Greenclick

Find | Save | Solve

FINDING ENERGY & COST SAVINGS ON LARGE, COMPLEX SITES

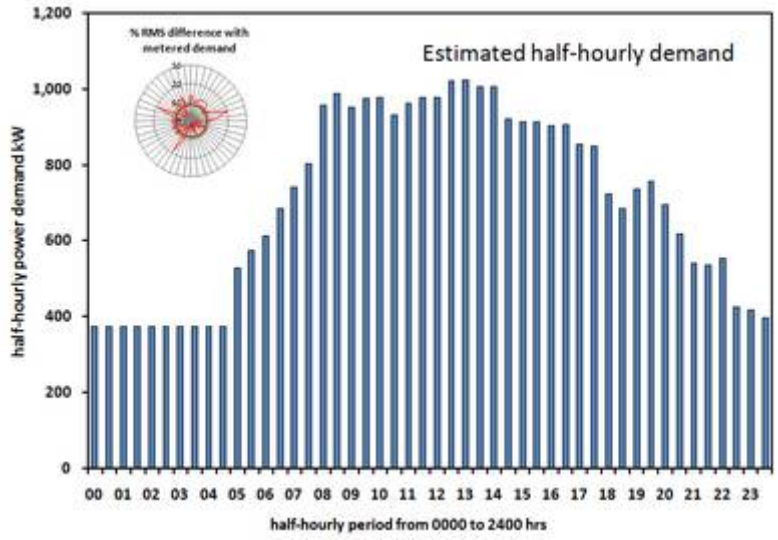
Case Study - Campus

Better business performance

Greenclick is a system that finds energy and other savings. For example, tell Greenclick the location of a factory and what the factory makes and it will return an estimate of the energy used at the factory plus where and how much energy can be saved at the equipment level.

Greenclick is not restricted to a single site and can be also used across multiple supply chains. It can be used for other resources, such as water. Greenclick creates visibility of energy use and cost savings and provides for a more collaborative approach through the supply chain - leading to the creation of shared resource efficiency gains and better business performance.

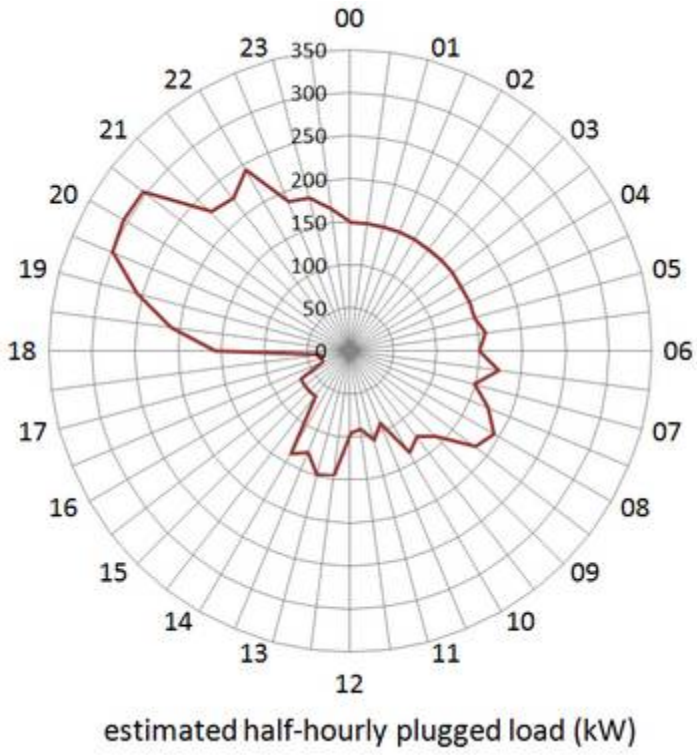
This case study is an example of how the Greenclick approach led to significant savings for a large campus. The campus consists of over 50 buildings with several thousand energy-using systems. The Greenclick approach involves a simulation of the site down to the level of equipment. Simulation of a site is often used with an on-site review to focus on those aspects that may present significant energy and cost saving opportunities, particularly at energy hotspots.



The simulated half-hourly electricity demand over a 24-hour period is shown opposite. The demand profile has been matched to the site. For the 24 hour period, the total simulated electricity demand was 16.9 MWh. The corresponding metered value was 17.0 MWh. Once matched, the simulated profile can be investigated in detail for energy and cost saving opportunities. The inset shows the % rms difference between metered and estimated demand; average over the 24-hour profile is 8%.

By varying dynamic energy parameters in the simulation to achieve an output that matches what is observed (metered) for the site, insight into the patterns of energy use can be gained. For example, the way that plugged load varies can be indicative of people's activities.

The spider diagram opposite shows the estimated half-hourly plugged load through a 24-hour period. It can be seen that there are significant increases in plugged load around breakfast time, lunchtime, and in the evening from about 6pm onwards. These reflect activities such as charging of mobile phones, laptops, and use of a wide range of other equipment such as toasters, microwaves, washing machines and dryers.



Benefits

For large complex sites, such as campuses, community energy systems, shopping centres, airports, industrial estates and towns, that have numerous buildings responding to the weather and accommodating a huge diversity of energy-using systems as well as being space for people going about their various activities, the Greenclick approach offers a powerful insight for developing strategy. 'What If?' scenarios can be investigated and used to evaluate cost and carbon strategies before they are implemented. Energy 'hotspots' can be identified allowing for a prioritised approach to installing automated monitoring and targeting system. The cost and carbon impacts of the different ways that people use the space can also be investigated.

Further information on Greenclick

Phone: +44 779 081 7243

Email: info@greenclick.co.uk

Web: www.greenclick.co.uk

Savings

The annual energy profile for the campus was 4,200 MWh of electricity, 1.5 million litres of fuel oil, total energy costs of £1.19 million, and greenhouse gas emissions 7,030 tCO_2e.

Cost savings of £270,000 and CO_2e savings of 1,725 tCO_2e were identified.