

# District Energy Vanguards Network Newsletter

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## Editorial

### ECO Echo

It is around a year since the shape of the Energy Company Obligation ([ECO](#)) was changed mid-way through its term. Whilst controversial, aspects of those changes did in fact look promising for district energy. Connection to heat networks became a primary measure, allowing additional support; the lifetime term for CHP was set at 40 years and the overall term for the ECO programme was extended to the end of 2017, theoretically allowing space for the long lead time for the development of district energy projects. But how have these worked out in practice?

Unfortunately the answer is: rather poorly. A political decision was made to reduce the overall budget of ECO, and return to focus on cheaper installation measures such as loft and cavity wall insulation. Under the market-based approach of the obligation, this means energy companies are able to chase after these simpler, cheaper measures. Additionally,

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they are allowed to carry over credits from ECO1 to the new extended phase of the programme which means that some have already achieved their targets and therefore have no need to achieve any more carbon savings. Lastly, those that retain an interest in heat networks wish to deliver any projects via their wholly-owned contracting companies. This does not expose such companies to the full force of competition that would be required had such projects been delivered by local authorities subject to public procurement requirements and OJEU compliance. Furthermore, many of the utility companies also own the gas and power networks leading to a potential conflict of interest. Overall this raises questions as to whether such a practice is an abuse of their position and whether the end consumer will get a good deal and consequently be lifted out of fuel poverty.

In spite of these problems ECO seems unlikely to change in the short term, casting doubt on whether government targets such as the Scottish target of an additional 30,000 homes connected to heat networks will be achieved. However, ECO is likely to evolve in future rounds, and thought should now turn to how ECO3 can be designed to avoid these problems. It could be said that the current market based approach is not best placed in targeting energy companies to deliver the environmental – and societal – objectives of the ECO. Should it instead be channelled through local authorities as they are able to determine the energy investment needs of their localities and are best able to direct resources accordingly (an area picked up recently in the Citizens Advice '[Closer to Home](#)' report). DECC's 2010 [Household Energy Management Strategy](#) recognised local authorities responsibilities for carbon reduction and "*their unique abilities to bring the right people together making it easier for individual householders*". The Strategy called for them "*to lead, drive and coordinate local action – and energy companies will be obliged to work with them in this effort*".

Alongside the future design of ECO3 the Government will shortly be determining its priorities in its [Spending Review](#) commencing in three months' time. We hope that funding for the development pipeline of district energy projects under [HNDU](#) and the Heat Network [Partnership for Scotland](#) will continue. But there is a need to consider the investment requirements of the projects coming out of this pipeline, estimated at more than £1 billion over 10 years. Thought will need to be given how scarce government resources can best be deployed to leverage this investment from the market. ECO3 will need to play a key role and therefore its re-design will have to come into sharp focus.

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Finally, Michael Martin has recently taken on a full time role at the University of Aberdeen. Since its beginning Mike has been the mainstay in developing and shaping this newsletter and has done all the hard work in gathering and compiling its contents. We continue to get positive feedback from readers. These are a testament to the hard work that he has put in. Together with the rest of the team I would like to sincerely thank him for all his efforts, wish him well in his new post and hope that he will stay close to us and continue to periodically feed in observations or comments. [David Somervell](#) of Edinburgh University will be taking over from Mike. We welcome him and look forward to working with him in the future.

*Michael King, Editor, 30<sup>th</sup> June 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 and those marked **(R)** require free registration to view.

**25 Jun** – [nine innovative heat network projects to be tested across the UK](#) – the projects, which include the using smart systems to diagnose performance issues and heat recovered from data centres and canals, will receive a share of £6 million as part of the total £7 million prize pool from DECC.

**25 Jun** – [speech by Lord Bourne at the ADE President's reception affirms DH](#) – Lord Bourne is the Parliamentary Under-Secretary of State for DECC and the Wales Office.

**22 Jun** – [consultation response: Business Rates Scheme](#) – the ADE have produced a [response](#) which recommends a fair treatment of DH assets under business rates, against a background of a fast rise in rates in excess of 50% between 2005 and 2010.

**22 Jun** – [‘Cost Effective Energy Measures Bill’ gains cross-party support](#) **(R)** – if successful, the bill would require the Government to draw up a national strategy for the promotion and acceleration of cost-effective energy measures such as energy efficiency improvements and production of energy by community energy schemes.

**19 Jun** – [DECC & CCC delegations visit to Stockport DH scheme](#) – tenants have seen substantial benefits on the cost of their heating since the installation of the biomass DH and insulation with bills typically falling from £80-100 to £30-40 per month..

**17 Jun** – [consultation: development of an energy efficiency strategy for Wales](#) – having sought views of stakeholders on energy efficiency, the Welsh Government is now requesting views on the draft strategy. This is an opportunity to promote the benefits of DH, therefore **please submit your comments by 9 Sept 2015**.

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**14 Jun** – [consultation response: review of the Fuel Poor Network Extension Scheme](#) – the ADE have produced a draft response (**M**) to Ofgem’s consultation which opens a discussion on how the scheme could be amended to facilitate gas connections for DH schemes with CHP.

**14 Jun** – [Scottish Government funds five geothermal feasibility studies](#) – the projects in Fife, West Lothian, North Lanarkshire and Aberdeenshire will receive a total of £234k to explore the technical feasibility, economic viability and environmental sustainability of providing heat via DH systems from dry and hot wet rocks and mine workings.

**12 Jun** – [energy efficiency including DH addressed by new Scottish Heat Policy](#) – in a statement to the Scottish Parliament Climate Change Minister Aileen McLeod announced that improving the energy efficiency of Scotland’s homes and non-domestic building stock will be designated a National Infrastructure Priority.

**11 Jun** – [Scottish Government publish low carbon heat plans](#) – the Government’s Heat Policy Statement ([HPS](#)), sets out its approach to working towards decarbonising the heat system along with an investment framework for a low carbon heat sector. See also the Scottish Enterprise low carbon heat foresighting: [discussion paper](#) and press [coverage](#).

**11 Jun** – [Housing Standards Review guidance for Local Authorities](#) – the ADE have provided a briefing note (**M**) reviewing the policy position on ‘[Merton Rule](#)’ requirements, and what the changes mean for CHP and DH in the context of the effects of the Government’s Housing Standard Review.

## UK conferences, workshops and awards

**27-29 Jul** – [new Heat Networks Code of Practice training course](#) – this CIBSE course consists of one day of general introduction on how to use the Code and an optional two days of technical certification. There is also an evening [launch event](#) on 8<sup>th</sup> July at the [Pimlico District Heating Undertaking](#).

**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.

**11 Jun** – [Leeds Heat Network Regulations seminar success](#) – over forty guests from housing associations, local authorities and industry bodies attended the seminar jointly organised by [ENER-G Switch2](#) and Leeds City Council.

**8 Jun** – [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.**

**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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**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.

**29 Jun** – [DECC awards £6m to heat network innovators](#) – the projects, which range from using smart systems to identify performance problems to heat recovery from data centres, will be under testing until March 2016. This round of funding takes the projects through to the second phase of the competition.

**26 Jun** – [DECC funds DH network data analysis tool](#) – the web-based technology from software firm [Guru Systems](#) analyses performance data and applies machine learning algorithms to identify the root causes of inefficiency. Costed measures to improve heat networks are then proposed, according to the company.

**24 Jun** – [Borders College to benefit from sewage heat recovery system](#) – the pilot project is being funded by the UK Green Investment Bank and [Equitix](#) and will see heat being sold to [Borders College](#) under a 20-year purchase agreement.

**23 Jun** – [Cardiff EfW plant is officially opened but with call to connect to DH](#) – the chair of [Prosiect Gywrdd](#), councillor Bob Derbyshire, said he would like to see the heat used from the plant to be used in DH in Cardiff and is keen to see [Viridor](#) engage with it.

**16 Jun** – [Zero Carbon Hub report: 'Overheating in Homes – The Big Picture'](#) – as the climate changes, and new homes are built or retrofitted to prevent heat losses, the risk of overheating in warmer months may inadvertently increase. See [here](#) for report.

**16 Jun** – [Raggnar to supply biomass heating technology in Scotland](#) – the [company](#) can now design and install up to 20MW systems to feed the largest off-grid DH schemes as well as support customers with big biomass systems to serve entire large villages.

**12 Jun** – [heat pumps and DH systems are essential for Scotland's heating plan](#) – the author of this popular blog is suggesting that perhaps the most practical way of providing low-carbon renewable heat is via DH supplied by industrial scale heat pumps.

**11 Jun** – [Birmingham City centre DH project makes good progress](#) – so far 1400m of 250mm DH piping has been laid with a further 134m trench excavation and pipe installation scheduled over the school holidays.

**9 Jun** – [four CHP generator sets to heat greenhouses \(Isle of Wight\)](#) – each of the gas-powered [Bergen Engines](#) gensets will produce 5.6MWe and 6.4MWth. After cleaning, the exhaust gases will be injected into the greenhouses to increase the CO<sub>2</sub> content to promote plant growth.

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- 8 Jun** – [Community Heating Project Checklist - key advice checklist](#) – the ENER-G Switch2 company has posted a series of articles on their blog pages to assist potential new developers who are considering taking forward community heating projects.
- 8 Jun** – [iMEChE report - Heat Energy : The Nation's Forgotten Crisis](#) – the report makes three detailed proposals which includes calling for DH networks to be declared ‘national infrastructure’ and dealt with in a holistic and strategic way. See [here](#) for report.
- 4 Jun** – [Vital Energi win £4.9m CHP-DH contract at Royal Arsenal Riverside](#) – the company will build an energy centre to house two 1.2MWe CHP engines, four 3MWth gas boilers and a 70m<sup>3</sup> thermal store to provide heat for the Berkeley Homes [development](#).
- 4 Jun** – [new library heating and hot water needs will be met by DH](#) – the £46m library is situated at the University of Bedfordshire’s Luton campus and will benefit from a high thermal efficiency and a rainwater harvesting system to minimize CO<sub>2</sub> emissions.
- 4 Jun** – [straw pellet fuelled biomass DH power plant scrutinised by public](#) – approx. 120 locals were able to field questions to University of East Anglia’s Professor Davies, spokesman for the project which is to provide power for businesses, homes and student accommodation via a DH network.
- 4 Jun** – [Cardiff based partnership receives £250k award for DH related study](#) – the investigation aims to show how a large scale heat pump could utilise shallow groundwater under the city to support a renewable low carbon heating source. See also [here](#).
- 3 Jun** – [ADE Better Energy blog: the evolving market for small to medium scale DH](#) – the introduction of the non-domestic RHI has seen the small scale DH market broaden to include CHP solutions (gas and renewable), anaerobic digestion and heat pumps writes Steve Richmond of [Rehau](#).
- 3 Jun** – [18<sup>th</sup> century estate benefits from DH upgrade \(Somerset\)](#) – heat from the biomass DH scheme at the newly restored [Hestercombe House](#) estate in Somerset is carried from the centralised plant room to the various estate buildings. The new plant replaces a 600kW oil-fired boiler and separate heating systems in each building.
- 2 Jun** – [£6.1m Management School to be connected to DH system \(Liverpool\)](#) – the University recently [added](#) a further 3.5MWe CHP generator to their existing plant.
- 29 May** – [proposed housing estate to be powered by biomass DH plant](#) – the [AD](#) plant, fuelled by maize and rye, would produce biogas powering a 500kW engine that would provide electricity and heat for up 300 dwellings in North Hykeham (near Lincoln) with surplus electricity being fed into the National Grid.

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## UK Tenders

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

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## UK Jobs

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

**24 Jun** – [Carbon Trust: Decentralised Energy Associate Vacancy](#) – the [Carbon Trust](#) is also seeking a [Decentralised Energy Manager](#) both of which will be based in London.

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## Europe

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

**24 Jun** – [Commission approves support package for gasification plant in Finland](#) – the European Commission has concluded that Finnish plans to grant~ €10m of public investment to [Vaskiluodon Voima Oy](#), the operator of a gasification plant in Vaasa, are in line with EU State aid rules. The plant will convert forest biomass (mainly wood chips and a small amount of peat) into gas for electricity generation and DH instead of using coal.

**23 Jun** – [webinar: integrating CHP and waste-to-energy in city energy supply](#) – using Vienna and Nuremberg as exemplars, innovative and environmentally friendly approaches to producing heat and power, offering fair prices while safeguarding security of supply in the interests of customers, will be presented in this [Covenant of Mayors](#) webinar .

**19 Jun** – [district energy in cities: from EU vision to local action](#) – this session took place at the recent [EUSEW](#) policy conference themed on the role of responsible consumers in the new [Energy Union](#). It focused on establishing energy efficiency as Europe's 'first fuel' and developing a heating and cooling strategy as part of the broader EU energy transition.

**15 Jun** – [DH considered for Amsterdam's artificial islands](#) – Amsterdam city planners are creating islands to cater for ongoing expansion, and are seeking to utilise district energy and solar power towards powering the new developments.

**11 Jun** – [Government to allow DH plants to use large heat pumps to heat homes](#) – as part of its climate policy, the Danish Government will make available DKK 100m up to 2020 for the trial which will see electricity produced by wind turbines used to power large electric heat pumps to generate heat for Danish homes.

**10 Jun** – [Denmark's largest power plant to convert to wood pellets by 2016](#) – the Avedøreværket power plant has a capacity of 793 MWe and 918 MWth and supplies approx. 200,000 households with DH in the Copenhagen area. All units will be completely converted to firing wood pellets by [Dong Energy](#).

**6 Jun** – [DH system to be upgraded \(Kupio, Finland\)](#) – automation and services company, [Valmet](#), will modernise the remote control systems in six DH plants, three DH containers and 11 pumping stations operated by Kuopion Energia.

**2 Jun** – [Vattenfall to boost German investment despite losing billions abroad](#) – the Swedish state-owned utility's two main development areas will be energy services and DH.

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The company is also a specialist in CHP plants and hopes to hang onto its DH contract with the city of Hamburg, which has the option to buy back its heat grid in 2019.

**2 Jun** – [UK firm installs heat recovery system in award winning DH project \(Milan\)](#) – the company, [Heliex Power](#), manufactures and supplies [steam expander systems](#) that generate electricity and thermal energy from waste heat and process steam, often found in factories, distilleries and waste incineration plants.

**1 Jun** – [Italy's first solar DH system becomes operational](#) – the solar field consists of 73 flat plate collectors, produced by Danish company [Arcon-Sunmark](#) with a total surface area of 990m<sup>2</sup>. The field will help heat the 16km [Varese city](#) DH grid which is heated by a 5 MWe gas turbine and five backup natural gas boilers servicing 150 consumers.

## 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

**23 Jun** – [Vancouver upgrades its green-city goals](#) –the city has committed to becoming a completely renewable city by 2050 with one of the key undertakings to develop four district energy systems by 2020.

**23 Jun** – [Ontario turns towards CHP and DH especially in greenhouse sector](#) –the province has 439 commercial greenhouse growers who will be eligible to receive discounted electricity under the CHP Standard Offer Program ([CHPSOP](#)) and the Industrial Electricity Incentive ([IEI](#)) program as well as access to abundant heat.

**16 Jun** – [NuScale participates in White House Clean Energy Investment Summit](#) –the company is a recipient of the US [DOE](#)'s cost-sharing program to develop small modular nuclear reactor technology aimed at power generation and heat supply for DH systems.

**12 Jun** – [30 year-old Commodore Amiga still powering school DH system](#) – the computer is responsible for controlling the starting and stopping of boilers, fans and, pumps as well as monitoring space temperatures, etc.

**11 Jun** – [IDEA publish new CHP-DE white paper \(US\)](#) –the [IDEA](#) paper describes how district energy/CHP systems can cost-effectively cut emissions, strengthen the grid and support state compliance plans that will cut power-related CO<sub>2</sub> emissions 30% by 2030.

**6 Jun** – [DH owner and operator to use biofuel \(Youngstown, Ohio\)](#) – the operator, [Youngstown Thermal](#), will take delivery of up to 2.5m gallons of advanced cellulosic biofuel ([RFO](#)<sup>TM</sup>) from [Ensyn Fuels](#) which will reduce their boiler's gas consumption by up to 50%.

**4 Jun** – [Army to build \\$40m CHP plant](#) – the plant will use a gas-fired generator to provide steam and electricity to the [Aberdeen Proving Ground](#), generating \$4.4m in annual energy savings. The facility currently relies on steam from a nearby waste incineration facility that is set to be decommissioned.

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**30 May** – [Cook County North Shore Hospital rejects biomass-DH proposal](#) – the board disagreed with the costs put forward in the proposal from [FVB Energy Inc.](#) (Minnesota)

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 Jun** – [DC company Empower inaugurate Command Control Centre \(CCC\)](#) – the centre has started monitoring the activities of 26 of the company's 62 plants, through an advanced, high-performance smart network using [SCADA](#). The new centre has capacity to serve 74 additional plants in the future.

**26 Jun** – [lack of policy holds back DHC \(Australia\)](#) – the author, [Dr Horton](#), points to the growth in popularity of DHC systems, particularly in Europe, the continued integration of renewables into these systems and the vast potential of renewables to meet the growth in heating and cooling needs as reasons for more policy support.

**24 Jun** – [DC company Empower to participate in 106<sup>th</sup> IDEA Annual Conference](#) – the company will present a case study on "District Cooling Marches on in Dubai: The Emirates Towers Case Study" on the second day of the conference.

**19 Jun** – [Leadership Awards Forum to showcase seawater DC system \(Sydney\)](#) – there will be presentations on the \$6bn [Barangaroo project](#), Australia's largest district energy, cooling and water treatment plant. The 62MW cooling network will use sea water from Sydney Harbour. The breakfast [event](#) will be held on 14 August.

**18 Jun** – [DC company Empower reaches out to Europe](#) – the company to took part in the [Vienna Energy Forum 2015](#) and attended the Annual Partner Meeting of the United Nations Environment Programme (UNEP) global [District Energy in Cities](#) initiative.

**11 Jun** – [new village to use DC \(Ras Al Khaimah, UAE\)](#) – the development comprises 162 three and four bedroom [LEED certified](#) villas serviced by a DC facility. Other green features in the homes will include LED lights, solar water heaters and solar street lamps.

**10 Jun** – [Christchurch looks to Vauban, in Freiburg, for inspiration \(New Zealand\)](#) – the neighbourhood of [Vauban](#) uses a CHP plant fueled by natural gas and wood to supply DH and electricity to help meet additional energy requirements.

**8 Jun** – [DC company Empower saves 882,000 m<sup>3</sup> of fresh water in 2014](#) – the company's advanced technologies contributed to save its overall consumption of potable water through the use of treated sewage effluents.

**8 Jun** – [EBRD helps improve DH in Pavlodar, Kazakhstan](#) – the local DH provider, privately owned by [Caepco](#), is improving the system's energy efficiency via a \$30m [EBRD](#) loan and \$10m in co-financing from the [Clean Technology Fund](#).

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**4 Jun** – [DC company, Qatar Cool, recognised for good practices](#) – the awards were made at the 2015 [Mena HR](#) Excellence Awards Ceremony in Dubai.

**1 Jun** – [DC company Empower sets 225-km pipeline target by end of 2015 \(Dubai\)](#) – the company has strategic tie-ups with some of the world's major suppliers of pre-insulated pipes including [Elips](#), located in Jebel Ali, in which Empower holds a major share.

**1 Jun** – [keeping cool and cutting costs in the Middle East with efficient pumps](#) – the Danish company, [DESMI](#), offer vertical in-line pumps such as the NSL series which take up 50% less space and are targeting the Middle East as a growth area.

**27 May** – [DC company Empower recognised for support for Emirates Women Award](#) – the DC provider was commended for its efforts in collaborating with the UAE's women entrepreneurs and professionals who have excelled in their respective fields.

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## International conferences, symposiums and forums

**10-11 Nov** – [7<sup>th</sup> Middle East DC Summit to be held in Doha \(Qatar\)](#) – this year's presentations, discussions and case studies are expected to focus on technologies, regulations, projects and financing.

**30 Aug–5 Sep** – [3<sup>rd</sup> 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.

**25-27 Aug** – [4<sup>th</sup> 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** – [106<sup>th</sup> 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** – [3<sup>rd</sup> International Solar DH Conference \(Toulouse, France\)](#) – papers and presentations from this event can now be viewed [here](#).

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## General interest, technology and research

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

**15 Jun** – [new studies from the IEA-DHC | CHP research projects are now online](#) – the publications for the Annex XI project [Plan4DE](#) and Annex TS1 are now online **(R)**.

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**May** – [Nuclear Power Reactors in the World](#) – the 35<sup>th</sup> edition of Reference Data Series No.2 presents the most recent reactor data available to the [IAEA](#). Of the 438 operational reactors, 57 supply heat to DH systems of which 30 are sited in Russia, 15 in the Ukraine and the rest in Bulgaria, the Czech Republic, Hungary, Slovakia and Switzerland.

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

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