

# Case Study - School



**Eco-friendly school raises the standard with advanced combined heat and power technology whilst generating over £40,000 per annum in energy savings.**



## **Hampton School, Richmond, London**

Hampton School has utilised the advanced technology of an ENER-G150kW Combined Heat and Power unit to assert their commitment to green energy initiatives, whilst generating over £40,000 per year in energy savings.

Hampton School was founded in 1557 and assembled at its present site on Hanworth Road in 1938. The independent, grammar school for boys has around 1200 pupils and in 2006 became the first school in the UK to off-set its CO<sub>2</sub> and other greenhouse gas emissions, becoming "Carbon Neutral".

The school's commitment to lowering its carbon emissions are evident from the green initiatives they have implemented over the past ten years, these include:

- A Building Management System; ensuring maximum efficiency from the school heating system
- A compactor and recycling facility for cardboard to reduce landfill waste
- Paper recycling scheme
- Establishment of an environmental committee involving staff and pupils.

One of the school's largest initiatives was the installation of an ENER-G150kW Combined Heat and Power (CHP) unit. By using CHP to generate electricity on site the heat created in the electricity generation process can be recovered and used by the school can use to provide its hot water and heating requirements.



**Hampton school ENER-G 150kW CHP Unit**

The unit which has been operational since November 2008, was bought by the school on capital purchase with premier plus contract cover for ten years. This ensured Hampton School would receive ENER-G's vast industry experience and the financial and environmental benefits associated with CHP technology, safe in the knowledge that any maintenance requirements would be promptly resolved.

The CHP system generates electricity and recovers the majority of the heat created in the process. In conventional power stations this heat is simply wasted into the atmosphere through power station cooling towers, much energy is also lost along the many miles of electrical distribution cables needed to bring the power to site. By using CHP to generate electricity on site the heat is used to provide heating and hot water providing increased comfort for the school's staff and pupils during the winter months.

#### **Available funding**

Building Schools for the Future is the biggest single government investment in improving school buildings for over 50 years. Funding is available for efficient energy technologies such as CHP. It is a the low carbon energy technology which helps reduce the building carbon footprint and also achieves significant savings on energy bills.

#### **Savings**

The school has already achieved huge environmental benefits from installing the ENER-G CHP unit, with cumulative savings of 196 tonnes of CO<sub>2</sub> in its first six months, equivalent to planting 19,557 trees.

ENER-G delivers small-scale 4kW to 10MW CHP solutions to customers around the world and it offers the broadest product range on the market, incorporating more than 1,400 installed cogeneration systems across the globe – powered by natural gas, biogas, diesel, biogas, propane or biodiesel.

#### **The benefits of CHP in the education sector:**

Offers financial savings over conventional energy supply:

- Avoids Climate Change Levy
- Primary energy savings deliver lower energy bills
- Higher efficiency offers reduces greenhouse gas emissions offsetting the impact of the proposed Carbon Reduction Commitment.
- Greater security of supply and plentiful hot water
- Flexible procurement options
- Zero CAPEX required
- VAT savings
- Incorporate Enhanced Capital
- Allowances otherwise denied to the public sector
- Possible grant funding

#### **About ENER-G**

ENER-G Group is a leading distributed power generation and energy management company, providing clean energy initiatives with visible benefits to the environment.

As well as ENER-G Combined Power, the Group's international business activities include renewable power generation from landfill gas, energy from waste, and energy management.

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