



CASE STUDY

Environment Agency, National Laboratory Service, Starcross, Devon

The Environment Agency's (EA) Starcross laboratory helps environmental issues nationally and internationally through services to commercial customers, which generate money to fund environmental improvements and projects in England.

Every year, the National Laboratory Service (NLS) receives many containers of samples that they test to identify manmade substances including pesticides and polluting metals such as Mercury. It also maintains and installs field monitoring stations that monitor quality in real time so the country can enjoy excellent water quality every day. The site also feature office space, a staff canteen and some small laboratories. The main laboratories also store IT equipment, fridges, freezers, split-system air conditioning, heating and lighting so savings are of paramount importance for an efficient service.

Being scientists, the team at Starcross never stop looking for ways to innovate and have managed to reduce their CO₂ emissions, high costs and thousands of litres of oil by installing a biomass boiler and two highly efficient oil fired boilers. A 560kVA/800Amp standard

powerPerfect unit was installed at EA NLS Starcross in January 2010, and with an 8% optimisation setting saw excellent benefits. Since then, powerPerfect technologies have evolved with the introduction of the most advanced electronic voltage control technology available named the Retro-fit powerPerfect iQ. It is the fastest, most accurate and precise control technology on the market and designed to increase savings, improve site security, reduce maintenance, extend equipment life and reduce capital replacement costs. With this in mind, Starcross upgraded to the iQ in 2017 and is now saving 6.37% of its electrical energy, which is a 30% improvement in savings, protection against harmful voltage dips and precise output voltage control.

"Since the installation of the powerPerfect and the more recent iQ, Starcross has seen many improvements in savings and improvements across the board. The system integrates well with our own innovations and commitment to creating a successful, sustainable and efficient environment service".

Keith Solts, Technical Manager
Environment Agency

INFORMATION

Unit: **powerPerfect iQ**
Unit size: **560 kVA**
Install date: **upgraded 2017**
Annual kWh saving (kWh):* **70,000**
Annual cost saving (£):* **8,400**
**Additional savings.*



Voltage profile analysis

