

# District Energy Vanguards Network Newsletter

## Table of Contents

<b>Editorial</b>	<b>1</b>
<b>UK, devolved and EU administrations</b>	<b>2</b>
<b>Policy, regulation, consultations, guidance and funding</b>	<b>2</b>
<b>UK conferences and workshops</b>	<b>3</b>
<b>UK News</b>	<b>4</b>
<b>UK Tenders</b>	<b>5</b>
<b>UK Jobs</b>	<b>5</b>
<b>Europe</b>	<b>5</b>
<b>European tenders</b>	<b>6</b>
<b>The Americas and Africa</b>	<b>6</b>
<b>China, Asia and Australasia</b>	<b>7</b>
<b>Conferences, symposiums and forums</b>	<b>7</b>
<b>General interest, technology and research</b>	<b>8</b>

## Editorial

### Investing in Heat

Building on the [Energy Investment Report](#) published in July 2014, DECC recently published a follow-up report this January focusing on the investment needs of energy networks as opposed to generation. It is also heartening to see that [Delivering UK Energy Investment: Networks](#) looks beyond gas and electricity networks to consider forthcoming investment need to deliver heat networks also.

The report estimates that the capital investment opportunity is between £400 – 800 million based on a conversion of 25 – 50% of the projects receiving HNDU support (England and Wales) from conceptual to actual schemes. This leaves out a lot. The draft [Scottish Heat Generation Policy](#) Statement has set a target of 40,000 social housing properties to be connected to heat networks by 2020. These are likely to be primarily more expensive retro-fit projects such as in Aberdeen where costs are approximately £6,000 per unit (as opposed to new build connections where costs are typically less) resulting in a capital

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spend of £240m. Nor does it include planning-led projects. The GLA, where the London Plan prioritises heat networks in new developments, has [suggested](#) that current major projects are worth £37.65m and a forward pipeline of 22 projects worth £260m. Lastly the HNDU figures do not include projects not being led by local authorities but by housing associations and private developers such as Cranbrook near Exeter, Blackburn Meadows in Sheffield, Scotswood in Newcastle and many more. **When these other opportunities are added to the HNDU figures the total could exceed £1,000m up to 2025.**

The report does not actually 'deliver' any investment, aside from itemising some modest funding DECC have released for innovation such as the recent [Small Businesses Research Initiative](#) (£7m), mirrored in Scotland by the [Local Energy Challenge Fund](#) (£20m). Instead it describes the landscape on which such investment will be made, progress to date and the challenges. In respect of where the money will come from it mentions that the Green Investment Bank has identified heat networks as a "*potentially important part of their energy efficiency strategy*" and that the GIB "*could be instrumental in establishing funding models*" (author's emphasis). However, with more certainty, the report points to those local authorities choosing to retain full or part ownership of schemes, opting to secure funding through the [Public Works Loan Board](#) (PWLB), where, at present, rates for capital available through the PWLB are at a historic low which can be locked in for the long term.

This does not deal with risk, which many local authorities let alone private investors, are unwilling to take on. The Government has chosen to underwrite risks in large scale energy infrastructure projects, such as the nuclear and wind industries, with mechanisms such as *Contracts for Difference* (CfDs) and the *Renewables Obligation*, in order to incentivise private investment. As heat usage is the majority demand for energy in the UK and responsible for a sizeable portion of the UK's carbon emissions, is it time to consider a similar long-term risk underwriting mechanism for heat networks?

*Michael King, Editor, 1<sup>st</sup> March 2015*

[back to top](#)

## UK, devolved and EU administrations

### Policy, regulation, consultations, guidance and funding

**17 Feb** – [guide to legislative changes affecting DH schemes \(metering and billing\)](#) –the guide, which is published by ENER-G, provides advice on the steps 'heat suppliers' need to take to comply with the new legislation, which transposed the EU Energy Efficiency Directive into UK legislation. A free eGuide can be downloaded [here](#).

**16 Feb** – [DECC announces regulatory changes to the non-domestic RHI](#) – DECC have introduced greater flexibility into the scheme rules. Ofgem has published updated guidance on these regulations and their impact, which can be accessed [here](#).

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**9 Feb** – [Call for Evidence: Tackling Non-Financial Barriers to Gas CHP](#) – the Heat Strategy and Policy unit at DECC are seeking evidence on barriers to deployment of gas CHP and on the effectiveness of a range of potential measures to address those barriers. See also the [ADE news item](#). **This consultation closes at midnight on 30 March.**

**4 Feb** – [Heat Networks Scope Guidance](#) – the National Measurement Office has published guidance providing clarification on the criteria used to judge whether a network is in or out of scope of the Heat Network Metering & Billing Regulations 2014.

**22 Jan** – [Scotland to have great say over design and implementation of ECO](#) – the UK Government have ceded powers over the design and implementation of energy efficiency and fuel poverty measures to enable the Scottish Government to more accurately meet the specific needs of Scottish households. See pages 75 and 76 of the [Command Paper](#).

**8 Jan** – [DECC government report indicates heat network priority](#) – a new infrastructure investment report from [DECC](#) shows that heat networks are now recognised by the government as the UK's third major energy network, with new investments of up to £800m in the next few years.

## UK conferences and workshops

**6-7 May** – [All-Energy 2015 Conference Programme \(Glasgow\)](#) – seminars for this year's All-Energy conference include DH, Geothermal, EfW and many other related topics.

**28 Apr** – [Scottish Renewables Low Carbon Heat Conference 2015 \(Perth\)](#) – among the topics to be discussed are whether the RHI is working for industry and what more needs to be done to ensure we meet the Government renewable heat target of 11% by 2020.

**27 Mar** – [planning for DH: masterplanning, technical feasibility & economic viability](#) – this free half day event focuses on how spatial planning can help to embed DH strategies and visions into local plans and prioritise specific heat networks for delivery. The event is co-hosted by [DECC HNDU](#) and the [TCPA](#) and takes place in Manchester.

**10-17 Mar** – [DECC outreach programme: reducing energy costs with CHP](#) – the aim of these free events is to promote the benefits of CHP and DHC networks. The workshops will take place in London, Birmingham, Manchester and Bath.

**3-5 Mar** – [Ecobuild DH seminars \(London\)](#) – the free seminars are hosted by the Danish Energy Agency and will take place during the EcoBuild exhibition of sustainability in the built environment.

[back to top](#)

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## UK News

NB articles marked (R) require free registration to view.

**26 Feb** – [Lee Valley heat network website launched \(Enfield, London\)](#) – sponsored by Enfield Council, the website explains the benefits of the new system and how it will work.

**24 Feb** – [Nottingham receives £5m sustainability funding from the EU](#) –the project, which will last for five years, includes the construction of an innovative low temperature extension to the city's DH system to provide heat for four blocks of flats.

**23 Feb** – [£70m biomass plant postponed in Manchester](#) –the development company, Peel Energy, has postponed the project to assess the possibility of “*improving the sustainability of the scheme by the supply of heat to local developments and industry*”.

**20 Feb** – [Council consider DH scheme for new Clydebank development](#) – West Dunbartonshire local authority has commissioned [Ramboll UK](#) to conduct a feasibility study on Queens Quay to see if planned new homes, a leisure centre and commercial premises could benefit from a CHP-DH system.

**16 Feb** – [Aberdeen DH ESCo awarded £1m to help cut energy bills](#) – the ESCo, Aberdeen Heat and Power Ltd, supplies approx. 2,000 council flats in 26 multi storey blocks, low rise sheltered housing complexes and 13 public buildings. The funding comes from the Scottish Government's [DH Loan Fund](#), which has awarded a total of £2.7 million to 12 projects across Scotland. A list of the 12 projects is available [here](#).

**16 Feb** – [Carbon Trust launches report ‘the Emerging Cold Economy’](#) –the report calls for Government and industry collaboration for UK to lead global cooling market.

**12 Feb** – [Vital Energi networks launch new DH website](#) –the company is split into two principle parts: Vital Energi Generation and Vital Energi Networks.

**11 Feb** – [Going green: how councils are becoming more energy efficient](#) – according to the article, DH is another popular energy efficiency measure which many local councils are embracing. See also the related [tips from the experts](#).

**7 Feb** – [new biomass DH system to keep tenants warm \(Glebe, Wearside\)](#) – the project provides heat and hot water to 97 properties and secured a £1.94m grant from the [European Regional Development Fund](#), plus additional investment from the [Gentoo Group](#) and Sunderland City Council.

**6 Feb** – [UK Government backs ‘Big Data’ trial on DH networks](#) – by using advanced algorithms the efficiency of DH networks could be improved thanks to a [£7m funding programme](#) from DECC devised to stimulate innovation in heat network technologies.

**6 Feb** – [CPV Ltd installs new DH pipe coiling machine](#) – the machine will help meet increasing demand for the [Hiline Flex](#) pre-insulated PEX pipe system.

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**4 Feb** – [Bosch Commercial and Industrial Heating celebrate 28% growth](#) – 2014 year saw demand for CHP modules, industrial hot water and steam boilers, and DH solutions, hit new heights following a series of high profile project wins across multiple commercial and industrial sectors.

**4 Feb** – [Kingston Heights open water community heating recognised with award](#) – the project, which sees 137 apartments and a hotel get renewable heating and hot water from the River Thames, won the [National ACR Award](#) for ‘Commercial Project of the Year’.

**3 Feb** – [DH users – are you happy with your service?](#) – last year Louise Strong posted an article on the Which website which continues to attract comments from DH consumers.

**2 Feb** – [Eden’s eco-friendly geothermal plant threatened by fracking curbs](#) – a scheme to heat the Eden Project’s vast greenhouses by tapping hot rocks under Cornwall is being threatened by proposals to restrict fracking.

**28 Jan** – [Ebbw Vale regeneration project examines DH feasibility \(South Wales\)](#) – the regeneration scheme of the former steelworks site has joined up with the EU funded [Resilient project](#) to look at creating a heating system between buildings at district level.

**28 Jan** – [five steps to creating a successful community heating project](#) – this article will be useful for any organisation considering the development of a community heating system.

**27 Jan** – [BRE Wales & partners win DECC funding for heat network innovation](#) – The partners are exploring the viability of using a new super insulated Swedish district heating system [Elgotherm](#) on a low rise housing development in Cumbria. The system can reduce heat losses in pipes by up to 40-50% and works well with low volume demand. .

[back to top](#)

## UK Tenders

A list of tenders which include the [CPV code](#) for district heating can be viewed [here](#).

## UK Jobs

A list of district heating related jobs can be viewed [here](#).

[back to top](#)

## Europe

NB articles marked (R) require free registration to view.

**27 Feb** – [‘CO<sub>2</sub>-negative’ green data centre under consideration \(Falun, Sweden\)](#) – the centre will receive energy from a nearby solar farm and the proximity of the local DH system makes the cost of infrastructure for transferring heat from the centre more viable.

**24 Feb** – [Europe bets on CHP systems to update grids and lower emissions](#) – this article Eric Marx, E&E Europe correspondent, focuses on the EU states and Germany in particular using the Berlin DH system as an exemplar.

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**17 Feb** – [DH plant to be modernised with GE gas turbine \(Oradea, Romania\)](#) – the natural gas-powered 45.5MW LM6000-PF SPRINT unit will achieve 92% efficiency and reduce emissions as part of a broader plant overhaul of the city's DH system.

**13 Feb** – [DE potential for a low carbon economy \(Czech Republic\)](#) – currently 56.8% of urban and 9.7% of rural areas are served by DH networks 70% of which depend on CHP plant fueled mostly (75%) by brown and black coal. As well as the challenge of migrating to renewable energy sources many Czech heat networks require improvement.

**8 Feb** – [burst DH pipe kills one person and injures several \(Lund, Sweden\)](#) – the pipe burst near a square in the city center impairing visibility as steam formed when the hot water flowed out into the cold air.

**5 Feb** – [solar thermal companies, Arcon and Sunmark, merge \(Denmark\)](#) – the two companies have built some of the world's largest thermal solar heating plants, including the Marstal and Vojens DH Plants with a combined collector area of 86,121m<sup>2</sup>.

**4 Feb** – [flue-gas cleaning and condensation plant will increase DH production](#) – the €8m plant will be supplied by Valmet to the Tampere DH system in Finland. The investment will increase the power plant's energy efficiency and DH production capacity, as well as decrease the plant's emissions.

**30 Jan** – [combined CSP and flat plate collector system supplies solar DH](#) – the system, situated in the Danish village of Tårs, combines parabolic trough and flat plate collectors to cover 30% of the heat demand of the DH network, without the need for seasonal storage.

**29 Jan** – [reports illustrate European biogas and energy-from-waste \(EfW\) industries](#) – the reports show that 2013 sales of biogas and EfW derived thermal energy to DH networks increased by 22.4% to 432.4ktoe and by 7.8% to 2.4Mtoe respectively compared to 2012.

## European tenders

A list of tenders which include the [CPV code](#) for district heating can be viewed [here](#).

[back to top](#)

## The Americas and Africa

**19 Feb** – [city finally debates district energy plan \(Port Alberni, BC, Canada\)](#) – there are currently three options on the table for the council to consider; a fully municipally owned and operated utility at a cost of approximately \$10m; a private-public partnership; or termination of the district energy initiative.

**5 Feb** – [city committee orders up DE options for Cogswell redevelopment](#) – members of the Halifax (Nova Scotia) city's environmental committee want city staff to investigate the opportunities for the use of district energy such as from the city's sewage treatment facility.

**2 Feb** – [DH system case study: Vancouver's Neighbourhood Energy Utility \(NEU\)](#) – this positive study looks closely at the NEU model and how it evolved. It then goes on to analyse a range of economic, environmental and governance dimensions. See also [article](#).

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**2 Feb** – [nonprofit ESCo to look at supplying DH to penitentiary \(Nebraska\)](#) – the feasibility study will examine the energy, operating and capital costs of providing thermal energy by the [District Energy Corp](#) in place of the current coal-powered heating and cooling system.

**2 Feb** – [the legacy of the 2010 Winter Olympic Games \(Vancouver BC\)](#) – the Southeast False Creek Olympic Village DE system and multiple LEED rated buildings are but a few of the strategies that have informed city-wide policy in the City of Vancouver.

[back to top](#)

## China, Asia and Australasia

NB articles marked (R) require free registration to view.

**19 Feb** – [Empower unveils improved customer service drive for DC customers](#) – over the next three months, the company will gauge customer perceptions on billing, DC system performance, operations & maintenance and complaint handling through detailed face-to-face interviews, telephone interviews and online questionnaires.

**17 Feb** – [Dewa profit rise boosted by increasing DC revenues \(Dubai\)](#) – the Dubai Electricity and Water Authority (Dewa) benefited from its DC business whose revenue rose by 78% year-on-year, reflecting the acquisition in November of Palm Utilities.

**12 Feb** – [micro-tunnelling used for DC network extension \(Dubai\)](#) – the micro-tunnelling project connected Empower's existing cooling infrastructure for the Dubai International Finance Centre beneath a busy road to the Emirates Towers.

**3 Feb** – [‘First of its kind’ DC retrofit for Emirates Towers \(Dubai\)](#) – the new DC system will use 47% less electricity as compared with the conventional cooling system.

**2 Feb** – [the first DC project in Kuwait moves forward](#) – Kuwait University's Shadadiyah Campus will be cooled by 36 energy efficient York centrifugal chillers from [Johnson Controls](#). The 6km<sup>2</sup> campus is designed to be one of the most energy efficient campuses in the world, home to 40,000 students and more than 10,000 staff.

**27 Jan** – [treated sewage effluent is the way forward for DC in the \(Gulf\) region](#) – according to [George Berbari](#), CEO of DC Pro Engineering, the use of TSE can reach capital costs that are six times cheaper than that of desalinated sea water and three times cheaper than that of desalinated well water via a reverse osmosis (RO) plant.

[back to top](#)

## Conferences, symposiums and forums

**17-18 Jun** – [3rd International Solar DH Conference \(Toulouse, France\)](#) – this event will focus on sharing international experiences on the realization and operation of solar DH projects, so that newcomers in the field can benefit from international expertise.

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**27-28 Apr** – [4th Global District Energy Climate Awards \(Tallinn, Estonia\)](#) – this event will be held in conjunction with the [37<sup>th</sup> Euroheat & Power Congress](#) and is now closed. The Awards and associated event is run by [Euroheat and Power](#) and is the occasion where outstanding innovative projects are awarded.

**14-15 Apr** – [5th Annual Small Modular Reactor Summit 2015 \(Charlotte NC\)](#) – there will be a unique panel discussion and workshop on integrating small modular reactors (SMRs) into nuclear co-generation and hybrid energy systems – see [here](#) for detail and brochure.

**26-27 Mar** – [4th Informed Cities Forum \(Rotterdam\)](#) – this year's theme will be “Which way to the future? Strategies, tools and inspiration for transforming cities”. The forum is organised as a co-production of the [ARTS](#) and MUSIC project consortia.

**19-20 Mar** – [Future District Heating Conference \(Stockholm\)](#) – the conference will cover areas like developments in the heat pump market, how do you respond to increased competition by smarter pricing and profitable business model and many more.

**17-18 Mar** – [3<sup>rd</sup> Annual DC Stakeholders Summit \(Dubai\)](#) – there will be many seminars on technology and policy with prominent key note speakers. See [here](#) for summary.

**11-13 Mar** – [11th edition SE European Smart Cities Forum and Exhibition \(Sofia\)](#) – at the conference will have a strong focus on [bio energy](#) and DH.

**26-27 Feb** – [Heating and Cooling in the European Energy Transition \(Brussels\)](#) – all the sessions were webstreamed and are available [here](#).

**10-13 Feb** – [proceedings of the IDEA Campus Energy Conference \(Denver\)](#) – also, an overview of the conference can be read [here](#).

[back to top](#)

## General interest, technology and research

NB articles marked (P) may need to be purchased.

**11 Feb** – [commercial DH from NuScale modular reactor moves step closer](#) – the full-length helical coil steam generator (HCSG), which converts nuclear heat into process steam, was successfully installed at the SIET facility in Italy.

**4 Feb** – [scientists and policymakers gather to chart path for energy efficient future](#) – this symposium on the UN Sustainable Energy for all ([SE4ALL](#)) Initiative, held in Nairobi, Kenya, affirmed measures which include energy efficiency gains in buildings, transport, lighting, appliances, district energy and industry.

**Feb** – [integrating low carbon heat networks into heat networks](#) – module 73 from the CIBSE Journal examines the application of condensing boilers alongside solar thermal and gas absorption heat pumps for effective, carbon-efficient networks.

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**29 Jan** – [Virtual models to make cities or DE systems greener](#) – scientists in Sweden have just started compiling a virtual model based on best practices in other cities or DE systems, designed to calculate the energy saving potential of a district. See also [here](#).

[back to top](#)

[Link to the glossary of terms and acronyms](#)

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