

# Woking Borough Council's Thameswey Joint Venture Project

## EST'S ENERGY SERVICES PROGRAMME

This case study is one of a series of 6 produced by the EST's Energy Services programme which has, since 1996, provided funding to 25 pilot schemes that are seeking to offer energy services to the domestic sector.



### Introduction

Woking Borough Council already holds claim to being the most energy efficient council in the country and is also the only local authority to supply customers with electricity on private wire combined heat and power (CHP) networks. The Council set up an Energy and Environmental Service Company (EESCO) to capitalise on its intellectual property in small scale community CHP to enable large scale district energy CHP to be implemented, primarily with private finance.

### Who's 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 to participate in energy services companies. Following leading counsel's opinion and discussions with the DETR and the DTI, the Council formed its wholly owned EESCO, **Thameswey Ltd (TW)**, structured to comply with the legal advice. The purpose of TW is to enter into public/private joint ventures to deliver its energy and environmental strategies and targets (primarily energy, tackling fuel poverty, waste, water and green transport).
- TW has set up an unregulated public/private joint venture Energy Services Company called **Thameswey Energy Ltd (TEL)** that brings together the local authority with the Danish company ESCO International A/S (wholly owned by Hedeselskabet Miljo og Energi A/S, a Danish green energy company). Its projects are financed with shareholding capital and private finance. The joint venture allows TW to escape capital controls that would be imposed on a purely local government venture. This means they can implement large scale projects, primarily with private finance with the Council's shareholding capital coming from the Council's energy efficiency recycled fund, which in itself is recycled with each Thameswey project. The local authority ownership must be less than 20%, otherwise TEL 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% and the Danish company owns 81% of the private company.



### Services offered

Thameswey Energy Limited provides green energy services to other local authorities, public bodies and the private sector both within and outside Woking, within local government vires.

TW has taken on the running of the following existing Woking Borough Council schemes, and plans to develop and expand them:

- Free energy efficiency advice for local residents and SMEs;
- The Fuel Rich Insulation Discount Scheme (cavity wall, loft insulation and draught proofing);
- Fuel Poor Energy Efficiency Schemes (Council grant aided schemes which top up the HEES and other grants to provide full insulation and other energy conservation measures); and
- Condensing Boiler Home Energy Rating Scheme (bulk procurement discount scheme that also provides NHER/SAP ratings and specific energy efficiency advice).

### Thameswey Energy Ltd schemes include:

- The first phase of the first town centre private wire CHP/absorption cooling district energy system in the UK. The project comprises 1.46 MWe of CHP, 1.4 MW of heat-fired absorption cooling and 160 m<sup>3</sup> of thermal storage distributed over 5 buildings in Woking town centre. Buildings are interconnected with heat and chilled mains and high voltage/low voltage private wire networks. The CHP system achieves a minimum of 130% sustainability in electricity - i.e. having satisfied its own demands, the site exports a minimum of 30% surplus power over the public wires to sheltered housing residents and other local authority buildings. In the event of a power cut, the system continues to operate in 'island' mode. 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 energy is green and fits in with the Council's targets on energy and CO<sub>2</sub> reduction and environmental targets under the LA21 and HECA programmes. This project received a grant of £33,000 from the EST; and
- To acquire all the primary energy plant in the Council's Housing Stock and Corporate Property and replace it with CHP or other green energy systems within 7 years.

### Operation

TEL provides customers with green energy at less cost than their previous brown energy. TEL is able to do this, despite the higher cost of the green energy plant, due to the payback from the plant by the sale of heating, cooling and particularly electricity (where the full benefits of embedded generation are able to be obtained) to the customer. Each project is bespoke with TEL providing a potential customer with a

breakdown on how the cost is worked out. A 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 indexed linked annually so the customer maintains the benefits of the contract throughout the length of the contract.

### Issues

- Much more can be achieved with a public/private joint venture ESCO 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 green technologies to be afforded as each site can supply over private wire up to 100 MWe but only 500 kWe export over public wires in aggregate. However, the Government has published a draft order to relax the exempt licensing regime by increasing this limit to 5 MWe in June 2001. This will equate to about 5000 households in addition to 1000 households per private wire CHP site and should give local authorities sufficient scope to supply themselves and their local communities with their own green energy.

### Progress and next steps

- TW aims to export the joint venture concept to other local authorities;
- TW's share of any profits is recycled into other energy and environmental services projects under its articles of association.
- As part of its green energy policy the Council is implementing the first integrated photovoltaics/CHP system in the UK. The project at Brockhill will have the largest PV roof in the South East and should provide all its electricity needs. A second PV system will be installed at the Civic Offices connected to the Woking town centre private wire CHP district energy system. The project is supported by a £75,000 grant from the EST under Seeboard's Energy Efficiency Standards of Performance 2 programme.

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