

Financing District Heating Initiatives: Workshop summary

UK Local Authority Vanguards Workshop
 Michael King in association with RC-UK Heat and the City project

This one day event brought together leading municipal energy practitioners (including 21 local authorities and a housing association), UK and Scottish Governments, and a range of commercial industry representatives to discuss issues around financing district heating initiatives. The workshop was split in two halves, with the morning being for the public sector and the afternoon combining public and private sectors. As discussion revolved around the focus on finance, a broad range of issues were discussed, including:

- Establishing a robust business case requires both the optimisation of an initiative's internal rate of return and matching the financial profile to the needs of funders. The former issue requires identification and valuation of all costs and benefits of an initiative through time, though some of these are not currently represented in financial models, particularly health benefits associated with alleviating fuel poverty. A key risk factor in DH initiatives is long-term off-take risk which many projects mitigate by committing public sector heat loads.
- Third party funders are unfamiliar with DH initiatives in the UK, exacerbating reluctance to invest created by low levels of liquidity. Creating a "deal flow" of low risk projects would help build confidence among financiers. The lag between investment and returns (which can be over five years) is difficult for local authorities and other funders able to invest in the early stages of urban heat networks, in the absence of an element of public finance. Large investors (such as sovereign wealth funds and pension funds) can accept such time lags, but require investment opportunities far larger than individual "starter" networks.
- Some local authorities are exploring the potential for local low carbon funds, often in partnership with neighbouring authorities. These investment vehicles would draw together developer contributions and (in England) Allowable Solutions payments, along with private sector investment to support a range of strategically selected community-scale initiatives.
- The rapid pace of change in energy policy and ongoing uncertainties, particularly in relation to building standards, support mechanisms and regulation, have challenged municipal energy initiatives. Current structures favour (from a finance perspective) secure revenue from the generation of electricity, with heat use relegated to a risky possible bonus. Some cities seek to integrate DH initiatives with other energy projects to diversify their portfolios (e.g. through investment in solar PV or Green Deal mechanisms), so uncertainty and change beyond DH have detrimental impacts.
- In cities where DH is already established, the potential for a business model based around the network, with aspects of purchase and sale of heat being undertaken by other parties, is becoming apparent to local authorities. Participants emphasised that care is required in establishing relationships between public sector sponsors and commercial partners, to ensure future network expansion is possible.
- Network economies are significant, with larger networks achieving higher efficiencies and rates of return than smaller systems. However, the marginal viability and higher risk of "starter" networks are significant barriers to achievement of these long-term benefits.

- The technical development of district heating schemes represents a significant proportion of overall project costs. Funding is available for this work (e.g. ELENA) but much time and effort is required to secure this resource, and authorities are cautious about the ability to deliver the subsequent required scale of investment in urban energy.
- Development and maintenance of a risk register within a local authority can represent onerous tasks, but the tool has a range of powerful applications as a means of (a) identifying and mitigating risk, (b) facilitating communication, allocating responsibilities and building confidence across the various parts of the authority engaged in aspects of district heating development, and (c) helping define the relationship between the local authority and contractors, particularly at the tendering stage.
- Regulation of heat is important for protecting consumers and building confidence. Individual schemes undertake measures to achieve these goals, but central regulation could reduce transaction costs and eliminate some forms of uncertainty. Regulation could take various forms: at the easier end of the spectrum this could involve, for example, a consistent and transparent method for representing heat tariffs to consumers, while at the more exacting end regulation could determine overarching aspects of a DH business model (such as the Danish requirement that heat retail is organised as a non-profit business). Appropriate regulation in the UK needs to balance consumer and investor confidence against flexibility and innovation in DH business models.

Participants also discussed the importance of various forms of coordination to support development of DH in the UK: coordination across departments within LAs, coordination across LAs to foster shared learning and resources, coordination among stakeholders in an area, and coordination between local, devolved and central government particularly in the development of technical and commercial guidance to complement policy. There was scepticism that industry alone could drive these different forms of coordination.

The afternoon session with commercial providers (E.ON, Metropolitan, Mitie, Powerpipe, Regeneco, Veolia and Vital Energi) allowed public sector participants to quiz providers on their approaches, and for the commercial sector to engage with the needs of the public sector. Discussions were wide ranging, covering particular initiatives (both established and planned), and the capacities and preferences of commercial providers (such as retrofit versus new-build projects, minimum and maximum scale of initiative and commercial role in system financing and governance).

Participants also discussed DECC's live consultation (deadline, 24th May) on The Future of Heating (bit.ly/GVGIRA). The organisers will synthesise these discussions into a response and circulate among the vanguard network, asking both for feedback on the network's response and also for local authorities and other interested parties to submit their own responses.

Following the success of the event, the organisers plan to continue to build on the strengths of the Vanguard Network, including through further workshops (at intervals of around six months). For more information, or to make suggestions for future activities of the network, please email dave.hawkey@ed.ac.uk.

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