



Royal Free Hampstead NHS Trust: A model for energy efficiency

The challenge:

The Royal Free Hampstead NHS Trust is a 900-bed hospital in London providing care to 700,000 patients a year, with significant fuel and running costs.

The Royal Free needed to replace its ageing power infrastructure as well as cut its carbon emissions to meet the NHS target of a 10% reduction by 2015. The challenge was to minimise exposure to rising energy prices by delivering guaranteed energy provision with cost savings, carbon reduction and benefits to the local community.

The solution:

The Royal Free Hampstead NHS Trust has partnered with MITIE's Asset Management division, now part of Utilyx, to provide secure, off-grid energy with cost and carbon savings over a 15-year contract.

The 4.6MW combined heat and power energy centre uses an efficient gas turbine that produces 36,000MWh of electricity and 36,000MWh of heat per year. It achieves an economic benefit by using the heat that is lost in the production of conventional grid-supplied energy and avoiding transmission losses. Heat from the plant is converted into high-grade steam and introduced into the Royal Free's heating, hot water and chilled water systems.

The joint venture between MITIE and the Royal Free Hampstead NHS Trust is implemented by the formation of an Energy Services Company (ESCo). Using the ESCo model, MITIE evaluates the energy strategy, designs and implements the infrastructure, and operates and maintains the system over 15 years with no upfront financial investment from the hospital.

The benefits:

This decentralised energy strategy will save the Royal Free £13.7 million and reduce carbon emissions by 18% or approximately 93,000 tonnes over 15 years. This means guaranteed cost savings of about £850,000 and a reduced carbon footprint of 4,500 tonnes per year; when combined with other energy efficiency schemes, carbon emissions are reduced by 23% or 7,000 tonnes per year.

Surplus energy will provide Camden Council with sufficient heat for up to 1,500 homes. This will make heat and hot water more affordable to council tenants, helping alleviate fuel poverty.

