

District Energy Vanguards Network Newsletter

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Editorial

So what could the new Government do in the heat sector?

To answer this question we should return to the beginning.

The previous Government laid the foundations by adopting a Heat Strategy. The principal means of delivery in it were:

- the establishment of DECC's Heat Networks Delivery Unit (HNDU)
- promoting innovation
- working with the Green Investment Bank to develop finance packages

How well have these initiatives fared? HNDU is now well established and is now supporting over 100 local authorities in developing plans for heat networks within their

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areas. Whilst funding has been secured for another year for DECC's HNDU team to manage this portfolio, no capital support is as yet in place to support further network development work. Local authorities that have completed early stage data gathering and heat mapping activities part funded by HNDU will need to move onto options appraisals, feasibility studies and commercial modelling. Funding needs to be put in place to ensure that this further work happens otherwise this initial investment is at risk of being wasted. It should be remembered that the Community Energy Programme, Government's last district heating funding scheme which operated in the early part of the last decade, saw many viable projects stall as promised funds were suddenly withdrawn.

Secondly, both DECC and the Scottish Government have carved out a slice of the [Innovation UK Energy Catalyst](#) programme for heat networks. First round feasibility studies have been completed and they have now moved onto second round capital support. R&D by its nature is fairly long term. So it will be a while before results emerge. But the range of ideas in the first round is encouraging.

Thirdly, the development of financial packages has led to the establishment of the [Scottish District Heating Loan Fund](#) which matches [PWLB](#) rates. But there is an aching gap in England & Wales. DECC's recent prospectus on [investment in energy infrastructure](#) identified a requirement of up to £800m based on conversion of the HNDU pipeline alone. But crowding in private finance has not worked. Investors still want to see the risks covered. It is time to consider bringing forth a longer term risk underwriting mechanism to support heat networks in the way [Contracts for Difference](#) (CfDs) are supporting projects such as offshore wind and nuclear development. Funding can be primed by replicating Scotland in establishing a bespoke fund followed by letting the Green Investment Bank off the lease by allowing it to borrow capital from the market.

Other elements of the supposed financial solution highlighted in the Heat Strategy need attention. The Renewable Heat Incentive has worked for smaller scale stand-alone biomass heat projects, but the rumoured infrastructure uplift for heat delivered via networks has not arrived. And potential support through [Allowable Solutions](#) is as yet unclear as Government may well continue its approach in diluting its Zero Carbon Homes policy

Two further strands mentioned in the Heat Strategy are the introduction of regulations on heat metering to comply with the EU Energy Efficiency Directive and the establishment of a consumer code of conduct. Welcome progress has been made of both. [Heat metering regulations](#) have been met with broad approval and the National Metering and Regulation Office appointed to enforce them. On the second point the industry has established the [Heat Trust](#) as an independent organisation. However, the [Consumers Association](#) calls for this to be given more teeth by being made a statutory body, particularly in providing greater transparency around pricing. It calls on the Heat Trust to develop a price

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comparator mechanism. A simple step could be for the Heat Trust to publish comparative data on prices and tariffs as done by the Danish Energy Regulatory Authority.

Overall there has been mixed progress, strong in some areas and weak in others. The [Heat Strategy](#) set out a programme for the initial stage covering two years. Perhaps it is now time for a Heat Strategy update setting out a new programme for the next two year period which could strengthen support in weaker areas as well as bringing forward fresh ideas to tackle risk for investors such as an obligation for public sector buildings to connect to heat networks at the next boiler change.

Michael King, Editor, 31st May 2015

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UK, devolved and EU administrations

Policy, regulation, consultations, guidance and funding

NB articles marked **(M)** include members' only viewable items.

29 May – [HM Treasury discussion paper on Business Rates review](#) – the ADE have produced a draft response **(M)** to the consultation which recommends retaining the Good Quality CHP business rates exemption and removing DH pipework from the rating system.

UK conferences, workshops and awards

16 Jun to 8 Jul – [heat pump training roadshows 2015](#) – DECC is running a series of free one-day training courses, designed to help potential heat pump customers such as businesses, developers and housing providers, understand how heat pumps can deliver lower energy costs, greater comfort and better buildings.

22-26 Jun – [short course on CHP \(Cranfield University\)](#) – the course will build up the delegates' understanding and knowledge of CHP technologies with conventional fuels and renewables.

17-18 Jun – [3rd International Solar DH Conference \(Toulouse, France\)](#) – the focus will be on sharing international experiences of SDH, urban planning aspects, business models, the latest advanced concepts as well as new products and components for SDH.

9 Jun – [Leeds seminar advises on requirements of new Heat Network Regulations](#) – this free breakfast seminar is jointly organised by [ENER-G Switch2](#) and Leeds City Council and will be held at the Open Data Institute in Leeds city centre.

4 Jun – [ADE DH&C Group Forum \(members only\)](#) – the next meeting will take place at the offices of the ADE from 11:00 to 15:00.

13 May – [Scottish Government: DH to 'play a major part' in decarbonising heat](#) – the Minister for Energy, Fergus Ewing, reaffirmed Holyrood's ambition for 40,000 dwellings to be connected to DH systems by 2020 at the Conference jointly organised by the [ADE](#) and the [Scottish Heat Networks](#) Partnership Practitioners Group.

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12 May – [ADE Awards - applications now open](#) – applications are now being taken for the ADE's annual Awards showcasing innovation, best practice and achievements across CHP, DH and energy services. **Deadline for applications is Friday, 4 Sep.**

6-7 May – [All-Energy 2015 Conference renewable heat sessions \(Glasgow\)](#) – PDFs of the some of the DH related presentations are now available [here](#).

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UK News

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

28 May – [Work on begins on Gateshead DH energy centre](#) – in the initial stage of the project two 2MWe CHP engines will deliver heat and power via a dedicated network stretching over 3km, from the south bank of the Tyne into central Gateshead.

22 May – [three environmental benefits of community heating schemes](#) – some 210,000 of the UK's 27m households currently benefit from being part of a district or community heat scheme and the Government wants to see up to 11m connected by 2050.

21 May – [Camden Council unveils first phase of Somers Town DH scheme](#) – the £3.04m scheme is fully funded by the [Francis Crick Institute](#) and will heat 339 homes via 500m of DH pipework.

20 May – [EDF Energy puts £1m towards biomass DH system \(Manchester\)](#) – the system will heat 192 flats in three tower blocks each with a 400KWth biomass boiler, a 12m³ thermal store and an electric emergency back-up facility.

15 May – [Enfield Council secures £80m EIB funding for eco-development](#) – the investment from the [EIB](#) will help the council deliver several major projects, including the [Lee Valley Heat Network](#) and Enfield's schools expansion programme.

11 May – [Aberdeen Heat & Power expands DH scheme with new ice rink CHP](#) – the Aberdeen based ESCo contracted with Clarke Energy to supply a 1MWe, 1.3MWth Jenbacher gas engine which will be located at the [Lynx Ice Arena](#).

10 May – [heat harvested from the sea could supply energy to Shetland \(R\)](#) – the main town of Lerwick is already host to the largest DH scheme in Scotland which supplies 1100 dwellings as well as 100 industrial and public buildings.

6 May – [regeneration project awarded £36k for biomass DH system \(Perthshire\)](#) – the [SSE](#) award will enable ten listed Nissen huts at an ex-WWII POW camp to be connected to the DH system as part of their refurbishment into self-catering accommodation.

5 May – [DECC awards grant to Bournemouth Council for DH investigation](#) – the £81k grant will enable the Council's partner, [Mouchel](#), to carry out a feasibility study on the viability of a heat network in Bournemouth. .

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1 May – [Glasgow EcoCampus foregrounds DH](#) – the [Platinum certified](#) Glasgow Caledonian University has invested £4.9m in developing a CHP-DH system to supply all their heating and 30% of their electricity needs. The system also has the potential to link into [Sustainable Glasgow](#)'s planned DH network.

29 Apr – [Metropolitan and E.ON selected to provide DH system](#) – the new system will serve 1,743 new houses to be built over the next eight years as part of the Greenwich Millennium Village ([GMVL](#)) development.

29 Apr – [trade organisations calls for planning rules revision in favour of DH](#) – according to [Scottish Renewables](#), planning rules in Glasgow should be changed to force developers to consider communal heating systems.

28 Apr – [Fuel Poverty Action express concern over DH contract lock-in \(London\)](#) – whilst the campaign group welcomes DH systems as being much more energy efficient, they're very concerned that social landlords are locking their tenants into energy deals that don't provide their tenants with the low cost energy they need.

27 Apr – [Bunhill DH system to be extended \(Islington\)](#) – phase 2 of the Bunhill network will see a further 454 homes connected to the network using funding from the Council, Bunhill Ward and the EU [CELSIUS](#) research project.

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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](#).

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Europe

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

28 May – [Caverion and Fortum sign DH meter agreement \(Finland\)](#) – under the agreement [Caverion](#) will assume responsibility for the installation, maintenance and control services of DH&C and gas meters in the Espoo and Central Uusimaa DH area.

28 May – [Skærbæk DH power station conversion to wood-chips underway](#) – the 392MWe, 447MWth plant currently uses natural gas fuel but will supply DH from wood chips in the 2016/17 heating season.

21 May – [DH&C key to EU drive for energy security and GHG mitigation](#) – in this article Clare Taylor of [ManaqEnergy](#) navigates through the myriad of EU energy efficiency initiatives such as the [EED](#), [STRATEGO](#), [RES H/C SPREAD](#) and [SDHplus](#)

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- 20 May** – [Juncker Fund could benefit DH investments](#) – this members-only ADE briefing note provides an overview and analysis of the European Fund for Strategic Investment which aims to revive investment in strategic projects around Europe.
- 19 May** – [DH upgrade lessons learnt from skeptical residents \(Torrelago, Spain\)](#) – some residents feared the retrofitting and switch to biomass fuel would result in increased community expenses despite substantial efficiency improvements over the old DH system.
- 18 May** – [Siemens completes first firing of 595MWe CCGT plant \(Düsseldorf\)](#) – the single power plant unit at the facility allows extraction of up to 300MWth of DH capacity which raises the overall efficiency of the natural gas fuel to nearly 85%.
- 14 May** – [DH plant switches from gas to biomass \(Pumerend, the Netherlands\)](#) – the switch is well timed as gas prices have increased reflecting reduced output from the Groningen gas field due to regional earthquakes. The DH ESCo have therefore been able to keep heat prices at a similar level. The new plant has four 11MWth capacity boilers.
- 8 May** – [glass manufacturing plant to provide heat to DH system \(Milan\)](#) – the energy recovery system will provide up to 5MWth from two furnaces and produce up to 500kWe from the surplus of energy not used by the DH system.
- 7 May** – [DH plants and biomass installations given pollution time extensions](#) – proposals to reduce air pollutant emissions from medium-sized combustion plants across the EU have been criticised by environmental organisations for not being strict enough and because the EU Parliament committee has now added exemptions and time extensions.
- 6 May** – [study cites Moscow DH system as example of green success](#) – the study, "[megacity metabolism](#)", lists the city's 10,380 km DH system, which provides heat and power for 12m people, as an example of successful policies.
- 1 May** – [leftover industrial heat to warm Sweden's chilly northern city](#) – the city of Kiruna, which is 145km above the polar circle, has joined with local mining company LKAB, to provide heat via DH using waste heat from the factory's iron ore pelletizing process.
- 29 Apr** – [emissions from DH per resident fall \(Tampere, Finland\)](#) – emissions per resident from DH were 1.3 tonnes of [CO₂e](#), the lowest among the six largest cities in Finland and reflective of the increased use of renewable energy in recent years.

European tenders

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

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The Americas and Africa

27 May – [B&I wins Eagle award for Pinellas County Central Energy Plant \(Florida\)](#) – the DC facility will provide more than 2,000RT at build-out to multiple office buildings in Downtown Clearwater.

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21 May – [St. Paul's biomass DH scheme cited as exemplar in Senate hearing](#) – the scheme uses wood waste to generate heat and electricity while providing customers with stable and competitive energy prices and reducing CO₂ emissions. The new 7,000 seat baseball park, [CHS Field](#), will be connecting to the scheme.

19 May – [CHP and DE cited as significant factor in energy-efficient cities](#) – the 2nd edition of the City Energy Efficiency Scorecard published by the [ACEEE](#) cites top-scoring [NY City](#) and [Boston](#) as having efficient distributed-energy systems. Although [Detroit](#) was ranked 48th of 51 large cities, the DE company [Detroit Thermal](#) was cited for best practice.

19 May – [inefficient steam DH system set for upgrade \(Duluth, Minnesota\)](#) – currently water is converted to steam at 185°C and sent one way but under the new plan, a more affordable closed-loop DH&C system will be constructed.

14 May – [Vancouver attracts praise for DE friendly policy](#) – the president of the [IDEA](#), Robert Thornton, said that the city is creating a market environment that values efficiency in DE and its carbon impact at the recent [Renewable Cities](#) conference.

11 May – [Eco-Innovation District team consider DE loop \(Pittsburgh, Oregon\)](#) – the DE loop will provide heat, power, steam and in some cases cooling for the [Uptown](#) area which is home to [Mercy Hospital](#) and [Duquesne University](#).

5 May – [Premier reaffirms carbon-pollution reduction targets \(British Columbia\)](#) – the author believes more should be done to encourage the capture of waste heat from industrial processes for use in DH systems citing the [UBC](#)'s plans to harness the exhaust heat from their [TRIUMF](#) nuclear physics facility.

1 May – [Montpelier declares first DH season a success \(Vermont\)](#) – more than 20 downtown buildings - including city hall, the police and fire stations, the elementary school and two churches - were heated last winter for the first time by a new state DH plant.

For more DH related news covering North American and beyond see the IDEA [news blog](#).

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China, Asia and Australasia

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

28 May – [Tabreed supplies chilled water to Abu Dhabi tower](#) – the DC company will deliver more than 1,600 RT to the Al Hilal Bank tower on Abu Dhabi's Al Maryah Island.

20 May – [Empower achieves power saving of 836 MW in 2014 \(UAE\)](#) – the company first recorded a power saving of 4 MW in 2004 but has now developed their DC operations to provide 1m RT of cooling saving 836 MW against traditional air conditioning systems.

20 May – [Singapore Power to build DC system \(Chongqing, China\)](#) – the company will design, build, own and operate a DC system for the [Raffles City development](#) comprising a shopping mall and eight towers for residential, office and hotel use.

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- 17 May** – [Qatar Cool starts capacity growth on its third DC plant in West Bay](#) – the company has started the second phase construction of its third plant in the West Bay neighborhood of Doha by increasing capacity by an additional 25,000RT.
- 7 May** – [DC to be used to cool 2022 FIFA World Cup facilities \(Qatar\)](#) – the integrated approach in the design of different facilities and venues will see DC used as one of 10 environmentally-friendly cooling technologies.
- 6 May** – [Empower commences serving DC to Al Habtoor City \(Dubai\)](#) – the integrated approach in the design of different facilities and venues will see DC used as one of 10 environmentally-friendly cooling technologies.
- 6 May** – [Tabreed seeks shareholder approval for AED 1bn \(\\$272m\) bond buyback](#) – the UAE based DC company, which has about 69 district cooling plants across the Gulf, said it was looking to buy back bonds held by its largest shareholder, [Mubadala](#), a move designed to save the company more than AED 40m (\$11m) per year
- 3 May** – [DC company, Emicool, wins CSR Label for third consecutive year](#) – the award, by the Dubai Chamber of Commerce & Industry, recognizes distinguished Corporate Social Responsibility [CSR] practices.
- 30 Apr** – [Clarke Energy secures contract to expand DE scheme \(Sydney\)](#) – the award winning Central Park scheme will see an additional 1.1MW GE gas engine installed.
- 28 Apr** – [Talbreed's Q1 profits up 5% to Dh61m \(£11m\)](#) – the Abu Dhabi-based DC company's performance was driven by its strong regional operations, with over 12,000RT of new connections made across the [GCC](#), as well as savings achieved due to the refinancing completed at the end of 2014.
- 28 Apr** – [DC services company, Empower, reopens Customer Service Centre](#) – the new Centre is located in the Jumeirah Beach Residence ([JBR](#)), a 1.7km long, waterfront community in Dubai. Empower currently supplies DC services to all 40 towers of JBR, serving 7,000 residences, commercial units and hotels.
- 28 Apr** – [World Bank financed project sees DH upgrade \(Nefteyugansk, Russia\)](#) – the network rehabilitation included laying 1,600 meters of new pipeline and changing the construction architecture, which significantly improved the reliability of the heating supply, with reduced accidents, heating loss and leaking in the network.

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International conferences, symposiums and forums

30 Aug–5 Sep – [3rd edition of the International DHC+ Summer School \(Turin, Italy\)](#) – the School is designed to provide a clear introduction to DHC technology, operational issues, and consumer determinants in evolving energy systems. The School will combine theoretical lectures with practical application, site visits and networking opportunities.

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25-27 Aug – [4th Annual Asia Pacific District Cooling Conference \(Bangkok\)](#) – this three day event will include sessions on regulation, design, awards, technology and operations.

28 Jun–1 Jul – [106th IDEA annual conference and trade show \(Boston\)](#) – this event will explore best practices to develop, own and operate DE, CHP and microgrids in cities.

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.

26–27 May – [harbourside short-term storage and DH for shipping \(Gothenburg\)](#) - this workshop will cover the technical aspects of connecting a ship in harbour to DH. The second day will cover marketing, investments, cost management, price models, partnerships, competitive analysis and more. More info and registration via [email](#)

26-29 Apr – [4th Global District Energy Climate Awards \(Tallinn, Estonia\)](#) – over 250 attendees from organisations across the world met to celebrate success and collective attainment. The event was held in conjunction with the [37th Euroheat & Power Congress](#).

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General interest, technology and research

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

May – [economic aspects of the use of deep geothermal heat in DH in Poland \(P\)](#) – All six geothermal heating plants operating in Poland are analyzed including the oldest plant established in 1994 and the newest plant established in 2013.

19 May – [underfloor heating system for luxury yurts etc. can use DH](#) – the system is designed to have an outward flow temperature of 55⁰ C with 45⁰ C on return and is suitable for combining with any heat source such as boilers, heat pumps and DH systems.

16 May – [upscaling a DH system based on biogas cogeneration and heat pumps](#) – the migration spans the system's small-scale starting phase involving 40 houses up to a scale of 176 houses. An optimization model which maximizes profitability is developed which includes data from DH&C demand patterns.

5 May – [thermal energy storage in buildings makes DH more climate friendly](#) – building services PhD student, John Kensby, has shown how running peak load boilers can be avoided by storing heat in buildings that are already connected to a DH network.

30 Apr – [European cities embrace UNEP's District Energy initiative](#) – the initiative is the outcome of collaboration between the [IFC](#) and [UNEP](#) in the area of DE. Transitioning to modern DE could enable cities and countries to achieve 100% renewable energy or carbon neutral targets, according to a recent [UNEP report](#).

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Mar – [is it getting too hot in homes? Case studies from around the UK](#) – this presentation features examples of over-heating in residential blocks connected to DH systems. Paul Ciniglio is a Sustainability & Asset Strategist for [First Wessex](#), a Hampshire-based housing association. See also the Rowner Research [study](#)

Feb – [benefits of individual metering and billing of heat/cool/hot water consumption](#) – this presentation is from Walter Schmidt, president of the Association for Energy Cost Allocation ([EVVE](#)).

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

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