Customer success story
Drax

Markets Served
Buildings

Drax and Eaton battery storage system gives UK businesses greater flexibility to take control of their energy and reduce their emissions

Installation of Eaton's xStorage Energy Storage System at UK sites enables businesses to manage their energy consumption and support the UK's 2050 net-zero emission target.

Location:

United Kingdom

Segment:

Buildings

Challenge:

Drax needed a reliable partner to develop an energy storage solution which could be quickly and easily installed at UK businesses, helping customers to maximize use of their own on-site renewable electricity generation and better manage their energy consumption and operating costs.

Solution:

Eaton xStorage Energy Storage System.

Results:

Reduced operating costs and improved environmental credentials for businesses by enabling renewable energy to be consumed when it's most needed and reducing demand at peak times as well as providing secure back-up power.

"Energy storage is the key to help our customers maximize the benefit of the energy they generate from their own small-scale renewables, bringing more flexibility to the grid and helping to smooth volatility in the system. We chose to partner with Eaton because they can quickly scale-up the deployment of small commercial energy storage systems to larger, industrial-scale units helping to support more of Drax's customers."

Rachel Lenton-Leigh, Product Incubation Battery Manager, Drax

Background

Drax is the biggest renewable power generator in the UK, supplying 12% of the UK's renewable electricity. It is also Europe's largest decarbonization project following the conversion of two thirds of the Drax Power Station to use sustainable biomass instead of coal.

Drax supports the UK's 2050 net-zero emissions target and wants to enable its customers to reduce their own emissions by giving them greater choice over when they use the energy generated from small-scale on-site renewables such as solar panels and wind turbines.

Using batteries to store the energy from small-scale renewables gives customers more flexibility and helps to reduce electricity bills.

It also brings more flexibility to the electricity grid as it reduces demand at peak times, helping to smooth volatility and enabling more renewables to get connected.

Challenge

The project aimed to develop a commercial business case and resolve 'pain points' so Drax could develop an offering for its customers.

This included assessing the end-to-end customer journey, from initial contact through to completion and commissioning; grid connection, grid and electrical protection and permitting; physical challenges to installations in diverse locations; electrical challenges for system protection and integrating into existing, often ageing, electrical infrastructure; and remote communications and control systems.

With several UK businesses interested in participating in the proposed project, Drax needed to find a suitable partner that could install a reliable, renewable energy storage system and provide technical support.

Drax chose Eaton because of the company's ability to scale up the deployment of small commercial energy storage systems to larger industrial-scale units which would support more of Drax's business customers.

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Solution

Drax selected Eaton's xStorage Buildings Energy Storage System with new and second-life batteries for the installations. Eaton's product enables businesses to gain access to a safe, reliable and efficient power management system that harnesses the full potential of their renewables.

Yennard's Farm in Leicestershire was one of the first sites where an Eaton xStorage Buildings system with a power rating of 40kW and a battery capacity of 50kWh was installed. The system maximises the amount of energy the farm can use from its on-site solar panels rather than exporting the excess to the grid. The stored energy is used to meet the farm's electricity demand during peak times, helping to ease grid congestion and reduce the farm's electricity bill.

Customers can choose storage systems with a power rating from 20kW and battery capacity of 20kWh up to systems with multi-MW power ratings and multi-MWh battery capacities. The Eaton xStorage Buildings system improves resilience and ensures business continuity, as well as allowing businesses to optimize energy bills and operational expenses.

Result

To ensure the minimum disruption to a business's operations, most of the pre-planning for the installation of Eaton's xStorage Energy Storage System can be done offsite, reducing time onsite to less than four days, including delivery and commissioning.

Three installations have already been completed and a further nine will be completed in 2019 and early 2020.

Geoffrey Jones, owner of Yennard's Farm in Leicestershire, was one of the first customers to benefit from the energy storage system. Mr. Jones said: "We have had the solar panels for three years and were excited when we were approached by Drax to look at battery storage on a trial basis. I strongly believe that getting battery storage on a commercial scale will be the next big step forward."

Eaton's certified xStorage installer, **Carter Sullivan** supported the installation at Yennard's Farm. **Director of Carter Sullivan, Mark Anderson** said: "The container at Yennard's Farm was built offsite at our premises in Bedford, then brought to the farm where we loaded the batteries, completed the electrical installation and then tested and commissioned the system to G99, the latest industry standard for grid code compliance, and G100 for export limitation, a process that was witnessed by the distribution network operator."

Mr. Jones noted the benefits of the system for the farm. "Utilizing all the electricity we produce rather than exporting it saves us money - that's why we've been keen to get involved from the start."

Alongside lower electricity bills, using the energy stored from renewables helps take pressure off the grid during times of peak demand. This reduces the need for the grid to supply power generated by fossil fuels, contributing towards lower carbon emissions from the UK's electricity grid.

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