EQUANS
EMPOWERING TRANSITIONS

Coventry District Energy

EQUANS has been awarded a 25 year concession agreement with Coventry City Council (CCC) to develop and maintain a low carbon district heating network for the city centre.

The ground breaking scheme is the first of its kind in the UK, seeing EQUANS take the unique role of 'heat shipper' by buying heat from an Energy from Waste plant (EfW) and 'shipping' it via a 6.6km network of buried pipes to consumers in the city centre.

The energy will then be sold back to the City Council and other scheme partners at a competitive rate. The contract is delivered by a new subsidiary company, Coventry District Energy Company (CDEC) which is owned by EQUANS Urban Energy (EUE), working in partnership with Coventry Cily Council. The low carbon network has been delivered through a capital investment of £3 million by EQUANS with a further £2.3 million from the Government's Homes and Communities Agency (HCA) for installation of the infrastructure.

In Phase I, heating and hot water is supplied to a range of Council buildings and Coventry Cathedral. The scheme will benefit the environment by providing low carbon heat which will be cheaper than heat from traditional gas boilers, providing the Council with reduced costs and also saving circa 1500 tonnes of carbon per annum – the equivalent of fuelling 300 homes. Later phases will connect to residential properties as well as businesses and institutions who want to save money and reduce their carbon footprint

PARTNERSHIP WITH COVENTRY CITY COUNCIL

Coventry has a long tradition in manufacturing and engineering and is recognised around the world for its strengths in these sectors. But the Council is leading the next wave of manufacturing – with green technologies and low carbon at the centre of its thinking. Coventry has always been at the forefront of innovation and this district heating scheme is a fine example of how the Council is working with EQUANS to combine innovation with opportunities for economic growth. Developers and investors will be able to enjoy the environmental, economic and social benefits that this brings.

Heat supply in 2013 was 9 GWh and has the potential to rise to a predicted 73 GWh over the contract period.

BY USING SURPLUS ENERGY CCC WILL BE ABLE TO KEEP FUEL COSTS LOW

The first phase of the CDEC scheme is delivering low carbon heat to eight prominent buildings within the city centre including:

- Coventry Council House
- Coventry City Council Civic Buildings 1,2,3 & 4
- Herbert Art Gallery & Museum
- Coventry Sports & Leisure Centre
- Coventry Cathedral

COVENTRY CATHEDRAL

The world famous Coventry Cathedral is one of the core consumers of the scheme's first phase. The Cathedral identified that joining the city centrewide scheme would prove a more consistent and lower cost basis for their heating.

HOMES AND COMMUNITIES AGENCY (HCA)

The CDEC scheme has received £2.3 million worth of funding from the Government's HCA for the installation of the infrastructure. The HCA is the single national housing and regeneration delivery agency for England. Their work provides an opportunity for people to live in homes they can afford and places they want to live, by enabling local authorities to deliver the ambition they have for their own areas.

BUILDING ON SUCCESS

CDEC has been developed under an award-winning framework based on the successful Leicester, Birmingham and Southampton District Energy schemes. Financial savings for the schemes are developed on a whole life costing basis and maintained throughout the contract by indexing charges to national fuel prices, the retail price and labour indices.

CUTTING CARBON WITH ENERGY FROM WASTE

CDEC utilises recovered heat from the EfW facility on London Road in Coventry. EfW is the method of creating energy in the form of electricity or heat from the processing of waste after full resource recovery has taken place. The processing of waste releases energy which can then be used to generate power and usable heat. Depending on the waste stream used, different proportions of waste can be considered as biomass, resulting in carbon emission savings.

A European directive from 2000 sets and maintains stringent operational conditions, technical requirements and emission limit values for all EfW plants in the UK. As a proportion of the waste is biodegradable, the heat can be considered as renewable resulting in carbon savings and contributing to renewable energy targets.

THIRD PARTY CONSUMERS

Considerable financial, environmental and planning benefits make joining the CDEC network an extremely attractive proposition for building owners and developers.

A connection to the CDEC scheme would eliminate the equirement for any future boiler maintenance or replacement for new and existing buildings and developments.

Key facts

- **6.6km of network installed**
- **Over 44MW of EfW capacity**
- **77MW of total plant capacity**
- **Total scheme carbon emissions are significantly less than conventional heat carbon emissions**

RESILIENCE OF THE SCHEMES

EQUANS District Energy schemes are designed to provide added resilience to ensure continuity of supply. For example, in the unlikely event of a LZC (low/zero carbon) generation plant being offline, efficient top-up and back-up plant is in place within the energy centres to meet the demands of the energy network.

In order to help meet peak heat loads in an optimal way, the CDEC scheme also incorporates a 650,000 litre thermal storage vessel. The highly visible vessel features a carbon calculator display to show how much carbon dioxide the scheme is saving. This extra resilience also ensures there is no disruption to services during routine maintenance.

FUTURE PROOFING AND RENEWABLES

The inherent flexibility of the modular design of the energy centres also enables the scheme to expand with growing demand, while taking advantage of emerging energy efficient technologies as these become financially viable.

CDEC expects to add substantial renewable energy generation to the scheme as new consumer connections are made. This will not only reduce emissions but also help to future proof the scheme against fossil fuel shortages.