



Woking Borough Council's joint venture project

Introduction

Woking Borough Council has for some years held claim to being amongst the most energy efficient councils in the country and is also the only local authority to supply customers with electricity on private wire combined heat and power (CHP) and renewable energy networks. In recognition of this pioneering work, the council gained the **Queen's Award for Enterprise: Sustainable Development 2001** in respect of its energy services activities in the development of Local Sustainable Community Energy Systems; the only local authority ever to receive a Queen's Award for Enterprise.

The council first established its private wire approach to sustainable energy in 1992 but in order to achieve on a large scale what the council was already doing successfully at a small scale level, it needed to escape the central government capital controls that apply to all local authorities. Therefore in 1999, the council set up an Energy and Environmental Service Company (EESCO) as a first step towards establishing sustainable energy systems financed primarily from the private sector.

How did the council become involved with energy services?

The initial reason for Woking Council's interest in energy services came about through a wider concern for the environment, following a report prepared by the council's Energy Manager, Allan Jones, on the dangers of climate change. This led to an Environmental Audit of the council's activities, followed by energy saving targets for the council as a whole. In recent years the focus has moved from energy efficiency and fuel poverty to carbon emissions and climate change. From an energy services perspective there were already several district heating schemes in place that could be improved and also provided a precedent for newer schemes.

The council wanted to make energy savings from an environmental and cost point of view and also viewed fuel poverty and variable electricity prices as problems that needed to be solved. An initial payback period of six years was set for energy efficiency measures, later increased to ten. Allan Jones was lucky enough to have senior management support and plenty of backing from members who felt that this was an important area of work for the council.

Who is involved?

Due to the uncertainty of the legal issues surrounding public/private partnerships, the council received £25,000 from EST in 1998 to explore what was legally possible for local authorities in terms of participating in energy services companies. Following leading counsel's opinion and discussions with the DETR and the DTI, the council formed its wholly owned EESCO, Thamesway Ltd, structured to comply with the legal advice. The purpose of Thamesway is to enter into public/private joint ventures to deliver its energy and environmental strategies and targets (primarily relating to sustainable energy, fuel poverty, waste, water and green transport).

Thamesway has set up an unregulated public/private joint venture Energy Services Company called Thamesway Energy Ltd, which brings together the local authority with a Danish energy and environmental foundation Hedeselskabet Miljo og Energi A/S via another Danish company; ESCO International A/S. Its projects are financed with shareholding capital and loan finance. Thamesway, as a local authority company, is still subject to central government capital controls but the public/private joint venture allows Thamesway Energy to escape capital controls that would be imposed on a purely local government company. This means they can implement large scale projects, primarily with private finance, with the council's initial portion of the shareholding

capital coming from its energy efficiency fund, which is recycled using profits from each Thameswey project. The local authority ownership must be less than 20 per cent, otherwise Thameswey Energy would be treated as if it was a local authority company and caught by central government capital controls. In this case the council owns 19 per cent and the Danish company owns 81 per cent of the private company. However, the intellectual property remains with the council and Thameswey Energy has been incorporated with a minority shareholders agreement in addition to the normal memorandum of association, articles of association and shareholders agreements.

Services offered

Thameswey Energy designs, finances, builds and operates sustainable energy services both within and outside the Borough of Woking and is working on a number of such projects with other local authorities, public bodies and the private sector, within local government vires (legal powers). Thameswey Energy has taken on the running of the existing Woking Borough Council energy efficiency schemes and plans to develop and expand them on behalf of the council. These include:

- Energy efficiency advice;
- The Fuel Rich Insulation Discount scheme;
- Fuel Poor Energy Efficiency schemes; and
- The Condensing Boiler scheme.

Thameswey Energy's schemes

Thameswey Energy's schemes include the first phase of the first town centre private wire CHP/absorption cooling district energy system in the UK. Private wire enables green electricity to be sold directly to the customer and avoids transmission and distribution charges and electrical losses through the national grid/distribution networks. The project comprises 1.46 MWe of CHP, 1.4 MW of heat-fired absorption cooling and 163m³ of thermal storage distributed over 6 building complexes in Woking town centre. Buildings are interconnected with heat and chilled mains and high voltage/low voltage private wire networks. Due to the mixed technology community energy approach, the scheme satisfies its own electrical demands and exports surplus power over the public wires to sheltered housing residents and other local authority buildings. This is achieved via an enabling agreement for exempt supplier operation, which also receives the benefit of exemption from the Climate Change Levy. In the event of a National Grid or local Seeboard power cut, the system continues to operate in 'island' mode via a black start generator. The system is fully exempt from the Climate Change Levy and as the system grows, this benefit will be extended to other local businesses. This sustainable energy system fits in with the council's new Climate Change Strategy as well as the previous targets on energy and CO₂ reduction and environmental targets under the LA21 and HECA programmes.

The scheme has recently obtained funding to be expanded to connect 136 homes with the leisure complex at Woking Park. The additional

772kWe gas-fired CHP unit will be installed in Woking Leisure Centre, which is connected to another CHP system, fuel cell and photovoltaic systems at the Leisure Lagoon/Pool In The Park. Heat will be supplied to the extended community heating networks generating carbon savings of 650 tonnes per annum. These 136 dwellings together with a further 770 dwellings will benefit from lower cost Woking Park surplus electricity via the public network and a series of local private wire island networks. It is estimated that this will provide residents with an annual fuel cost saving of nearly £75,000.

The organisation is also in the process of acquiring all the primary energy plant in the council's housing stock and corporate property, with a target of replacing it with CHP or other sustainable energy systems within 7 years. The first phase of the acquisition was completed in February 2002 with further phases to follow as and when sustainable energy systems are implemented in the council's buildings.

Operation

Thameswey Energy provides residential customers with sustainable energy services at less cost than their previous energy suppliers. Non residential customers are provided with bespoke energy services contracts. Thameswey Energy is able to do this, despite the higher cost of the energy plant, due to the payback from the plant by the sale of heating, cooling and particularly electricity (where the true value of embedded generation can be obtained) to the customer. Each project is bespoke, with Thameswey Energy providing a potential customer with a breakdown on how the cost is worked out. A non residential customer's current electricity unit price is normally matched and the energy services costs are assimilated into the heat and chilled water unit prices. The customer's electricity consumption will be reduced since electricity is no longer needed to generate cooling. The energy services prices agreed at the commencement of the long-term contract are index linked annually so the customer maintains the benefits of the contract throughout its duration.

Why was this approach taken?

The energy services approach that Woking followed was chosen because of the potential for funding projects in the future. A joint venture would have meant less flexibility and may also have led to issues with future recycling of profits. Some people view ESCOs (Energy Services Companies) as suitable only for one project, but Allan Jones believes that they should think more long-term than that.

The legal process of forming Thameswey teased out many of the issues around the structure of the ESCO. Thameswey needed 20 per cent shareholding, with Woking providing 19 per cent, and 80 per cent loan finance. Woking also own the intellectual property on the scheme, which means that Hedeselskabet Miljo og Energi A/S cannot undertake a scheme based on this model separately from Thameswey. This ensures that Thameswey can benefit from the provision of consultancy services.

Issues

- Much more can be achieved with a public/private joint venture energy services company than could be achieved with the council acting on its own.
- Expensive new and renewable energy technologies can be afforded by diluting the cost with more economic CHP. Operating as an unlicensed generator, distributor and supplier reduces costs and increases income to enable sustainable energy technologies to be afforded, as each site can supply over private wires up to 100 MWe but only 5 MWe export over public wires in aggregate under The Electricity (Class Exemptions from the Requirement for a Licence) Order 2001. This equates to about 5000 households in addition to the 1000 households per private wire CHP/renewable energy site and should give local authorities sufficient scope to supply themselves and their local communities with their own sustainable energy services.
- Thamesway's profits are subject to Corporation Tax therefore they need to find projects to invest in quickly in order to recycle the profits before the end of the financial year.
- There are no politicians on the board of Thamesway because elected officials change frequently and the company requires continuity.

Highlights

- The private wire system is more expensive up-front but allows greater income from electricity sales. Also, the wiring infrastructure is not as expensive to install as the heating infrastructure required with CHP.
- Thamesway aims to export the joint venture concept to other local authorities and private developers. The company is already working on projects in Teeside and Milton Keynes.
- Thamesway's share of any profits is recycled into other energy and environmental services projects under its articles of association.
- Major environmental projects of whatever type (eg waste, recycling) are passed onto Thamesway by the council for consideration. It is important for the council that Thamesway is an Energy and Environmental Services Company, which allows these types of projects.

Opportunities for the future

A new prudential borrowing regime for local authority capital investment was introduced in April 2004 in England and Wales. Local authorities with a good financial record can now borrow as much as they want, without requiring government permission, provided that they can pay the sum back from profits. Woking Borough Council are looking at opportunities for making use of this to invest further in environmentally friendly technologies.

Further information

For general information on the Energy Saving Trust's Energy services programme, please contact: The Energy Services Support Service, T: 0870 240 4129, E: info@energyservices.org.uk

The 'Energy Services Support team' offers a range of services that can help local authorities, housing associations and other not-for-profit organisations to design and implement energy services schemes. These include:

- Two days' free consultancy;
- A range of free good practice material and case studies, and
- Access to a telephone hotline for general help, support and signposting.

Abbreviations used

CHP	Combined Heat and Power
CO ₂	Carbon dioxide
DETR	Department of Environment, Transport and the Regions
DTI	Department of Trade and Industry
EESCO	Energy and Environmental Service Company
EST	Energy Saving Trust
KWe	Kilowatt electric
MWe	Megawatt electric
TEL	Thamesway Energy Limited
TW	Thamesway Limited

At the time of publication and to the best of our knowledge, the information contained in this case study was correct. The Energy Services Support Service cannot vouch for any of the organisations involved.

Energy Services Support Service

T: 0870 241 4129, F: 0870 130 8831, E: info@energyservices.org.uk,
W: www.est.co.uk/aboutest/how/energyservices/