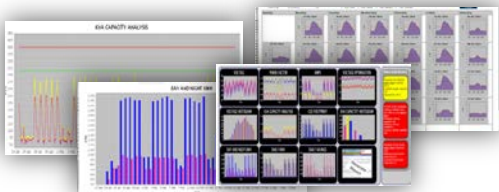


CLIENT: Arnhem Wharf Primary School
LOCATION: Tower Hamlets, London E14
SITE DETAIL: Single site, Single utility
SECTOR: Primary Education
DATE: October 2012
SERVICE: Demand Reduction
UTILITY: Electricity
SCOPE: Energy (£) saving opportunities



The Challenge

Arnhem Wharf Primary School is encouraged to make the most of their resources, while providing a solid education for students. Being energy efficient saves money, so is an excellent way to release funds for curricular resources or facilities. In addition to economic benefits, there are social and environmental advantages to reducing energy consumption, such as preserving fossil fuels and minimising the impact on the environment. This is increasingly important to the reputation of the school, as students, teachers and parents are becoming increasingly aware of climate change. Moreover, actions taken to become energy efficient provide an excellent opportunity for practical learning and real-life application for students. Many of the actions learned from the energy study could be undertaken or monitored by students, while the science behind it might be a great opportunity for targeted classes.



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- ✓ Unlimited user access over the internet
- ✓ Easy to understand energy dashboard
- ✓ Energy and carbon profiles on demand
- ✓ Saving opportunities identified with costing
- ✓ Initial steps towards ISO 50001 energy standards

How the School will benefit

Energy consumption in schools can vary depending on the age of the buildings, their state of repair, occupancy hours and the amount and type of electrical equipment installed. The widespread use of electrical equipment in ICT, science, sports and crafts lessons increase the use of energy. Arnhem Wharf Primary school can benefit from reduced costs and enhanced learning environments through the implementation of identified opportunities. Staff and students will have improved comfort conditions which can boost productivity and morale. Students can learn about and experience 'real world' activities when exploring energy efficiency in Maths, English, Science and Citizenship classes. Parents and the wider community could reduce their own energy use as a result of pupil action and awareness. The environment will benefit from reductions in energy use and carbon emissions which will enhance the school image.

Specific Challenges

Provide those who are responsible for the 'business' of the school, such as school managers, maintenance staff, governors, administrators and teachers with the actual energy saving opportunities available to them within their school. Key areas are:

- Focusing on low and no-cost measures with quick paybacks
- Assess the potential for energy savings and indicate key areas for improvement
- Raise awareness and motivate action amongst the whole school community
- Prioritise activities to maximise savings and promote awareness
- Many parts of the school have no energy monitoring capability and energy consumption information is based entirely on supplier data which can be flawed and prone to error
- Providing energy usage reports required by the school for cost reduction and compliance that will not be a burden on administration
- Existing energy usage data not being used to target energy usage or cost reduction

The Solution

The PSW energy team managed the project from initial scope, to school management/staff engagement through to establishing monitoring levels, ensuring at all times compliance and an auditable trail for continual improvement through awareness and no downtime or disruption to school activities. Our engineers installed power monitoring to the main electrical supply to obtain accurate energy data and establish initial baselines. The data was transferred to our internet energy portal for discussion and planning.

Results and Opportunities

- ✓ Excess KVA usage identified
- ✓ High 'out of hours' usage increasing wastage
- ✓ Supply capability close to rated capacity (loss of power)
- ✓ Power factor low increasing KVA demand and costs
- ✓ Increased supply voltage increasing overall costs