

**Environment and Transportation Department,
Block 2, Floor 6,
Civic Offices,
Dublin 8.**

18th April 2018.

**To Each Member of the
Environment Strategic Policy Committee**

Dublin District Heating System Update

The Technical Services Division of the Environment and Transportation Department last reported to the Environment SPC in November of 2017. The following is a summary of the progress since then for the project.

1. Currently DCC have procured Rambøll Danmark A/S, a leading Danish engineering, design and consultancy company, to identify and recommend the most appropriate business / commercial delivery model which will successfully deliver the Dublin District Heating System (DDHS) project. This consultant/economic operator will also complete a high level review of the engineering options available. The contract start date is the 9th of April 2018, with is a six month contract period, and has a number of key milestone deliverables throughout that period.
2. Codema (the City of Dublin Energy Management Agency) carried out a Detailed Financial Appraisal, and a Market Research Report and Communications Strategy for the DDHS. The Financial Appraisal looked at best case to worst case scenarios, and based on this sensitivity analysis the report has concluded that the project is a long term infrastructure investment, and depending on the scenario has varying and low 'internal rate of returns' (IRR), which will make it difficult to attract a commercial investor without public funding or grant aid.
3. A District Heating EIB/DCC Workshop was held on the 22nd March 2018 with representatives of the European Investment Bank, the European Investment Advisory Hub and the Irish Strategic Investment Fund, where representatives from key industry stakeholders attended, such as the Department of Communication, Climate Action and Environment (DCCA), the National Development Finance Agency (NDFA), South Dublin County Council and the Commission for Regulation of Utilities (CRU). In summary the workshop provided very open discussions on the findings in Codema's financial report, and on where the DDHS project is currently at. The main points could be listed as follows;
 - It was noted that in the initial stages of the any DH scheme, they need support from central and local Government, supports such as funding, positive policies and clarity about regulation.
 - It was suggested that more reliance should be placed on existing and established key demand/heat customers, as developers tend have their own timescales.
 - National / local governance and structures need to be developed for DH. (this work is largely being carried out by the consultant in point 1 above)
 - From a financial perspective the project needs to be considered as a whole project.
4. We are currently engaging with key local and national industry stakeholders with the Department of Communications, Climate Action and Environment (DCCA). Senior staff of DCC and Codema are members of the national '*District Heating Working Group*', which was established in November 2017 by that Department to develop the Government's Energy White Paper, which was published in December 2015, and pledges to develop a policy framework to encourage the

development of District Heating. Other members of the group are key industry stakeholders such as South Dublin County Council, the Department of Housing, Planning and Local Government, Sustainable Energy Ireland (SEAI), Gas Network Ireland (GNI), Electricity Supply Board (ESB), NewEra, the National Development Finance Agency (NDFA) and the Commission for Regulation of Utilities (CRU). The Group has met on three occasions since its establishment, and aims to report to the Minister by the summer of 2018 (this year). The principal aim is to identify solutions and recommendations on policy, regulation, planning and financing in order to progress DH in Ireland.

5. As a direct result of our collaboration with the Department of Communications, Climate Action and Environment, the recent Government publication as part of 'Project Ireland 2040' which was published on the 16th of February 2018 called the 'National Development Plan 2018 to 2027', has mentioned the DDHS project, and has stated as an investment action the following;

*"Support new initiatives in District Heating (such as the **Dublin Docklands' District Heating Scheme**) in cities and large towns with a leading role for State bodies, for example, Gas Networks Ireland, and Local Authorities."*

The 'National Planning Framework' has highlighted five main cities which could have District Heating, and mentions in the key future growth enablers for Dublin the following;

"Improving sustainability in terms of energy, waste and water, to include district heating and water conservation;"

"Improving sustainability in terms of energy, waste management and resource efficiency and water, to include district heating and water conservation."

6. DCC joined a consortium of Geothermal experts and universities from Dublin, Spain and Denmark for the European Union's Horizon 2020 'GEOTHERMICA' funding project. The project is entitled 'GEO-URBAN: Identification and Assessment of Deep Geothermal Heat Reserves in Challenging Urban Environments' it has been successful, and is due to start on May 1st (subject to finalisation of details). The project will focus on two urban locations (Dublin, Ireland and Vallés, Spain) and will investigate the 'deep geothermal feasibility for challenging carbonate environments'. The main project output will be a guidelines document, providing a commercialisation strategy for deep geothermal reserves in challenging urban environments, including examples for the selected study locations.
7. The previous report to the SPC in November described the purpose of a District Heating Energy Station and that options for it are being considered on the Poolbeg Peninsula and environs. In partnership with our colleagues in the City's Planning Department, investigations into options and design alternatives are ongoing. Key stakeholders in the peninsula have been consulted, such as the Dublin Port Company and Transport Infrastructure Ireland. We are intending to use the expertise of our recently procured Danish Consultant to assist in these investigations and consultations. As previously described the station could have two energy storage tanks 35 metres high 10 metres in diameter, and a building to house boilers and DDHS staff which is 8 metres in height.
8. The project team have updated the document called 'Dublin District Heating – Technical Information Pack for Developers' which is available on www.ddhs.ie. This document acts as a standardised technical guidance note available to prospective developers within both the SDZ's and outlines the requirements of a development in order to be considered DH compatible/enabled and gives reference to relevant standards which outline technical details.
9. Ongoing engagement with Developers and DCC's Planning Department to ensure compliance with DCC's policy to have development in the area District Heating ready.
10. There is a new road constructed beside the 3Arena, which runs north to south, located between the blocks 4 & 9 and blocks 5 & 10. The project team are currently going through the final compliance and hand over of the safety file of the 300 metres long newly laid length of DH pipework installed under the road and the LUAS line.

There are a number of next steps which are being prioritised by the Project Team.

1. Complete the 'Business Delivery Model and the Engineering Review' which is currently being developed by our Danish district heating and consultancy company, so that decisions can be made on the most appropriate business model for delivering DH in Dublin within Irish legislative framework from a governance, administrative and procurement perspective.
2. Use the findings in the above mentioned 'Business Delivery Model' report to source funding commitments for the whole of the DDHS network in the Docklands and Poolbeg Areas.
3. Also, use the findings in the above mentioned report to develop a programme for bringing DH to the Docklands SDZ areas to ensure that as many of the developments within the Docklands SDZ that are DH-enabled are connected to the DDHS system.
4. DCC are currently investigating funding from a number of sources, and these investigations and discussions are ongoing.
5. Identifying a suitable location and initial designs with key local stakeholders and our Danish Consultancy for the Energy Station in the Poolbeg area.
6. Ongoing engagement with Government Departments to formulate solutions to barriers impeding the development of DH in Dublin and in Ireland, and in particular completing the work of the Department of Communications, Climate Action and Environment's 'District Heating Working Group'.
7. Greater and ongoing engagement with potential customers, and carry out an in-depth and detailed study of customer needs, from a technical perspective.
8. Ongoing engagements with other capital projects in the Docklands and Poolbeg areas to establish mutually acceptable synergies, which can ultimately reduce disruption to the public and possibly reduce capital costs. Projects such as;
 - Utility installations in the area
 - Public domain projects, such as street renewals, cycle ways, and similar projects
 - Flood Defence Projects
 - Any other large capital projects in the area
9. Ensure that all documents are in compliance with the Department of Public Expenditure and Reform's Public Spending Code.

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