The UKDEA

Response to the

Findings of the our review of the Fuel Poor Network Extension Scheme

Issued by OFGEM

March 2015

Email: Simon Woodward – Chairman UKDEA chairman@ukdea.org.uk

ABOUT THE UK DISTRICT ENERGY ASSOCIATION

The partners, owners and operators of the largest district energy schemes in the UK have aligned themselves in the creation of the UK District Energy Association (UKDEA); with the aim of not only promoting district energy as a means to deliver significant carbon savings, but also to establish a direct link between the Government, GLA and the industry's small market base.

The Association is a not for profit, non-trade association of companies and public sector organisations involved or interested in district energy schemes of all sizes, from community based 'micro district energy' schemes to city wide district heat energy networks. The UKDEA has attracted leading players in the industry with a current membership comprising over 100 organisations.

Through Full and Associate membership, the UK District Energy Association's aim is to represent current and potential owners, developers, consumers, partners, operators, product suppliers and interested parties of District Energy schemes throughout the UK.

THE UKDEA RESPONSE TO THE FUEL POOR NETWORK EXTENSION SCHEME

The UKDEA welcomes this opportunity to respond to this consultation by OFGEM on the Fuel Poor Network Extension Scheme, with a focus on Chapter 4

Q1 How do you think the voucher calculation should be amended for funding DH schemes? From which party would the future gas transportation revenue be recovered?

The UKDEA understands that OFGEM have advised in their document that there is no "perceived surplus" from the scheme which can be used to fund any part of a central gas fired boiler house or even heating network. Therefore the voucher can only be used to fund the gas connection to the central boiler house. We are concerned that the costs of delivering a gas connection to a single point are lower than multiple points when overall the same heat load is being met and therefore we would wish to make sure that the GDN's do not "profit" from this revised arrangement.

The gas transportation revenues will have to be recovered within the gas supply charges made to the owner/operator of the central boiler house. This could be a LA, RSL or a private sector ESCO.

It is important to note that in energy flow terms by connecting to dwellings to a district heating network you will add two further componants to the energy flow diagram.

For an individual dwelling the fuel input is then seen primarily in useful heat delivered into the dwelling and losses in the combustion process, i.e. energy lost in the flue gases.

If you increase the size of this boiler and then connect this to a number of properties via a district network then the gas input to the boiler will need to be increased to overcome:

- Losses in the buried heating network – ideally these should be no more than 5-7% of the total annual useful heat consumption of the connected properties but certainly no more than 10%
- Losses in any secondary heat networks (particularly in multi dwelling buildings) from building entry point to the dwelling (i.e. apartments). Again good practice should set this at no more than 15% of the useful heat consumption of the dwellings and ideally 10%.

Depending on the type and arrangement of the heat network these losses will need to be taken into account in the voucher calculation, which we believe should allow for the upper limited of 10% and 15% respectively as set out above.

Q2 What calculations and assumptions should be made for the:
1. gas consumption of the CHP unit and for the individual DH connected households.
2. asset life over which the connection costs are recovered. Please provide detailed suggestions in your response.

A well designed CHP unit should meet at least 60% and preferably 70% of the total annual heating consumption of the connected site. The electrical and thermal efficiency of the CHP unit will vary with size and at the very small scale (30 kW) this might be 22% electrical and 45% thermal and at a 500 kW unit could be 34% and 42% respectively at gross CV. Therefore without knowing the size of the development it would be difficult to even very roughly select the size of the CHP and therefore its gas consumption.

The asset life of a district heating network should be regarded as at least 50 years from a well designed and operated network and there is significant evidence to corroborate this. Indeed in Southampton the City Centre wide network is 30 years old in places and these sections where extension have been made and pipe sections taken have been in a similar condition to when they were first installed.

Q3 Do you think the partnership eligibility criteria for the Scheme should be amended to support the inclusion of DH and if so, how? Please provide detailed suggestions in your response.

We believe that it is important to demonstrate that the partners have the expertise to deliver district heating schemes/ensure they are correctly delivered and this should be demonstrated. District heating is a relatively complex infrastructure and if poor designed/installed can lead to early network failures, high heat losses and poor heat distribution, all of which lead to high customer charges. It is important that any network is delivery to the relevant industry codes and standards.

We believe that to enable demonstration of this scheme there should be a focus in the early stages on "fuel switching" existing central/DH boilers houses which are currently fuelled with oil or coal to being connected to the grid. Not only does this deliver decarbonisation, but should also significantly reduce consumer charges, especially if the existing boilers are aged, requiring replacement and are inefficient. This would involve a relatively simple gas connection to the existing boiler house and then possibly only a burner or boiler change for the new fuel. Examples of where this might take place are the existing DH schemes in Mansfield with coal fired central boiler houses.

As the UKDEA is committed to enabling greater use of district energy where this is beneficial, we welcome any opportunities to engage further on this or any other district energy related work stream.

Please do not hesitate to contact us.

Appendix 1: Current UKDEA Member List

UKDEA Members

AECOM Limited
Altecnic Limited
AMCO Pipe UK Limited
Birmingham City Council
Bizcat AB
City & County of Swansea
Clarke Energy Limited
Cofely District Energy Limited
Complete HVAC Services Limited
Coventry City Council
CPV Limited
Desmi Limited
Diehl Metering Limited - Sappel
DWF
E.ON Energy Solutions Limited
Econergy, a British Gas Company
EDF Energy Limited
Edina UK Limited
ENER-G Switch 2 Limited
Energy Gap Limited
Eneteq Services Limited
EnviroEnergy Limited
Evinox Limited
FES Renewables Limited
Fichtner Consulting Engineers Limited
Finning (UK) Limited
Frontline Energy & Environmental Limited
Gardiner & Theobald LLP
GEA PHE Systems Limited
Gebwell Oy Limited
Grant Thornton LLP UK Limited
GT Energy Limited
GTC/Brookfield Utilities UK
Helec Limited
HSF B.V.
INPAL Energy Limited
Insite Energy Limited
Institute of Energy, Cardiff School of Engineering, Cardiff University
International Construction Design & Management Limited
ITM Power PLC
Itron Limited
Junifer Systems Limited
Kantor Energy Limited
L&Q Energy Limited
Leicester City Council
Linn-Energy Limited
LOGSTOR A/S

MVV Environment Limited
Newcastle City Council
Newport City Homes Limited
Orchard Partners (London) Limited
Oxford Renewables Limited
P T Contractors Limited
Peel Utilities Limited
Pegler Yorkshire Group Limited
Pipe 2000 Limited
Prepago Platform Limited
REHAU Limited
RK Civil Engineers Limited
SAV Systems Limited
Secure Meters (UK) Limited
SET ehf
Shetland Heat Energy & Power Limited
SK Solar Solutions Limited
Southampton City Council
Star Renewable Energy Limited
SW Energy Limited
SWEP International Limited
T Brown Group Limited
Thameswey Limited
Thermaflex Isolatie BV
University of East Anglia
Veolia Environmental Services Limited
Viridor Waste Management Limited
Watts Industries UK Limited
Woodward Energy Consulting Limited
Wragge Lawrence Graham & Co