celsius
smart cities

Imagine a competitive, liveable and resource-efficient city. Imagine a smart energy city with intelligent heating and cooling solutions. This is your city –

A CELSIUS CITY!

About Celsius

Celsius is a district heating and cooling demonstration and knowledge transfer project with focus on increased excellence in smart and integrated urban energy systems. A project co-funded by the EU 7th Framework Programme and supporting the achievement of the EU's 20-20-20 goals, Celsius will help cities address energy resilience and security, energy poverty as well as reducing greenhouse gas emissions. By creating resilient, low carbon urban energy systems, Celsius cities will be well placed to both support the energy needs of their present and future citizens as well contribute to mitigating climate change.

Celsius Objectives

- Implement low-carbon, resource-efficient and economically viable, smart district heating and cooling solutions throughout Europe
- Build 12 new technically and economically innovative demonstrators (demo projects) to complement the existing 20+ demonstrators that are already in operation
- Use the demonstrators to display the various elements of the Celsius city concept and enable the large-scale roll-out of such activity
- Support the development of legislation, regulation and policy that will help the delivery of district heating and cooling systems as part of a city's wider energy infrastructure

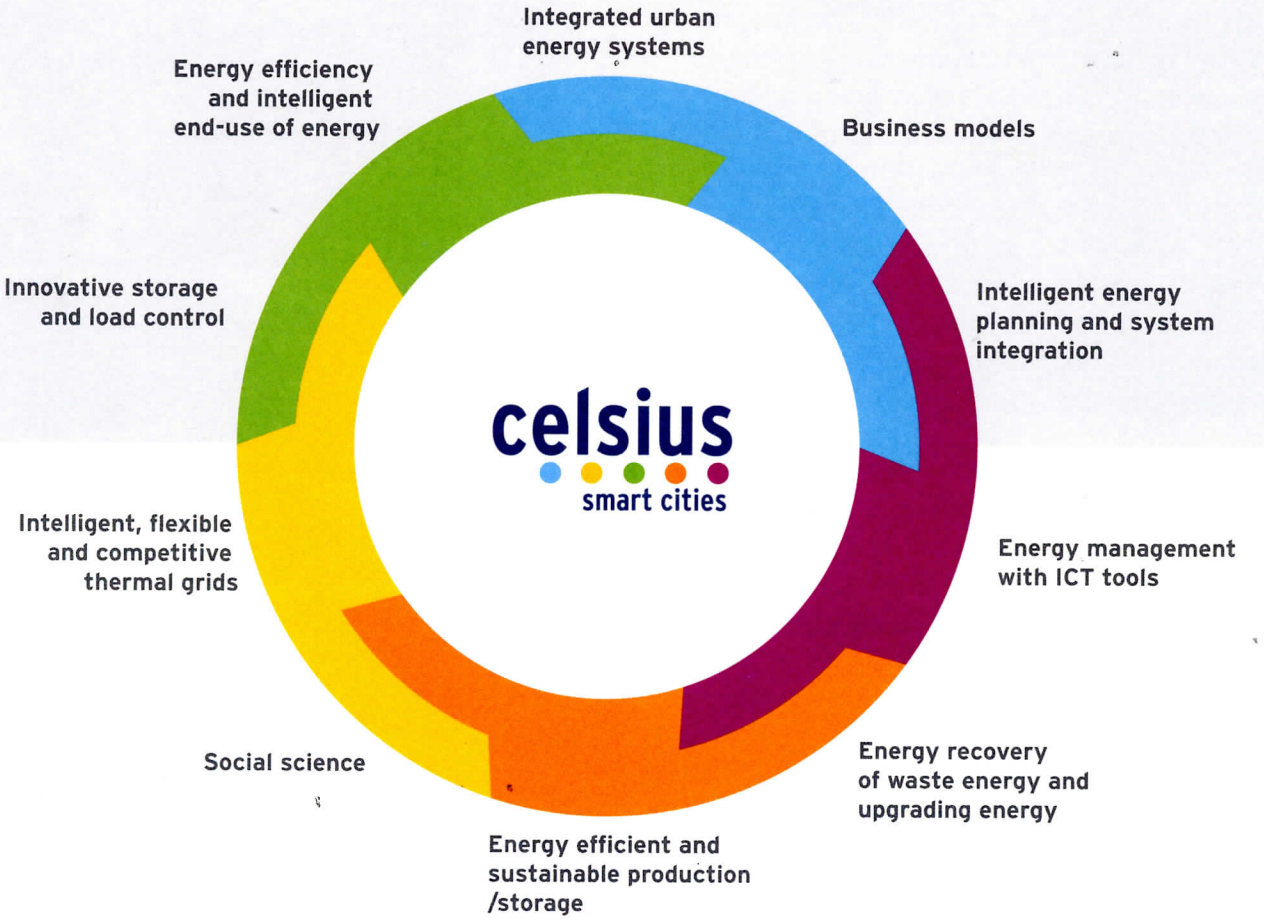
Celsius Partners

The Celsius city partners are Gothenburg, Cologne, Rotterdam, London and Genoa. The consortium includes technical expertise from leading energy utility companies as well as renowned international research and innovation organisations. Gothenburg, who are co-ordinating the project, has a world-class district heating system, the total length of the system exceeds 1 000 km and supplies 90 percent of the city's apartment buildings. The Gothenburg demonstrators are being implemented to find new innovative uses for district heating, for instance using it to produce hot water for white goods, such as washing machines, and for heating ferries that are docked in the harbour so that they don't need to use their on-board generators.

Cologne is overcoming the technical and economic obstacles in recovering heat from raw sewage flowing through the sewerage system and working out best practice solutions. This will enable the widespread use of this sustainable heat source. In Rotterdam the demonstrators aim to create net value in the district heating system by using existing heat sources and enabling the cascading of heat around the district, for instance by connecting two industrial sites in order to exchange heat and energy. The London demonstrator will create a replicable model for how to expand an existing heating system along with how to identify, capture and integrate local sources of waste heat into the heating system. One example is the capture and utilisation of waste heat from the London underground. Genoa is planning for a diversification of the energy supply mix, energy savings and efficiency improvements through a more widespread use of distributed generation and district heating.

Groundbreaking synergy

There is enough waste heat produced in the EU to heat EU's entire building stock; what is missing is the heating distribution network to transport the heat to where it is needed. Celsius will combine physical demonstration with systems modelling to explore alternative system configurations and management strategies to optimise system efficiencies and performance. This will develop new business models that value resource conservation and utilisation and encourage cities to develop more self-sufficient energy systems, ones that minimise energy flows into and out of the city, creating a more circular energy economy within the city.



City of Gothenburg
Stadt Köln
Göteborg Energi
IMCG
RheinEnergie
Università degli Studi di Genova
SP
LSE The London School of Economics and Political Science
Swedish ICT Interactive
Gemeente Rotterdam
Fachhochschule Köln Cologne University of Applied Sciences
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NUON
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UK Power Networks
Greater London Authority
Comune di Genova
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IS YOUR CITY THE NEXT

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Celsius can help your city with the integration of intelligent district heating and cooling solutions. Through the information gained from the demonstrators and complimented by the assembled expertise within the consortium, Celsius can provide knowledge transfer and practical expertise in, for instance, technical solutions, business cases, investment models, engagement and collaboration among stakeholders, legislation, governance and acceptance.

In collaboration, your city and the Celsius project agree on how your city can commit to working towards becoming a Celsius City, participating in our workshops and attending demonstrator site visits. The agreement is anchored within your municipality, after which the Celsius project will invite you to make the most of the support that we offer, for example by engaging with our expert group, aimed at helping you develop and evolve your district heating and cooling ambitions for your city.

We can work together to keep our citizens comfortable, to keep their energy bills affordable and to meet our climate change targets whilst supporting the EU to meet their targets.

CONTACT US

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