

# LOW CARBON HEATING SCHEME FOR SOUTH DUBLIN

Ireland's first publicly owned, not-for-profit energy company has been established by South Dublin County Council (SDCC) to provide low carbon heat to local community buildings. Trading as Heatworks, the company will deliver the Tallaght District Heating Network, estimated when completed to reduce carbon dioxide emissions in the South Dublin County area by nearly 1,500 tonnes per year.



**T**he first large-scale district heating scheme in Ireland will initially involve a number of South Dublin County Council's buildings and the Tallaght campus of the Technological University (TU) Dublin. It will then connect other public, private and residential customers in the Tallaght area to the network over subsequent phases.

The Tallaght District Heating Scheme is being led by South Dublin County Council in collaboration with Amazon Web Services (AWS) and Finnish energy supplier Fortum eNext, with support from Codema (the energy agency for Dublin's four local authorities).

Trading as Heatworks, the company will operate as Ireland's first not-for-profit utility and will make a significant contribution to reducing carbon emissions in the area, saving almost 1,500 tonnes of CO<sub>2</sub> each year. It will establish the Tallaght District Heating Network as a leader in innovation in the area of climate change.

## PROVISION OF RECYCLED HEAT

The network will use excess heat from a customisation to Amazon Web Services' (AWS) recently-completed data centre to provide low carbon heat to public sector, residential and commercial customers.

AWS will provide recycled heat – free of charge – to the scheme as part of its broader sustainability activities, and its continued assistance to Ireland in meeting its EU 2030 national heating and carbon-reduction targets.

The contract was awarded by South Dublin County Council to Fortum eNext Ireland Ltd (a division of Fortum, a large Finnish energy supplier with extensive district-heating experience throughout Scandinavia and Eastern Europe) to carry out the design, installation and operation of the Tallaght network. Construction is due to begin on Phase 1 of the network in early 2021.

The system will initially heat 47,000 m<sup>2</sup> of public sector

## DISTRICT HEATING NETWORK

buildings, 3,000m<sup>2</sup> of commercial space, and 135 affordable rental apartments. The supply of low-cost, low-carbon heat is expected to increase commercial competitiveness and attract more innovative businesses and development to Tallaght town centre.

It also aims to facilitate educational programmes and start-up opportunities in renewable energy solutions, as well as helping to mitigate fuel poverty as the heat network expands over time.

### PUBLIC-PRIVATE COLLABORATION

Daniel McLoughlin, SDCC's Chief Executive, said that the Tallaght District Heating Network shows how public-private collaboration, using well-established district-heating technology, can construct a system to recycle heat from an Amazon Web Services data centre to meaningfully contribute to helping Ireland achieve its 2030 sustainability targets.

"We believe the work we have done with Fortum eNext and Amazon Web Services to create this scheme can become a template for other districts across Ireland. We look forward to future collaborations as South Dublin County moves towards a low-carbon future," he added.

Codema's CEO Donna Gartland said the new scheme was a landmark for the country's low-carbon heating sector, in light of the fact that Ireland is highly reliant on fossil fuels for heat.

"However, we have the solutions to change this. For example, we have enough waste heat and renewable heat sources in Dublin to heat the equivalent of over one million homes," she noted.



Mike Beary, Amazon Web Services (AWS) country manager, pictured with SDCC's chief executive Daniel McLoughlin and county architect Eddie Conroy.

### LOW-CARBON SOLUTION

The collaboration between SDCC, AWS engineering teams, Fortum eNext Ireland Ltd and Codema has resulted in a low-carbon solution. This will optimise the potential of recyclable heat combined with additional heat-pump technology – the first example of its kind in Ireland.

Once the first phase of the network is completed, the project will supply heat by the end of the year firstly to SDCC's County Hall and Tallaght County Library, and the Tallaght campus of the Technological University (TU) Dublin, followed by the Rua Red community arts-hub and the Civic Theatre.

By 2024, the heat will also be supplied to nearby developments recently approved with planning permission, including affordable housing units, residential properties and student accommodation.

### MEETING 2030 ENERGY TARGETS

Mike Beary, country manager for Amazon Web Services (AWS) Ireland, said they were "thrilled to support Ireland's first district heating scheme", which will see the excess heat from Amazon's data centre being used to reduce carbon emissions in Tallaght over time.

"Our support for the district heating scheme demonstrates our continued commitment to building a more sustainable future for Ireland. We are pleased to participate in this unique project that will help the country meet its 2030 renewable energy targets," he added.

"We are extremely proud that we were chosen to provide this low-carbon heat solution as part of an innovative project in a strongly competitive market," according to Kari Lahti, Fortum eNext's general manager.

"Our know-how has been developed and tested during our 25-year-long presence in Ireland and the UK, where we have delivered power plants and long-term operation and maintenance services for different kinds of power plants and customers."

South Dublin County Council (SDCC) will receive funding of almost €4.5m for the Tallaght District Heating Scheme through the Government's Project Ireland 2040 Climate Action Fund, as well as support from the EU's Interreg North-West Europe HeatNet NWE project and the Sustainable Energy Authority of Ireland.

### TALLAGHT DISTRICT HEATING SCHEME

The Tallaght District Heating Scheme plans to deliver a high level of innovation, as waste heat from the nearby Amazon data centre will supply the heat to the network. During normal operation, heat demand will be 100% covered from the data centre's waste heat.

- This is the first large-scale district heating network of its kind in Ireland.
- The scheme will operate under the name 'Heatworks' as the country's first not-for-profit energy utility, owned by South Dublin County Council.
- Carbon emissions in the area will be reduced by almost 1,500 tonnes of CO<sub>2</sub> each year.
- It is the first scheme in Ireland and UK to use waste heat from a data centre.
- It will provide a 100% fossil-free solution.

For further information visit <https://guidetodistrictheating.eu/south-dublin/>