

# Vitoria-Gasteiz: Biomass district heating system

## Overview

In addition to retrofitting residential buildings in the neighbourhood, a biomass district heating network will be deployed. The number of accessions initially foreseen in the project was 750 dwellings. Despite the great efforts to promote this project, the number of adhered dwellings is around 300, which is less than 50% of the dwellings foreseen. This fact has made necessary resize the project with both, the heat production room and the distribution network. The new network will be deployed exclusively to the Coronación demo district with the opportunity to extending it to other neighbourhoods if wanted. The estimated installed power is 3,200 kW. The primary fuel for this generation will be biomass (wood chips) and natural gas will be used as backup for high demand scenarios, with an estimated demand coverage of 5% to 10%. The boilers will be arranged in two rooms, one for biomass and the other for natural gas, in independent premises of the current facilities of the civic centre. A resource management centre (RMC) will enable optimum management of the district heating production and distribution system. A website for on-line consultation and information on energy consumption will gather this information.



The City Council has invited to tender for the concession of the private use of the public domain in the civic centre and in the underground for the execution of the project and the operation of the network for 40 years.

Therefore, the network operator will be GIROA, taking care of the maintenance of the infrastructure, which will become the property of the city council at the end of the concession. Giroa supplies the energy through a direct contract with the citizens and the owners of the buildings.

## Citizen Engagement

Citizen engagement is needed for the district heating solution to be a success. What is more, district heating is crucial in the project in economic terms. As the area and urban impact of the solution is considerable, citizen engagement has been of key importance in order to explain its benefits and the comfort of controlling the heating supply. In this case, as mentioned, citizen participation has been lower than expected despite intensive efforts to explain and promote the new system.

## Benefits

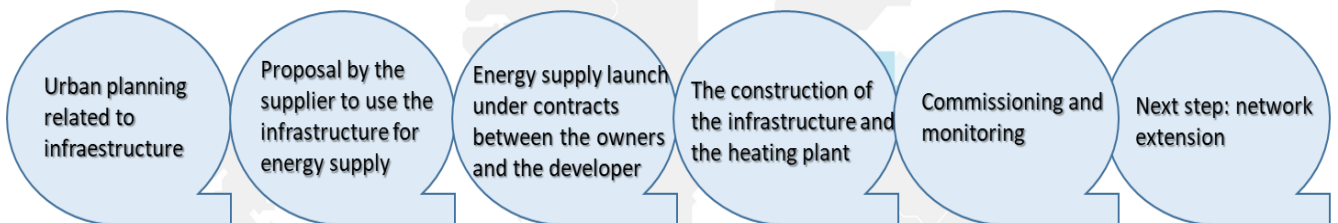
- Reduction in overall installed power, due to a simultaneity factor
- Increasing system performance at neighbourhood level
- Reduction of general maintenance and operation costs.
- Access to better energy prices (economy of scale)
- Improved security in dwellings (without fuel), as well as a significant reduction in disturbances and operation/maintenance tasks by building owners/tenants
- Increasing resource and energy efficiency
- Reducing energy bills
- Independence in energy supply
- Reduction of carbon emissions
- Better management of service providers
- New business opportunities

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## Stakeholders

<b>Owner of the solution</b>	Vitoria Gasteiz Town Hall
<b>Service/technology provider</b>	Giroa
<b>Users</b>	Owners
<b>Investors</b>	Giroa

## Process



**Investment/Finance:** ca. 2.9 M EUR

SONDERBORG

## Replication Potential

The option finally presented, using the civic centre infrastructure, in addition to responding to the SmartEncity project for the dwellings retrofitting and connection to the heating network of Coronación district, aims to be a pilot project that will allow the development in the city of Vitoria-Gasteiz of an efficient and sustainable model of energy supply to be tested, making use of the infrastructure of municipal buildings such as the civic centres.

In the city of Vitoria-Gasteiz, there is a wide infrastructure of civic centres distributed throughout the city that would allow the replication of the solution proposed in the SmartEncity project to supply heat to the surroundings residences, taking advantage of the non-simultaneous heat demand of these tertiary buildings with respect to housing.

## Contacts

**LKS**  
Pepe Martinez  
jimartinez@lksgroup.com

**GIROA**  
Hernanz Urraca, Inaki  
inaki.hernanz@veolia.com



## More Information

<https://smartencity.eu/about/solutions/biomass-district-heating-system-vitoria-gasteiz/>



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