Optimising Data Centre Site Efficiency

Energy Flexibility Programmes

Energy flexibility programmes ensure a reliable electricity supply during peaks in demand, unplanned outages, or lower-than-forecast renewable output. These programmes work by businesses adjusting their energy usage in response to grid challenges, thereby maintaining a stable and efficient energy network. In return, organisations are financially rewarded for their flexibility in energy consumption.

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Cleaner, more resilient and more affordable energy for all

When it comes to energy management, Enel X understands that this is a business-critical priority for data centres their owners and their clients.

Enel X has unrivalled experience in matching data centres with the right energy flexibility programmes that help them to achieve their commercial and environmental objectives without compromising site operations or client service level agreements.

We can also design bespoke solutions should a customer have specific requirements that need to be addressed.

Data centres: Good Grid Citizens
Data centres often face negative media narratives, but they can play a crucial role in creating a greener, more efficient, and more reliable power system. By participating in energy flexibility programmes, data centres reduce reliance on fossil fuel power stations for backup generation, thus avoiding carbon emissions associated with traditional power management. They also contribute to the grid conditions necessary to accelerate the transition to renewable energy on a global scale.

Enhancing Resilience
By participating in energy flexibility programmes, data centres also gain the advantage of receiving advance notification should there be a potential threat to the energy being supplied to their site from the grid. In a business where uptime is everything, this notice can be invaluable as it reduces the risk of an interruption to operations if the site is forced to switch to an alternative power supply. Participation in flexibility programmes also creates a realistic environment for back-up system testing so that you can be confident that your last line of defence will not fail when you need it most.

Decarbonisation

Contribute to a greener grid and reduce your carbon footprint.

Grid Stability

Ensure stable operations and support grid reliability.

Site Resiliency

Enhance the resilience of your data centre infrastructure.

Revenue Opportunities

Generate income from existing assets through smart energy management.

Energy Flexibility Programmes

Programme	Programme description What's involved?	Asset Class Which energy assets are most suitable for participation?	Response time How much advance notice do participants receive?	Average duration of grid event What's my time commitment?	No. of grid events per year (est.) How often will we be called on?	Revenue potential How much can I earn?	CO_2 avoided What's the environmental impact?
DS3 (Dynamic)	DS3 (dynamic) is an Eirgrid programme focused on integrating renewable generation into the power system by maintaining grid frequency with ultra-fast responding assets	UPS, BESS	Less than 2 seconds	15 seconds – 5 minutes per event	30 per year	£ £ £	
DS3 (Static)	DS3 (static) is an Eirgrid programme focused on integrating renewable generation into the power system by maintaining grid frequency with fast responding assets	UPS, Fuel Cell, Non-essential load, HVAC Refrigeration, Generators, DRUPS	2 seconds - 90 seconds	5 – 20 minutes per event	5 – 7 events per year	£ £	
Capacity Market (Demand ON)	The Capacity Market (Demand On) Programme increases the amount of renewable energy supplied to the grid. If, during periods of excess renewable generation, a customer can turn down their CHP, this increases electrical Demand, which is then met by 100% renewable energy. This is energy which otherwise would have been curtailed.	CHP	1 hour	4 - 20 hours	50 – 100 events per year	£ £	
Capacity Market (Demand OFF)	The Capacity Market (Demand Off) ensures security of electricity supply by providing a payment to large energy users for their availability to reduce demand from the grid in the event of a shortage of supply on the grid.	Flexible demand, generators (HVO or Gas Only), Fuel Cells, Batteries	1 hour	2 hours	10 – 20 events per year	£	
Beat the Peak	Beat the Peak is an opt-in scheme where you earn money by using less electricity when demand is high	Flexible demand, generators (HVO or Gas Only), Fuel Cells, Batteries	24 hours	Up to 2.5 hours	1 to 5 days per week	£ £ £	

Your energy flexibility partner

Our specialist team is committed to supporting you every step of the way. We offer an end-to-end solution from the initial site survey to project design, implementation, grid compliance testing, energy market access and ongoing optimisation.

- In-person, on-site support provided by the Enel X operations team during set-up, expansion, or troubleshooting.
- Our Network Operations Centre (NOC) monitors grid activity 24 hours per day, 7 days per week, 365 days per year.
- Your Customer Success Manager ensures that you are kept informed of any changes to grid code, regulation or legislation that may impact on your energy strategy.

For further information, please contact:

Michael Mahon
Commercial Solutions Sales Lead, Enel X
Email: michael.mahon@enel.com
Phone: +353 87 358 3754

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