**HEATNET Sept. 2020 update**

**Tallaght District Heating.**

Having already met its EU commitment to reduce energy usage by 33% by the end of 2020, South Dublin County Council now faces the challenge of further reducing this figure to 50% by 2030. As heating and cooling of buildings accounts for over half of energy usage in the EU, this is an area that needs to be urgently addressed. Dublin generates much more waste-heat than is required to heat every building in the city. Through district-heating this waste-heat could be collected and utilised to produce low carbon space heating, significantly reducing fossil fuel and greenhouse gases.

In 2018 SDCC succeeded in a bid to secure € 1.0m EU funding to promote the development of a district heating network in Tallaght. The HEATNET project will connect the Council Headquarters and Technical University of Dublin Tallaght (formerly IT Tallaght) to a large datacentre currently now under completion on Belgard Road. As part of their corporate commitment towards full decarbonisation, the datacentre company agreed to become the major heat source for the new district heating network, funding waste-heat collection systems in their building and offering the heat at no charge to the Council. They also provided a lease for site for the construction of an energy-centre designed to raise the waste-heat temperature for more efficient use in network distribution. Contracts for the lease and the heat-recovery agreement will be signed in the coming weeks. The construction of the Energy-centre will be supported by €4.5m in grant-aid from the Department of Communications, Climate Action and Environment. The network will service not just public buildings but also residential, commercial and retail.

The SDCC/data-centre partnership embodies a way to add social and community value to data-centre construction utilising waste heat for public buildings and the homes of Tallaght residents while contributing towards a low-cost, low-carbon energy future. The use of a datacentre to supply a public district-heating scheme linking waste-heat to heat-pump technology will be the first of its kind in the UK and Ireland.

A company was required to set up and manage the district-heating network. Based on best practice elsewhere it was decided to establish a publicly owned, not-for-profit company (the Council already has similar companies in place for the management of Leisure and Arts Centres and Tallaght Stadium for example). The South Dublin District Heating Company will trade as “Heatworks” and is wholly owned by SDCC. It will own the district heating network and energy centre and will also be responsible for pricing policy and the expansion of the network across Tallaght.

As SDCC has little experience in the realities of district-heating it was also necessary to contract an experienced energy supply company to design, build, operate and maintain the energy centre and heat network for an initial contract period of 10 years. Supported by City of Dublin Energy Management Agency ( Codema), an international tender process identified Fortum, a large Finnish district-heating provider, as the preferred company. They deliver and manage large heat networks all over Scandinavia and Eastern Europe and are establishing an Irish-based company for this project. An Energy-supply contract will be signed within the coming weeks and construction work will begin in October on the pipe-network and energy-centre building. The construction period is estimated at 60 weeks to completion.

Initial customers for the heat supply will be the County Hall /County Library buildings and the main campus building in the TUD Tallaght. Both will be serviced by district-heating before the end of 2021. Two new buildings - 134 Affordable apartments and the Tallaght Innovation Centre - to be constructed around a large public square as centrepiece of the Tallaght Innovation Quarter, will be completed and connected in early 2022. Planning permissions have been granted by An Bord Pleanala for almost 2,000 apartments, designed to be district-heating- ready, on nearby sites.

Heatworks will operate as a utility company charging its customers for the supply of heat. Costs will be in line with existing gas bills. Annual surplus will be re-invested in extending the heat network and maintaining good value in heat costs to its customers. Fortum will charge Heatworks for the supply of heat through the network while maintaining and optimising the use of waste-heat. The energy-centre and heat network will be owned by Heatworks from completion of construction.

The heat network will reduce carbon-emissions by more than 60%, saving 1500 tonnes of carbon per annum on Phase 1 alone. Eliminating particulates will produce cleaner air. The Energy-centre heat-pumps are electrically powered integrating heat and electricity networks, facilitating grid-balancing and promoting renewable electricity sources. The supply of low-cost low-carbon heat will attract more businesses and development to Tallaght town-centre as well as creating specialised jobs and technical training in the operation and management of this technology as it grows. As carbon taxes increase on fossil fuels, low-cost heat from the network will mitigate fuel poverty and increase commercial competitiveness. With ongoing innovations in tendering, contracts and company structure and powered by 4th generation district-heating technology, Tallaght continues its journey to a sustainable future…