

# World class state of the art asset management leads renewable energy optimisation

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The past ten years has seen a massive step change in the renewable energy sector. It is becoming one of the most innovative industries, continually evolving to deliver greater value to wind farm owners and to provide a future-proof solution for our global energy demands.



Euan Fenelon

With the demise of subsidy driven economics, the industry has focussed on becoming much more pro-active. Performance optimisation, continual data analysis and cost competitiveness are all essential in the effective management of renewable energy assets, and, at Natural Power, our cutting edge methods have been developed to ensure we match what



Lauren Wheatley

the industry needs to keep pace.

Early last year, we decided to take our 'ControlCentre' to the next level. To ensure we were positioned at the forefront of asset management, real time data provision and security requirements, this investment is designed to deliver the next decade of services to a market where our clients

demand more flexibility; where interaction between generators, system and network operators becomes more sophisticated; and where intelligent management of assets brings higher returns.

Located at our global headquarters in Dumfries and Galloway in Scotland, we embarked on a market leading programme that included the design and build of a new control services facility incorporating a decade of experience in its design.

The new £540,000 state-of-the-art facility that has been created is the largest, independently operated 24/7 control room in the UK, managing more than 175 renewable energy assets which are located throughout the UK, Ireland, France and the US. The ControlCentre now employs 19 staff and manages 5 GW of renewable energy capacity comprising onshore and offshore wind, biomass, solar and hydro. This investment ensures the ControlCentre complies with all the new EU cybersecurity rules to protect clients' assets and the grid, keeping them safe against potential cyber-attacks, as well as exploring new ways of increasing revenue for our clients.

So how does it work? Site data arrives at ControlCentre and is analysed by our state of the art software, utilising machine learning techniques, to ensure the turbines are operating at peak performance. Whilst

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automation plays an important role in modern asset management and the software required to deliver cutting edge services is continually improved, another more human factor, plays a vital role. An ergonomic environment, improved sound, lighting and room layout mean that the operational controllers are comfortable and safe to support our clients at any time of the day or night, whether that is site access, grid curtailment, emergency response, turbine control or any number of other services.

ControlCentre is also capable of supporting National Grid in balancing the network and ensuring just the right amount of power is being delivered into the network for homeowners and industry to use and enable asset owners to sell when costs are optimal and to curtail when demand is low. From a practical point of view, ControlCentre also helps to raise work orders and manage site access and egress remotely which manages safety risks on sites and therefore reduces the cost impacts that could come from a health and safety related incident.

The team can monitor data and react to alarms, bad weather or issues on site quickly, which again saves money and reduces the reliance of onsite personnel at the asset. For example, if a lightning strike causes damage to a turbine, the asset can be powered down remotely to minimise further damage and secure the

site for the emergency services. In the long term this can deliver massive savings on repair bills, as well as ensuring a safe working environment, which allows for quicker repowering once the issue has been resolved.

In terms of asset optimisation, the monitoring and analysis of turbine data can flag potential problems before they become critical and avoid the need, where possible, of very costly, major component exchanges such as gearboxes. By taking a preventative approach to maintenance strategy, thousands of pounds can be saved annually and this far out-weighs the relatively low cost of data analysis, regular inspections and a well-planned maintenance and servicing strategy.

The new facility has been designed to ensure Natural Power remains at the forefront over the next decade. Flexibility has been built in to allow for integration of new services as well as the continued upgrading to software that will improve service delivery – vitally important in an ever changing industry.

ControlCentre was officially opened by Scottish Energy Minister, Paul Wheelhouse. He said: ‘I welcome the significant investment by Natural Power and the Fred Olsen Group in the Scottish energy sector and, of course, it is tremendous to see investment in such a facility in a rural region like Dumfries and Galloway.’

#### About Natural Power

Natural Power is a leading independent renewable energy and infrastructure consultancy that employs 350 staff globally. The company offers proactive and integrated consultancy, management and due diligence services, backed by an innovative product range, across the onshore wind, offshore wind, wave, tidal, renewable heat, solar PV and hydro sectors, whilst maintaining a strong outlook on other new and emerging renewable energy sectors.

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