivotal in the energy transition as they can provide the flexibility and resilience needed to accommodate the increased penetration of renewable energy on the electricity grid. Battery energy storage systems typically drive three main sources of value.

Depending on an organisation’s specific needs and priorities, each of these value sources may be more or less important in achieving your goals.



### Economic Value

A battery energy storage system has the ability to capture all flexibility opportunities. You earn a share of the value captured by the battery system each month, with immediate positive cash flow impact to your business.



### Resiliency Value

The system will improve your ability to operate critical equipment in the case of a grid power outage, especially if installed as part of a micro grid.



### Sustainability Value

Battery energy storage can improve your ROI for on-site solar power, and storage also enables the grid to support increasing amounts of renewable power, which will drive down wholesale power costs over time.



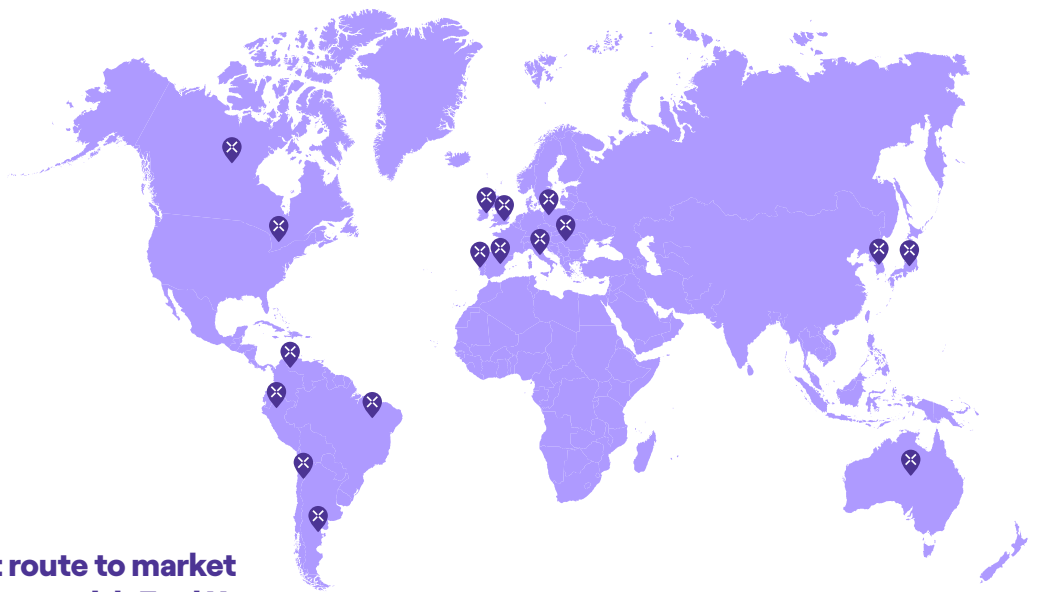
# About Enel X

Enel X Global Retail is the Enel Group's global business line that enables more independent and sustainable energy use. As a global leader in the energy transition, we provide consumers, businesses, and cities with innovative, platform-based solutions that embrace electrification and digitalisation to create new value. We help our customers develop their own energy roadmaps that enhance energy performance and achieve net zero targets, from initial consultation to execution.

The Enel Group has 15+ years of inclusion in major sustainability indexes, including the FTSE4Good, DJSI, CDP, ECPI, Euronext and STOXX, and the Group is committed to achieving 100% carbon neutrality by 2040.



Let's Talk



Contact us to learn more about route to market optimisation for your energy assets with Enel X.

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