



# KiWi Power and CBRE partner for leading global banking institution

## Key project benefits



Annual revenues: £100,000+



Reduction of CO<sub>2</sub> emissions



No disruption to site operations



CSR benefits



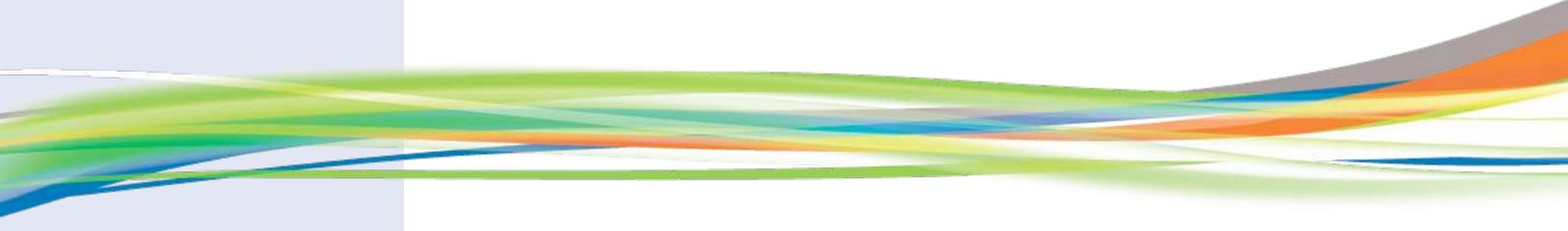
Access to real time energy management dashboard with enhanced monitoring features

## Global bank pioneer frequency response

KiWi Power and leading commercial property manager CBRE have partnered to introduce major commercial client sites to opportunities to generate significant revenue with their existing energy assets. The first of these clients is one of the world's largest financial institutions, serving individual consumers, small and middle market businesses and large corporations with a full range of banking, investing, asset management and other financial and risk management products and services.



The nature of the site owner's financial business demands an uninterrupted energy supply. This necessitated investment in specialised backup assets providing instant backup generation if mains electricity fails or fluctuates. This onsite diesel rotary uninterruptable power supply (DRUPS) system made them a perfect candidate for the National Grid's frequency response (FR) programmes.



## What is Frequency Response?

UK power grid system frequency is a continuously changing variable determined and controlled by the second-by-second (real time) balance between system demand and total system input generation. If demand is greater than the generation from power stations, the frequency falls. If generation is greater than the demand on the grid, the frequency rises.

- Sites must use a specialist relay system that can respond to changes in National Grid frequency within 0.01 Hertz.
- In addition, systems such as DRUPS must be linked to a real time monitoring system with kilowatt output.
- Site performance data must be continuously recorded and monitored to ensure availability and responsiveness.



## How KiWi Power delivered for leading global banking institution:



### Assessment and design

- KiWi Power worked with the bank's engineering teams and CBRE to identify UK sites suitable for FR with assets capable of shifting site load within one second.
- KiWi provided a detailed technical assessment, identification of functional specification, system design, installation and contractor commissioning.
- Commercial terms and conditions were agreed with the UK and US management teams leading to final commissioning and site FR declaration.



### Installation

- KiWi Power's detailed specification included the use of a leading protection relay to monitor site frequency and second by second metering of the DRUPS system.
- In addition, the status of circuit breakers and condition monitoring is instantaneously recorded back to the London based KiWi Power control centre in real time.

- The commissioning plan included injection testing from an independent provider, witnessed by National Grid to ensure critical operational parameters were within limits.



### Delivery

- In an FR event the DRUPS system generator responds in milliseconds providing power to the site and displacing power from the grid with total run time limited to 15 minutes. This process must be automated and there can be no manual intervention or operation for assets to respond so quickly.
- The first four FR events responded seamlessly in less than 120 milliseconds, running for a maximum of 15 minutes.
- All performance data is recorded in real time back to a FR system computer at the KiWi Power control centre, with further reporting to National Grid control.
- Revenues are paid to the client with earnings statements, performance data, and FR metrics available through KiWi Power's live dashboard for client use and information.

## About KiWi Power

KiWi Power is the UK's leading demand response aggregator and has been a key player in the UK market since 2009. We are passionate about driving innovation in technology to create efficiencies, generate commercial opportunities and promote a green agenda. We work confidently with policy makers and system and network operators, navigating the energy landscape to provide clients with robust and best in class technology and hardware.

Combining proprietary hardware and software and experienced teams, KiWi Power delivers significant commercial returns and sustainability benefits to large consumers of electricity, utilities and grid operators.

Demand response is a unique and powerful application using technology to reduce electricity consumption at peak times across industrial and commercial sites. This creates a greener, more cost effective grid, reduces the need for inefficient backup power stations and provides vital balancing requirements and security of supply to system operators and end user sites.

KiWi Power's innovative approach is leading the way in evolving the UK demand response market as well as influencing the design, build and operation of demand response programmes around the world.