

District Energy Vanguards Network Newsletter

Table of Contents

Editorial	1
UK and EU Policy	2
Open consultations, funding, conferences and workshops	2
UK and devolved administration policy	2
UK News	3
Europe	4
The Americas	5
China, Asia and Australasia	5
Conferences, symposiums and forums	6
General interest, technology and research	7
Glossary	8

Editorial

A Rash Dash for Gas?

As older coal and nuclear power stations close as a result of tightening environmental regulations and age of operation, Ofgem has raised concerns about maintaining adequate system margins of supply over the next few years. This issue motivates Government like no other. Memories of the blackouts and the [Three Day-Week](#) during the 1970's miners' strike means the need to 'keep the lights on' is a visceral test of an administration's competence that they must get right. Government has therefore come up with its complex new [Electricity Market Reform](#) (EMR) framework, hoping that attractive contracts to new nuclear and large scale renewable projects will provide adequate levels of future supply. Government is also hoping that a new phase of gas generation investment comes forward quickly – effectively another '[Dash for Gas](#)' the UK observed in the 1990s – as new nuclear is still a decade away, and flexible gas plant will be needed to help underpin variable wind output.

It's likely that most of this gas plant will be large scale CCGTs ([combined cycle gas turbines](#)) built on the sites of de-commissioned power stations. These are already owned by the big generators, with the transmission infrastructure already in place and planning risks are reduced as local communities are comfortable with living next to them. A no

Produced in association with



brainer, really. Ten year old guidance notes on power station planning consents (so called [Section 36](#)) issued by DECC exhorts power station developers to consider CHP. In practice this can has often simply means lead to hiring consultants to undertake pointless heat mapping exercises in a 10 kilometre circumference around these remote sites to prove that there are no heat loads within a commercially viable proximity. Tick that box and move on to the next regulatory hurdle. How should Government therefore tweak any future ‘dash for gas’ to fit with its new [Heat Strategy](#) vision of district heat being the majority supply option in urban areas?

Presently the Government is seeking to boost house building by offering to free up its extensive portfolio of publicly-owned brownfield sites - old military facilities, redundant hospitals and remediated industrial land - in and around major towns and cities. As a sweetener prospective developers are promised a light touch under local planning policies.

Undoubtedly the big 500MW - 2GW CCGT plants will do the heavy lifting to close the generation/capacity gap. But there will soon be a raft of feasibility studies produced for local authorities, paid for by Government under [HNDU](#) in England and Wales and the [Heat Network Partnership for Scotland](#), on potential heat networks in these very same towns and cities. What if some of these brownfield sites were earmarked for 100 – 500MW power gas stations? And that they either developed heat networks to local customers or were incentivised to be CHP ready. E.ON’s [Blackburn Meadows project](#) in Sheffield’s Lower Don Valley is an example of what could be done.

To bring back a phrase from the past, wouldn’t that be ‘joined up government’?

Michael King, 27th June 2014

[back to top](#)

UK and EU Policy

Open consultations, funding, conferences and workshops

9 Sep – [District Heating: The Power Behind Scotland’s Low Carbon Future? \(Edinburgh\)](#) – the Government’s recent [Draft Heat Generation Policy Statement](#) includes a target of 40,000 homes to benefit from affordable low carbon heat from DH and increased funding for the DH Loan Fund by over £4 million.

2-4 Jul – [Scottish–Danish DH seminar and round table meetings \(Edinburgh/Glasgow\)](#) – these events are aimed at universities, housing associations and local authorities.

5 Jun – [no-cost webinar to discuss the findings of new IEA publication](#) – the report “Linking Heat and Electricity Systems: Co-generation DHC Solutions for a Clean Energy Future” analyses case studies of successful CHP-DHC systems and can be viewed [here](#).

UK and devolved administration policy

17 Jun – [making the domestic RHI a tool for tackling fuel poverty](#) – registered social landlords are most likely to utilise the RHI scheme as they tend to have housing that will lend itself well to the development of DH using renewable sources such as biomass.

Produced in association with



10 Jun – [Scottish Government to introduce new regulatory framework on DH](#) – the Energy Minister has committed to set up a working group under the Expert Commission on DH to consider the existing regulatory context and develop proposals for a regulatory framework.

30 May – [DCLG - Guidance: Code for sustainable homes: technical guidance](#) – this document is an addendum to the Code for sustainable homes which brings it into line with regulatory or national guidance changes. It includes several references to DH.

28 May – [Scottish Renewables express concern relating to the RHI qualification](#) – social landlords wishing to qualify under the RHI must first undergo a Green Deal assessment for each applicable household – a significant added cost.

[back to top](#)

UK News

23 Jun – [dispute over DH standing charge \(Kirklees, West Yorkshire\)](#) – a total of 1,038 properties are supplied with heating and hot water from DH boilers. Usage is metered but there's a standing charge of around £1.02 per week to cover the system administration.

20 June – [revised proposals to the UK's first heat customer protection scheme](#) – the [CHPA](#) welcomes the [revised proposals](#) from the [IHCPS](#) which will ensure thousands more householders and businesses will be able to join.

20 Jun – [Contract for CHP units for Gateshead Town Centre DE Scheme](#) – the contract is for the design and installation of a single gas engine CHP Units and maintenance for a 15 year period. There is also an option to procure a second CHP Unit within 5 years.

18 Jun – [Contract for DH Service and Repair \(Aberdeen Heat and Power\)](#) – the requirement is to appoint a contractor to provide a repair and maintenance service.

12 Jun – [£1,000 photography prize to 'showcase hidden nature of heat'](#) – the CHPA is asking for any photos featuring decentralised heat or CHP equipment from anywhere in the UK. **The competition will close on 30 Sept.**

10 Jun – [Council to explore extension to DH system \(Stockton-on-Tees\)](#) – a study has identified the potential to extend the DH network to heat a Council depot, a swimming pool and a potato washing plant using heat from a Billingham-based fertiliser manufacturer.

10 Jun – [CPV unveils new DH pipe system](#) – the flexible, pre-insulated system consists of a cross-linked polyethylene (PE-Xa) service pipe encased within a bonded layer of polyurethane foam insulation protected by a corrugated green outer casing of LDPE.

3 Jun – [Vital Energi focus on hospital sector](#) – the deployment to five hospitals of five CHP engines representing over 6.8MWe output together with energy efficiency measures will lead to substantial cost and carbon savings.

30 May – [UK tomato glasshouse benefits from heat and power \(Worcestershire\)](#) – the newly-opened 8,500sq m tomato glasshouse in the Vale of Evesham uses a CHP plant to supply CO₂ and heat as well as electricity for the LEDs with the surplus going to the grid.

29 May – [Building4Change article on DH Networks](#) – Crofton's Marcos DeCastro talks to Building4Change about the UK's need for district heating networks in major cities.

[back to top](#)

Produced in association with



Europe

24 Jun - [Sustainable DH from seawater \(Duindorp, Netherlands\)](#) - the system extracts filtered seawater and then processes it either via a heat exchanger or a 2.7 Mw heat pump to supply an entire residential area with space heating and hot water.

23 Jun - [first DC plant in municipality becomes operational \(Frederiksberg, Denmark\)](#) - environmental considerations have driven the project which can supply 3 MW of cooling energy – equivalent to the cooling capacity of approx. 10,000 refrigerators. .

19 Jun - [EIB provide a €260m loan for biomass CHP plant \(Stockholm\)](#) - the 130 MWe, 280 MWth plant will use advanced boilers to enable a full range of solid biofuels, in particular, residues from sustainably managed EU forests.

16 Jun - [VW deploy 1500 mini-CHP plants in highly optimised system](#) - the green power company Lichtblick has created an algorithm that automatically starts and stops each VW engine connected to the network based on the usage data it collects.

14 Jun - [Lead Engineer required for the efficient operation of DH schemes](#) - the requirement is for a fast growing facilities and energy management company, with offices in Dublin and London.

12 Jun - [E.ON completes divestment of DH power plants to Solør](#) - the energy company E.ON has completed the divestment of 26 DH power plants located throughout Sweden to Solør Bioenergi, a Norwegian industrial group specialized in wood-based bioenergy..

11 Jun - [tender for rehabilitation of DH systems \(Novi Sad, Serbia\)](#)– the [KfW](#) bank group have put out a tender which consists of the demolition of the old pumping station and the refurbishment of DH circulation pumps. Proposal due on 12 Sep 2014.

10 Jun – [first town in France to have DH scheme fueled by landfill derived biogas](#) – the 17.3 MWe facility also produces 30 GWh/year of thermal energy to feed a new heat network serving homes and public facilities in Le Plessis-Gassot

9 Jun – [EfW CHP project begins construction \(Poznan, Poland\)](#) – the plant is being built by a consortium headed by Swiss-based Hitachi Zosen Inova (HZI) and is scheduled to go into operation in mid-2016, producing up to 18 MWe and 34 MWth of DH.

5 Jun – [EU project aims to cure concerns about DH](#) – the on-going project, [Celsius – Smart Cities](#), aims to allay consumers’ suspicion of large-scale solutions where everyone is attached to the same system.

4 Jun – [DH system converted from natural gas to biomass \(Purmerend, Holland\)](#) – the system is the fourth largest in the Netherlands and will take heat from four 11MW capacity boilers fueled by 100k tons per annum of wood chips from a local state-managed forest.

1 Jun – [world’s largest solar DH Plant inaugurated \(Dronninglund, Denmark\)](#) – the system consists of 2,982 collectors (37,573 m²) with a total solar thermal capacity of 26 MWth.

[back to top](#)

Produced in association with



The Americas

17 Jun – [PEPCO Energy Services wins innovation award \(Atlantic City, NJ\)](#) – the \$106m facility provides up to 54k RT of cooling, 5.7MWe as well as DH via approx. 8km of steam, chilled water and condensate piping. Control and monitoring is via a fiber optic network.

17 Jun – [keynote speaker upbeat about CHP-DE prospects \(IDEA, Seattle\)](#) – the speaker, Heather Zichal, asserted that the newly proposed [EPA](#) standards will result in the power sector becoming more efficient and will allow district energy and CHP to take center stage.

12 Jun – [New Westminster reflects on DE plan for Sapperton \(BC, Canada\)](#) – the City has narrowed down the location of a proposed Sapperton DE facility, but has yet to determine whether wood or sewage will be used to generate energy.

10 Jun – [Richmond wins two awards for Alexandra Energy District Utility](#) – the City of Richmond has been awarded the 2014 Canadian National Energy Globe Award and the 2014 Canadian Geo-exchange Coalition Excellence Award for the Alexandra District Energy Utility Geothermal System.

10 Jun – [City councillors vote to modify sustainability plan \(Edmonton, Canada\)](#) – the modified plan will use gas-fired cogeneration DE instead of geothermal, eliminate pneumatic garbage disposal and should allow the project to turn a \$45-million profit.

3 Jun – [Jacobs win ACEC National Excellence Award for Texas A&M University](#) – the new system generates up to 43.5MWe and serves the DE system by supplying steam and chilled water for space cooling, heating, and hot water for the 5,200-acre campus.

28 May – [NuScale and DOE Complete SMR Cooperative Agreement](#) – the company has finalised the cooperative agreement with the US [DOE](#) as an awardee under the program for “Cost-Shared Development of Innovative Small Modular Reactor Designs.”

[back to top](#)

China, Asia and Australasia

20 Jun – [Shangri-La moves to more energy-efficient DH system \(China\)](#) – a single DH system based on air-source heat pumps and boilers will replace coal-fired stoves with a boiler house in each of five districts linked via SCADA systems to a central control.

20 Jun – [China plans DH revamp using heat pumps and UHV grid](#) – the further deployment of long distance, low-loss ultra-high-voltage power lines will enable DH systems to be cleaned up by replacing local ‘dirty’ coal fired boilers with heat pumps.

14 Jun – [Emicool wins Gold Award at IDEA Conference](#) – the company which is leading DC service provider in the [UAE](#), received the Gold Award in the “greatest number of buildings committed to district energy beyond North America” category.

12 Jun – [Tabreed wins two awards at International District Energy Conference](#) – one of the awards is for the ‘Number of Buildings Connected to DC’ outside of North America, reflecting the company’s connection of a significant area of real estate to DC in 2013.

Produced in association with



11 Jun – [Empower wins Gold Award at IDEA Conference](#) – the company which is the largest DC service provider in the world, received the Gold Award in the "total Square footage committed to DC services beyond North America" category.

11 Jun – [Qatar Cool wins the "System of the Year Award" at IDEA Conference](#) – the company owns and operates the world's largest district cooling plant supplying 130,000 tons-cooling to Pearl Qatar's 45,000 residents.

11 Jun – [Mitsubishi to establish "Distributed Power Business Development Dept"](#) – as well as products such as gas and [ORC](#) turbines, the new department will oversee DH and DC systems (large-scale centrifugal chillers), etc.

9 Jun - [Sales Engineer required to develop business plans for DE systems](#) - the post holder will be based in the UAE. **Expiry date of notice is 7 July 2014.**

3 Jun – [Tabreed renews Dh6bn deal with UAE Army](#) – the Abu Dhabi-based DC utility infrastructure company, announced the renewal of its DC master services agreement (MSA) with the UAE Armed Forces estimated to be worth Dh6bn (\$1.62bn) over 20 years.

[back to top](#)

Conferences, symposiums and forums

10-11 Nov – [6th Annual Middle East District Cooling Summit \(Doha, Qatar\)](#) – this event will see the participation of a broad range of global and regional government authorities, decision makers and stakeholders with an interest in DC projects in the region.

5 Nov – [Energy4PowerLive \(London\)](#) – this event will be held at the Queen Elizabeth Conference Centre and will offer four conferences on one day, with both indoor and outdoor exhibition opportunities.

30 Sep – 2 Oct – [Nordic District Heating Fair \(Jonkoping, Sweden\)](#) – the fair will include seminars and study tours as well as suppliers covering the areas of DHC, CHP, fuels, fuel handling, combustion technology, power production, logistics, control systems etc.

7-9 Sep – [14th International Symposium on DHC \(Stockholm\)](#) – this event aims to gather the international research community around issues important for DE development.

27-28 Aug – [District Heating Days, Helsinki](#) – this year's speakers will be tackling the core issues of the climate and energy policy, European heating and cooling strategy and many other relevant topics as per the [conference program](#)

20 Jun – [an overview of the CHPA's conference "Rethinking District Heating"](#) – the conference, subtitled "Removing the barriers for successful projects" is retold and summarised as a series of tweets via storify.com.

20 Jun – [integration of a solar thermal plant into an existing DH system](#) – this presentation describes the lessons learnt from the integration of a solar thermal plant into the biomass powered DH system in the French city of Châteaubriant.

Produced in association with



13 Jun – [experiences in solar assisted DH Systems with seasonal heat storage](#) –this presentation provides an overview of the overall system and enumerates the different pilot plants with [STES](#) in Germany as well as those being developed in Europe.

8-11 Jun – [IDEA's 105th Annual Conference and Trade Show \(Seattle, US\)](#) – a summary of proceedings and presentations can now be viewed and downloaded via the above link.

Jun – [Heat Network for Scotland Partnership](#) – the presentations made at the recent technical workshop can now be downloaded via the above link.

May – [presentations made at the CHP Roadshows 2014 are now available \(UK\)](#) – materials presented by the speakers can now be downloaded via the above link.

[back to top](#)

General interest, technology and research

24 Jun - [small DH system enquiry \(Green Building Forum\)](#) – this discussion thread deals with legal and RHI issues arising from small scale DH.

23 Jun - [presentation on DH Network Control Optimization wins recognition](#) – the paper by Metso describes the optimization controls for a large DH network with a total heat power of about 1,300 MW. The solution has been developed in close cooperation with Fortum.

18 Jun - [Significant growth expected for fuel cell systems](#) – analysis carried out by [Navigant Research](#) predicts an increasing popularity of fuel cells driven by the need to enhance grid resiliency and accelerating adoption of distributed generation technologies.

18 Jun - [Increase in biofuels will enable Finland to achieve EU climate targets](#) – a study has found that an increase in the use of second-generation biofuels would be the most cost-effective way for Finland to achieve EU emissions targets. .

17 Jun - [Nextdrill research project develops drilling tools for geothermal heat](#) – the aim of the project is to improve the commercial viability of geothermal heat for electricity and DH production by enabling wells to be drilled more rapidly and deeply through hard bedrock.

15 Jun - [modularization in relation to DE and data center facilities](#) – the conclusion to this study is that modularization will make sense when coupled with proper planning from the service provider side and, if implemented properly, should positively contribute to the financial health of the business..

2 Jun - [the advantages of biomass district heating](#) – a useful summary of the benefits of biomass DH from the Green Energy blog.

May – [Center for IT-Intelligent Energy Systems in Cities](#) – recent presentations.

Apr – [District Energy in Cities - United Nations Environment Programme \(UNEP\)](#) – UN Habitat, UNEP and [ICLEI](#) have joined forces to develop “DE in Cities: Policies for Deployment.” It will provide an in-depth review of DE system best practices from leading cities around the world.

Produced in association with



8-9 Apr - [District Heating from five different aspects](#) – during the InnoHeat meeting four scholarship holders of the Swedish Institute Network for Future Global Leaders, together with one Swedish Institute alumni, held presentations of DH from different aspects.

Mar - [District Energy Inventory for Canada 2013](#) – this study presents a snapshot of the thermal energy networks across the country using data from 60 of the 116 identified operating systems.

[back to top](#)

Glossary

AC	– air conditioning
ACEEE	– American Council for an Energy-Efficient Economy
AD	– anaerobic digestion
AREA	– Air Conditioning and Refrigeration European Association
ASHRAE	– ASHRAE (formerly the American Society of Heating, Refrigerating and Air Conditioning Engineers)
ASPs	– air source heat pumps
CDM	– Construction, Design and Management
CERO	– Carbon Emissions Reduction Obligation
CCHP	– combined cooling, heating and power
CHP	– combined heat and power
CNREC	– China National Renewable Energy Centre
CRM	– Customer relationship management
CSP	– Concentrated Solar Power
CTF	– Clean Technology Fund
DCLG	– Department for Communities and Local Government
DECC	– Department for Energy and Climate Change
DE	– decentralised energy
DES	– district energy system
DEA	– Danish Energy Agency
DH	– district heating
DHC	– district heating and cooling
DHN	– district heating network
EBRD	– European Bank for Reconstruction and Development

Produced in association with



- ECCC – [\(House of Commons\) Energy and Climate Change Committee](#)
- ECO – [Energy Company Obligation](#)
- The three obligations under ECO are:
 - CERO - Carbon Emissions Reduction Obligation
 - CSCO - Carbon Saving Community Obligation
 - HHCRO - Home Heating Cost Reduction Obligation
- EFTA – [European Free Trade Association](#)
- EIB – [European Investment Bank](#)
- EPSRC – [Engineering and Physical Sciences Research Council](#)
- ESCo – [Energy Service Company](#)
- EGS – [Enhanced Geothermal System](#)
- EfW – [Energy from waste](#)
- EPA – [US Environmental Protection Agency](#)
- FT – [Financial Times](#)
- GCC – [Gulf Cooperation Council](#)
- GHG – greenhouse gas
- GSPs – [ground source heat pumps](#)
- GTCC – [gas turbine combined cycle](#)
- H&S – health and safety
- HNDU – [Heat Networks Delivery Unit \(DECC\)](#)
- I&C – information and control
- IBRD – [International Bank for Reconstruction and Development](#)
- IDEA – [International District Energy Association \(US\)](#)
- IEA – [International Energy Association](#)
- ITT – Invitation to Tender (European equivalent to RFP)
- JV – Joint Venture
- KDHC – [Korea District Heating Corporation](#)
- LLC - [Limited Liability Company](#)
- LPG – liquefied petroleum gas
- LEEF – [London Energy Efficiency Fund](#)
- NEFCO – [Nordic Environment Finance Corporation](#)

Produced in association with



Ofgem	– Office of Gas and Electricity Markets
ORC	– Organic Rankine cycle
OTEC	– Ocean Thermal Energy Conversion
PIP	– Preliminary Investment Proposal
PV	– Photovoltaic
QUEST	– Quality Urban Energy Systems of Tomorrow
RFP	– Request for Participation (N. American equivalent to ITT)
RHI	– Renewable Heat Incentive
RT	– Refrigeration Tonnes
STES	– Seasonal thermal energy storage
SDC	– Seawater District Cooling
SUDS	– Sustainable urban drainage systems
Sida	– Swedish Development Cooperation Agency
T&Cs	– Terms and conditions
TSB	– Technology Strategy Board
TSE	– Treated Sewage Effluent
UKERC	– UK Energy Research Centre

[back to top](#)

Produced in association with

