



London Bridge Best Practice

LONDON BRIDGE STATION
REDEVELOPMENT PROJECT

Case Study Title: Energy Efficiency

Month/Year: August 2017

Key Benefits

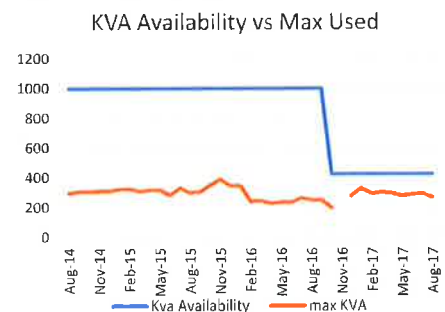
- ✓ Carbon neutral Green Energy REGO tariff connected
- ✓ Smart Meters installed to more accurately monitor energy use
- ✓ Successful Energy Efficiency Campaign encouraged positive behavioural changes

Objectives & Targets

- ✓ SDS Objective No. 15 – To minimise the levels of carbon generated over the whole life of the Thameslink Programme
- ✓ CEEQUAL – Energy & Carbon

Electricity Supply, Green Energy Tariff & Smart Meters

Initially the Project had been purchasing 1,000 kilo volt amps (kVA) to supply the expected large electricity consumption required by the Project. However, as the adjacent graph shows, despite the availability of 1,000 kVA, the maximum use had not exceeded 400 kVA. Therefore, in October 2016, the Project reduced its electricity purchased to 426 kVA. This reduction has **saved over £8,000 per year**.



The decreasing trend in electricity consumption has continued into 2017. Therefore, the Project will be further reducing its electricity purchased to around 300 kVA in October 2017 (noting, only one purchase/supply adjustment can be made annually with the utility provider), which will **save a further £1,000 per year**. It could be possible to reduce the electricity supply even further, especially as electricity use on-site is expected to further decrease from Autumn 2017 as all tower cranes will have been decommissioned and the main construction works begin to taper post the next main Project handover in January 2018.

Beazley House has been on a Green Energy REGO (Renewable Energy Guarantees of Origin) tariff with Good Energy since January 2017, meaning that all electricity supplied to the office is from 100% renewable resources and carbon neutral. The costs associated with the REGO tariff are ~5 – 10% more compared to non-REGO tariffs, however, the REGO supply is carbon neutral. For the Project, this means **eliminating approximately 650 tCO₂e emissions per year**. In addition, Smart Meters were installed at Beazley House in December 2016. Five Smart Meters were installed; one per floors one to four and one on the ground floor which measures electricity usage of the ground floor and site combined. The Smart Meters have enabled the Project to more closely track electricity usage, identify trends and areas for possible improvement, and inform decisions on electricity purchase/supply.

Energy Efficiency Campaign (May 2017)

In the last week of May 2017, the Environment Team ran a Project-wide Energy Efficiency Campaign to encourage everyone to save energy by 'switching off'. Advice relating to what everyone could do at work (office and site) and at home was provided throughout the week via various forums and media. This advice included information on how much money and carbon could be saved by simply switching off.



Various competitions were run, including a competition between the floors of Beazley House. Each floor was challenged to reduce energy usage during the campaign week. Beazley House Floor Two was the most energy efficient floor using **1.5% less energy**, compared to their average daily use over the previous month. If we could use 1.5% less energy across the entire Project, we could **save around £2,500 per year**. This reduction in energy usage was impressive in that the week was the first hot week experienced, hence, the air conditioning was constantly on.

Over ten energy related Close Calls were submitted throughout the week. The best energy efficiency related Close Call related to task lighting being in use when there was sufficient daylight. In response to this, Woodlands (the Project construction electricians) were requested to change the automatic timers on task lighting in line with the extended summer daylight hours. Over 30 energy quiz entries were received throughout the week and energy related word searches were made available in the canteen.

Overall, the campaign was a huge success in raising awareness of the potential to save energy within the office and home environments.

Lessons Learned

- Money can be saved by simply monitoring electricity usage and adjusting electricity purchased/ supplied accordingly. This should be done annually as a minimum.
- Although Green Energy REGO tariffs cost more per unit of energy purchased, the immediate carbon savings outweigh these costs in terms of achieving carbon reduction targets.
- Campaigns to encourage behavioural changes can be effective and need to include a variety of mechanisms for involving all staff members, including office based and site based staff as well as night shift staff and members of staff located in other office buildings.