

District Energy Vanguards Network Newsletter

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Editorial

The energy market remains at the heart of the political debate with the Prime Minister announcing last week that a review of green tariffs is to take place, including an examination of the costs of delivering the Energy Company Obligation (ECO). This creates uncertainty for those trying to deliver district energy projects as ECO has been viewed as a major source of capital funding.

District energy projects have been attractive to ECO managers as they provide substantial carbon savings for relatively low transactional costs compared to other approved ECO technology options. The preceding Community Energy Saving Programme (CESP), provided a good example of what could be achieved, with 6,500 new district heating connections to homes being made, and over 11,000 homes having their district heating schemes upgraded. The new ECO programme has the potential therefore to act as a major driver for district heating over the next few years. The proposed changes to the ECO district heating rules, as set out in a recent [consultation by DECC](#), are helpful.

Hopefully this new review will also recognise that the development of local district energy will increase competition in the market whilst simultaneously reducing carbon emissions and providing affordable warmth. A triple win all political parties want to see. Indeed this could be accelerated if district energy was made a primary measure under ECO giving Energy Company managers increased flexibility to support projects in a wider range of applications.

A further source of capital funding may become available in England and Wales through Allowable Solutions. However, [DCLG proposals](#) in their current consultation are

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disappointing in not providing local authorities with more control over the funds raised. The strategic role of local authorities could ensure a more effective allocation of the resources, including developing their own district energy projects. This would take the strain out of building developers having to do it themselves. There is the opportunity to press these advantages through the consultation process. DCLG's [Review of Housing Standards](#) will also impact on certainty in the market.

Both pots of funding could reduce total capital requirements thus increasing the viability of projects. But at present they are not secure and their effective deployment is not optimised. To win the confidence of developers and investors there needs to be certainty with all signals pointing in the same direction

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UK Policy

Open consultations

15 Oct – [Heat Customer Protection Scheme consultation](#) – responses are sought on proposals to establish an Independent Heat Customer Protection Scheme for domestic and micro-business customers on heat networks. **The consultation closes on 29th Nov.**

Reports and documents

22 Oct – [Deep Geothermal Review Study \(DECC\)](#) – this study by Atkins Ltd assesses the potential for deep geothermal power generation in the UK.

22 Oct – [Energy Efficiency Standard for Social Housing \(Scottish Government\)](#) – an Equality Impact Assessment (EQIA) was undertaken alongside development of the Energy Efficiency Standard for Social Housing (EESH). The findings are favourable to DH.

10 Oct – [Managing Low Carbon Transition: The Case of Leicester](#) – this study examines the consumption of energy within city, the network of players within energy policy and two flagship aspects of the policy – the DH scheme and the use of smart metering.

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UK News

24 Oct – [Plan to heat Manchester homes with geothermal spring approved](#) – boreholes up to two miles (3.2km) deep will be drilled to use a thermal spring to heat homes. If successful, further plans will be submitted to create a DH network taking heat to houses.

24 Oct – [Communities benefit from £1.5 million for DH schemes](#) – seven projects across Scotland have been awarded funding support all of which will use renewable heat from wood fuel or air source heat pumps. Six of the projects provide affordable warmth to social housing or private homeowners, in off-gas grid areas.

22 Oct – [11-15MWe, 8-12MWh biomass CHP plant given planning permission](#) – Dover council have approved the plant, which will be built at Discovery Park, Sandwich.

17 Oct – [Lorien awarded Windsor Great Park biomass heat contract](#) – the scheme will use woodchip produced locally from Crown Estate forests, and will serve more than 60 domestic properties and commercial buildings.

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- 16 Oct** – [Thornhill DH scheme extension proposal \(Southampton\)](#) – the plans include building a new Energy Centre housing a gas boiler and a back-up biomass plant. The first phase of the DH network will heat three tower blocks and 88 smaller blocks of flats.
- 14 Oct** – [Peak District stately home DH scheme commissioned](#) – the new wood-pellet fuelled DH system heats Hopton Hall and its estate buildings.
- 11 Oct** – [expert suggests CHP with DH is ideal for retirees](#) – the ideal scenario might be a “village” of carbon neutral properties sharing a biomass CHP unit generating electricity with shared DH and hot water as a free by-product.
- 9 Oct** – [favourable Geothermal with DH prospects in the UK](#) – for heat applications, there is less resource risk as heating networks can function with lower water temperatures than are required for electricity generation.
- 9 Oct** – [project manager for the delivery of renewables projects](#) – ideally with a proven track record in delivery of projects with GSPs and ASHPs, biomass, solar thermal and DH.
- 3 Oct** – [Green Energy Farmer of the Year uses DH](#) – the Borders based farmer designed and installed Europe’s largest batch straw biomass boiler to heat a grain dryer, farmhouse, cottages and a new free-range 16,000-hen egg unit.
- 2 Oct** – [chief executive of Scottish Renewables emphasises DH and biomass](#) – electricity generation is progressively being de-carbonised in Scotland but the way homes and businesses are heated accounts for more than half of Scotland’s carbon emissions.
- 30 Sept** – [Vauxhall Nine Elms Battersea Energy Masterplan released](#) – the study considers the phasing of the build-out of the DH networks along with an investment analysis of the different network options.
- 26 Sept** – [Hull City Council commissions DH study](#) – the Council aims to reduce fuel poverty, emissions and energy consumption in the Orchard Park area via a biomass DH scheme serving about 3,000 existing homes and up to 350 new-build properties.
- 24 Sept** – [CIBSE and CHPA form new partnership to underpin heat network quality](#) – the partners will draft of a code of practice for heat networks to support the spread of the heat networks by increasing the confidence of developers and investors.

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Europe

- 23 Oct** – [Data Valley plan €600 million datacentre \(Tallinn, Estonia\)](#) – as a part of the project, three 250 MW gas-powered power stations are proposed which would cool the datacentre and provide heat for the local DH system.
- 22 Oct** – [Armenia, Georgia and Moldova accede to energy efficiency partnership](#) – membership of the Eastern Europe Energy Efficiency and Environment Partnership (E5P) will enable the three countries to access EIB funds to help modernise DH systems etc.
- 17 Oct** – [National DH company to be taken over by government \(Baku, Azerbaijan\)](#) – it is proposed that the national heating supply company, Azeristiliktechizat OJSC, should be put under the control of the Azerbaijan Ministry of Industry and Energy.
- 15 Oct** – [Research group propose solar panels for trigeneration \(Madrid, Spain\)](#) – the solar collectors will be incorporated with a gas-based cogeneration system and an absorption chiller, reducing both energy expenditure and CO₂ emissions.

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- 15 Oct** – [Opcon AB to convert E.ON power plant to CHP \(Sollefteå, Sweden\)](#) – the plant will use Opcon’s new Powerbox WST-CU (Wet Steam Turbine – Condensing Unit).
- 11 Oct** – [Fortum to start supplying bio-oil to a local energy company \(Finland\)](#) – the contract will enable Savon Voima to replace the use of heavy and light fuel oil in its DH production with sustainable bio-oil which is produced using gasification and fast pyrolysis.
- 10 Oct** – [Norway leads 15m Euro investment in Bulgarian energy sector](#) – the program will also finance projects for the use of renewable energy for heating buildings and DH plants.
- 10 Oct** – [DHC trendsetter named 2013 Global Cleantech 100 company](#) – SorTech (Halle, Germany) specializes in adsorption chillers - in combination with solar-thermal systems, local and DH stations, CHPs and industrial waste heat.
- 10 Oct** – [DH \(Finland\) Analysis published](#) – the report provides a detailed overview of the Finnish DH market and a comprehensive individual analysis on the top 100 companies.
- 9 Oct** – [E.ON and DEGA building CHP-microgrid systems in Russia](#) – two 15MWe CHP plants will supply heat and power to the Noginsk industrial park 45 km east of Moscow.
- 8 Oct** – [biomass and DH key to transformation of local economy \(Güssing, Austria\)](#) – the town now has 60 new companies, 1,500 new jobs, and annual revenues of \$17 million due to energy sales, all resulting from the growth of the renewable energy sector.
- 8 Oct** – [DH plant orders flue gas condense \(Falkenberg, Sweden\)](#) – the condenser efficiently captures waste heat in smokestack gases and recycles it to the DH grid thereby adding some 1.7 MW to the system and increasing energy efficiency by up to 20-25%.
- 7 Oct** – [Solar DH growing rapidly in Denmark](#) – the Danish Government has set a target for solar DH to reach 1.4 TWh-thermal in 2020 and 2.7 TWh-thermal by 2030, meeting 10% of the nation’s DH demand..
- 7 Oct** – [Metso supplies 10Mw biomass plant to DH project \(Turenki, Finland\)](#) – the facility will be fired using locally sourced biomass, such as forest residues, and utilize Metso’s advanced BioGrate combustion technology, which enables a wide selection of fuels.

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The Americas

- 22 Oct** – [Turning straw into energy](#) – the wheat growing areas of the U.S. produce large quantities of waste straw which could be used in CHP plants to power and heat homes.
- 22 Oct** – [Bioenergy R&D CHP provides power and heat for campus \(Vancouver\)](#) – the system, fueled by biomass, produces synthesis (syn) gas in a high-temperature, low-oxygen atmosphere reactor at UBC (University of British Columbia).
- 21 Oct** – [U.S. DOE launches seven new CHP Technical Assistance Partnerships](#) – the Partnerships will help strengthen U.S. manufacturing competitiveness, lower energy consumption and reduce harmful emissions.
- 18 Oct** – [Hot-water DH system proposed for Keene \(New Hampshire\)](#) – the proposal will improve the city’s air quality and reduce energy costs by replacing propane and wood stove heating with a hot-water DE system for residential and commercial buildings.

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15 Oct – [Seattle City Council embraces bold DH proposal](#) – the city is in talks with Seattle Steam, Corix (a utility company) and developers in the South Lake Union neighbourhood to build a DE system that could harness the wasted heat from two nearby data centers.

13 Oct – [DH cited as an important element in addressing climate change](#) – the panel of climate change experts was addressing a packed room at Santa Fe Community College.

7 Oct – [community-based geothermal project award \(Canby, California\)](#) – the project will produce power and cascade the remaining energy to support an existing geothermal DH system and future greenhouse and aquaculture businesses.

3 Oct – [Bahamas based company seeks to raise \\$6m for SDC system](#) – the proposed Seawater District Cooling (SDC) plant will provide cooling for four hotels and a casino.

3 Oct – [owners increasingly source DE to heat and cool their buildings \(USA\)](#) – DE often saves customers money and there has been a recent trend for larger companies to buy out smaller entities to expand, streamline operations and upgrade DE technology.

1 Oct – [planned DE system will use waste heat from sawmill \(Kelowna, Canada\)](#) – the benefits include a \$26m investment and significant GHG emission reductions.

30 Sep – [House of Representatives recognises St Paul's DE system \(Minnesota, US\)](#) – the system was successfully designed to be energy efficient, fuel flexible, and results in stable rates for its customers.

30 Sep – [St. Paul's DE/DC Ever Green Energy Anniversary video](#) – this 9min video describes the history of the award winning Minnesota based DE scheme.

24 Sep – [Ocean Thermal Energy Corp. announces \\$7.65m equity offering](#) – the company specialize in large scale multi-applications of Seawater District Cooling (SDC) and Ocean Thermal Energy Conversion (OTEC) systems.

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China, Asia and Australasia

23 Oct – [new report indicates expansion in DC market in Saudi Arabia](#) – innovative technologies and construction boom will drive the DC market in Saudi Arabia, according to a new report from Frost & Sullivan.

11 Oct – [CSP increasingly seen as answer to de-salination and DC energy needs](#) – although Concentrated Solar Power (CSP) is a relatively new technology, its potential for reducing fossil fuel consumption in the Middle East is immense.

9 Oct – [Qatar Cool wins Global District Energy Award](#) – Qatar Cool, a major DC company in the Gulf region, was announced the winner of the award during the recent summit hosted by the IDEA and Euroheat & Power in NY.

9 Oct – [underground CHP plants to be built in Seoul](#) – the two 400MWe plants will supply electricity to 800,000 households and DH to 100,000 households across the city.

9 Oct – [benefits of DC outlined at Cityscape conference \(Dubai\)](#) – in a typical residential unit DC systems can cut energy usage by 40 to 45%, compared to traditional climate control systems.

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8 Oct – [Senior banker urges preferential treatment for DC projects](#) – Doha Bank CEO, Dr Seetharaman, was giving a presentation at the 7th Edition of the Climate Control Conference where he gave insights on the way forward for DC systems in the GCC region.

7 Oct – [Korea District Heating Corp. delivers children's library \(Ulaanbaatar, Mongolia\)](#) – the corporation carried out a regional DH facility modernization project, and built a children's library as their first overseas social corporate citizenship activity.

6 Oct – [Mongolian government looks at Danish DH solutions](#) – a delegation from the Mongolia's Dept. of Energy recently visited Denmark to research further possibilities for upgrading their energy sector.

6 Oct – [Major loan for DC service provider \(Dubai\)](#) – Empower has secured a \$142-million loan facility from the Qatar based Doha Bank which will enable Empower to fund its expansion plans in Dubai.

1 Oct – [the Future of cooling in the Gulf region \(interview\)](#) – Marwan Al Naqi, CEO of Palm Utilities, talks about challenges, the present market and the future of DC in the region.

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Conferences and workshops

8-11 June – [IDEA's 105th Annual Conference and Trade Show \(Seattle, US\)](#) – “Moving Community Energy Forward” call for technical presentations.

8-9 April – [3rd Concentrated Solar Power Conference & Expo \(Cape Town\)](#) – reducing CSP costs & risk through international experience and investor insight.

5-7 March 2014 – [the 10th South-East European Exhibition on Energy Efficiency and Renewable Energy](#) – this exhibition and conference will take place in Sofia, Bulgaria.

26 Feb 2014 – [CoRE Social Housing: DH Schemes – Worth Considering? \(UK\)](#) – DH schemes have become a more viable option for social housing due to new, more efficient technologies and improved funding streams.

18-21 Feb – [IDEA's 27th Annual Campus Energy Conference \(Atlanta, US\)](#) – “Clean, Efficient & Resilient Energy” – the organisers are calling for technical presentations.

26-28 Nov – [the fifth Annual Middle East District Cooling Summit \(Doha\)](#) – the summit includes an exhibition and a two-day conference programme followed by a series of workshops.

20-21 Nov – [UK District Energy Vanguard Workshop on Finance \(Glasgow\)](#) – will be held in Glasgow and will focus on financing district energy schemes. The workshop is being organised in partnership with Scotland's 2020 Climate Group and the Edinburgh Centre for Carbon Innovation. Vanguarders from all parts of the UK will be invited.

14-15 Nov – [Energy law and policy conference \(RGU, Aberdeen\)](#) – this conference will welcome Scottish and international energy experts gathered to examine energy policy and community benefits aspects of energy projects in Scotland.

12 Nov – [Base Glasgow 2013](#) – this conference will look at how new technologies can be used to meet climate change targets and how to turn them into economic opportunities.

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12 Nov – [Decentralised Energy Conference & Exhibition \(Coventry\)](#) – this year’s conference - “Tapping into Local Energy Sources” - will focus on the methods and ways to tap into existing thermal energy sources in your own area.

7 Nov – [Localised Energy Generation & Distribution \(Glasgow\)](#) – funding, research and innovations for further development of localised energy systems will be the focus of this whole-day event.

6 Nov – [Community Energy Scotland annual conference \(Glasgow\)](#) – this conference will bring together community groups, researchers, policymakers, regulators and suppliers..

4 Nov – [seminar on heat networks and RHI \(London\)](#) – this seminar is hosted by Walker Morris and accountancy network BDO and will consider some of the risks and economics, together with the funding and incentives that are available for DE networks.

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General interest, technology and research

22 Oct – [German researchers propose straw as an energy source](#) – the research suggests that using the straw in part could provide 1.7 to 2.8 million average households with electricity and at the same time 2.8 to 4.5 million households with heating.

15 Oct – [Geothermal Heat Pumps are an ideal match for DH](#) – technological advances have dramatically expanded the range and size of viable geothermal resources.

15 Oct – [Metso and Fortum develop a cutting-edge DH network optimization solution](#) – Fortum's Suomenoja CHP plant in Espoo is the first power plant in Finland to optimize the dynamics of its DH network using multivariable model predictive control.

4 Oct – [4th Generation DH Conference identifies major challenges](#) – [the main conference presentations](#) shed new light on CHP, DH, regulation, economy, waste resources, and the anthropological aspects of technology developments.

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Glossary

AC – air conditioning

ACEEE – [American Council for an Energy-Efficient Economy](#)

AD – anaerobic digestion

ASPs – [air source heat pumps](#)

CCHP – combined cooling, heating and power

CHP – combined heat and power

CLG – [Department for Communities and Local Government](#)

CTF – [Clean Technology Fund](#)

DCLG – [Department for Communities and Local Government](#)

DECC – [Department for Energy and Climate Change](#)

DE – district energy

DH – district heating

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- DHC – district heating and cooling
DHN – district heating network
EBRD – [European Bank for Reconstruction and Development](#)
ECCC – [Energy and Climate Change Committee](#) – House of Commons Select Committee
ECO – [Energy Company Obligation](#)
EIB – [European Investment Bank](#)
ESCO – [Energy Service Company](#)
EfW – [Energy from waste](#)
GCC – [Gulf Cooperation Council](#)
GHG – greenhouse gas
GSPs – [ground source heat pumps](#)
H&S – health and safety
I&C – information and control
IBRD – [International Bank for Reconstruction and Development](#)
IDEA – [International District Energy Association \(US\)](#)
ITT – Invitation to Tender (European equivalent to RFP)
PV – Photovoltaic
Ofgem – [Office of Gas and Electricity Markets](#)
OTEC – [Ocean Thermal Energy Conversion](#)
RFP – Request for Participation (N. American equivalent to ITT)
RHI – [Renewable Heat Incentive](#)
RT – [Refrigeration Tonnes](#)
SDC – [Seawater District Cooling](#)
SUDS – [Sustainable urban drainage systems](#)
TSE – Treated Sewage Effluent

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