

Sustainable Energy Communities

[SESAC](#) (Sustainable Energy Systems in Advanced Cities) is part of the broader [CONCERTO initiative](#), aiming to show that the local economy can thrive while less CO₂ is being emitted and that sustainable energy systems can be achieved by a combination of good governance, innovative co-operation and concrete measures. The cities of [Delft](#) (NL), [Växjö](#) (SE) and [Grenoble](#) (FR) are all carrying out demonstration projects while [Kaunas](#) (LT), [Miskolc](#) (HU) and [Vastseliina](#) (EE) are observer communities.

Tools for effective policy-making, implementation, monitoring and management of the sustainable energy processes are being developed. Researchers are analysing and ensuring the quality of the measures, whilst the city networks ([Energie-Cites](#) and [ICLEI](#)) are disseminating the results widely.

After several years of preparation, the SESAC project is coming true in the 3 SESAC partner cities.

Many projects are ongoing in [Växjö](#) like a cost-effective poly-generation system for optimized energy utilisation of available biological waste material. This will be done by rebuilding and extending an existing anaerobic digestion plant. Furthermore, the amount of feed stock for digestion will be increased by introducing a system for collection, pre-treatment and storage of food waste in local tanks at large scale kitchens. Thereafter, food waste and sludge from sewer water purification processes will be co-digested and the gas will be used for **poly-generation of electricity, heat and vehicle fuel**. The otherwise energy consuming plant shall be self-sufficient in heating and produce more than 60% of its own electricity demand.



Sustainable districts, eco-buildings and low temperature district heating form a part of “sustainable” actions in [Delft](#). A citywide heat transport system will be realised and it will connect an industrial area with residual heat to several building locations. A dedicated Heat Transport Company (HTC) will be responsible for the realisation of the new energy infrastructure. The project will therefore also include a demonstration of tendering and contracting a HTC.



The main challenge is to make the project technically and financially feasible: construct and establish a **low temperature heat transportation infrastructure connecting the**

individual building locations and their heating systems to the heat sources of the industrial sites.

Within the SESAC project, in **Grenoble** a new ambitious **sustainable district** is currently under construction: De Bonne. The neighbourhood is built on 8,5 hectares of land and is meant to provide 850 apartments out of which 35%-40 % represent social housing.



This well-planned area includes highly efficient dwellings (bio climatic construction materials and methods, integrated solar panels and optimised building envelope). Furthermore, global electricity needs and half of the heating needs will be ensured by 8 mini natural gas co-generation plants; buildings will be equipped with thermal solar panels to ensure about 45% of the boiling water requirements.

The aim is to reach 30-40% less energy consumption than the applicable building standards. Furthermore, a 1600m² tertiary building will be constructed as a positive energy building (producing more energy than it consumes).

For further information on the SESAC project, please consult www.concerto-sesac.eu

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