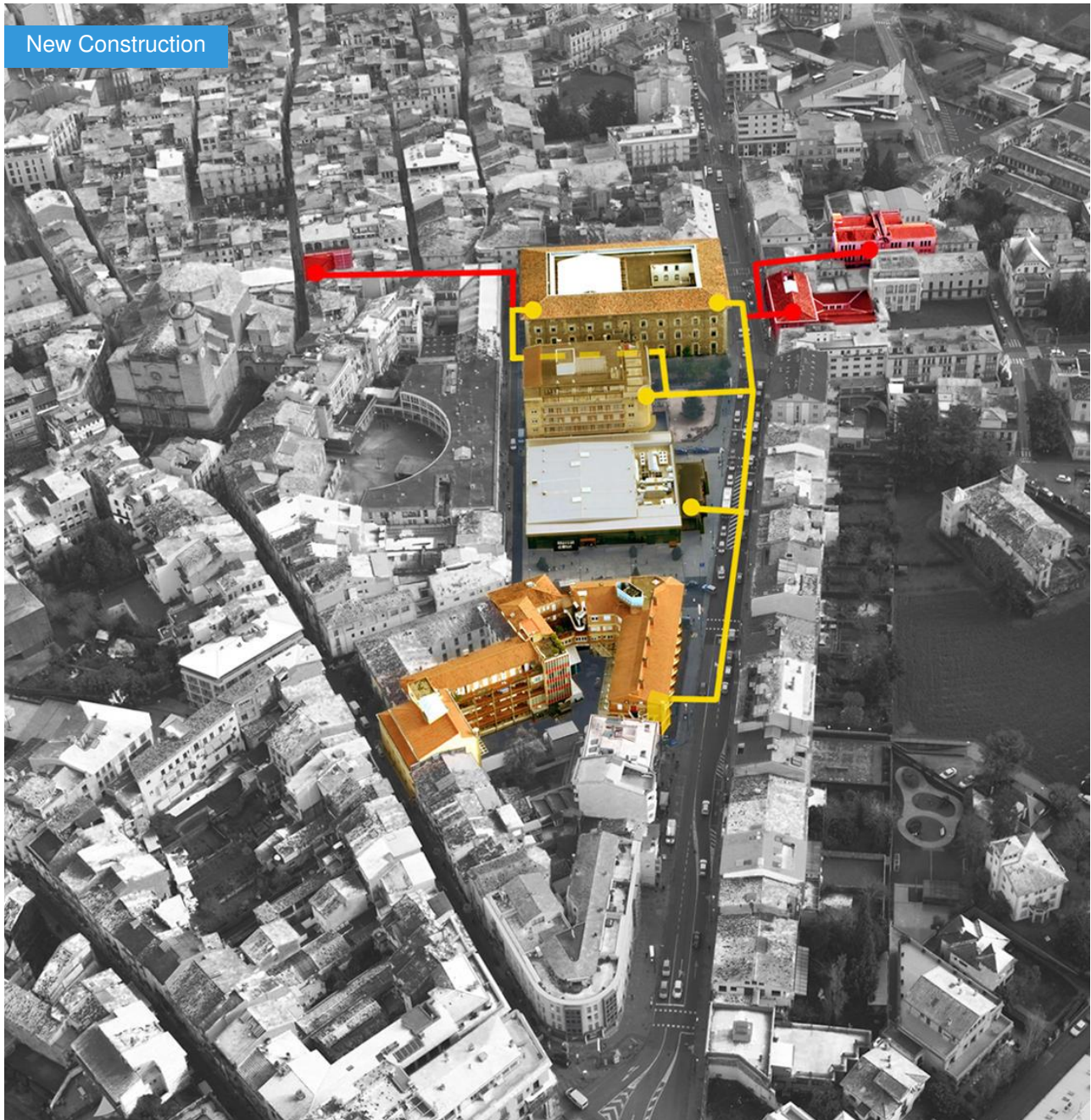


## District Heating & Cooling network in Olot

by [sander laudy](#) / 2016-06-28 10:29:33 / España / 6928 / ES



**Address 1 - street** : 17800 C. MULLERAS, OLOT, España

**Number of jobs** : 10 empleos

**Starting year of the project** : 2014

**Delivery year of the project** : 2016

**Key words** : Climate Network from renewable energies in dense urban center



3 ha



935 085 €

Proposed by :



B01arquitectes

## ID CARD

The network of District Heating & Cooling in Olot relies exclusively in renewable energy and therefore means a step forward for the conversion of our existing cities in a zero-carbon systems.

## Programme

- Public facilities and infrastructure

## CO2 Impact

CO2 Impact : 570 tCO2

## Method used to calculate CO2 impact

Expected consumption by buildings connected to the network is 2,908,714 KWh annually.

Calculating the factors CO2 emission standard fuel from IPCC / Intergovernmental Panel on Climate Change (source: Guide how to develop an action plan for sustainable energy European Union: European Commission, Joint Research Centre, Institute. for Energia, 2010) this represents 570 tonnes of CO2 emission savings per year.

## Project progress

- Delivery phase
- Operational phase

## Procedure type

- Urban développement permit
- 

## Prescriptions and zoning

- Heritage protection area

## Key points

- Governance
- Economic development
- Smart city
- Energy /Climate

## Approaches used

- Agenda 21
- Local charter

## More info

<http://www.diba.cat/documents/479934/63881441/1.2.+Ajuntament+d'Olot.+Xarxa+Espavilada+de+clima+d'Olot.pdf/3bd8a530-1b80-4a4e-951d-c085debcec25>

## Data reliability

Self-declared

## TERRITORY

### Type of territory

The city of Olot is a town of about 33,000 inhabitants, capital of the region of the Garrotxa, Olot whose history dates back to the twelfth century and whose historic center has been largely preserved. The direct environment is marked by its wooded landscapes and volcanic hills, like Molsacopa, which is in the midst of the city itself. There is an awareness in the population of the landscape and natural value of this environment, also in economic terms. Companies such as cooperative La Fageda bind business projects with social integration and environmental protection. The Fageda will be the supplier of pellet that will burn the biomass plant.

### Climate zone

[Cfb] Marine Mild Winter, warm summer, no dry season.

### More info

[http://www.olot.cat/skin/print.aspx?](http://www.olot.cat/skin/print.aspx?ACCIO=PORTALENC&NIVELL=6579D32CB08575F99AE681EE12821D85AF8662ACCC5DCF6484B8797DA3AD55F6D9377501909665C679A60AA52AF6FA3E6EF732F042E622604F89D6D5AB5B4179)

ACCIO=PORTALENC&NIVELL=6579D32CB08575F99AE681EE12821D85AF8662ACCC5DCF6484B8797DA3AD55F6D9377501909665C679A60AA52AF6FA3E6EF732F042E622604F89D6D5AB5B4179

## KEY FIGURES

### Public spaces area

Public spaces area : 21 900 m²

### Total investment costs (before tax)

Total investment costs (before tax) : 935 085 € HT

### Detail of subsidies

there have'nt been any

## GOVERNANCE

### Project holder

Name : UTE Watts INNOVA - NATURAL GAS - TOWN HALL OF OLOT

Type : City

General description :

The decision of the City of Olot to bet on a network of climate on the basis of renewable energy to connect a number of their own buildings, has been the sign of a convinced commitment to the cause of the energy transition, which is complicated to perform in an infrastructure that already exists and where room and management maneuver is limited. The conviction that we can not ignore the existing parts of our cities in this urban restructuring has been the main motivation to undertake this project.

### Project management

Description :

The municipality of Olot has founded, together with the administration of the region of the Garrotxa, the SIGMA Consortium, in order to holistically manage environmental projects in the area. Office technicians working on projects on waste resource management, energy management, water cycle, natural development, health and food programs, green spaces and cleaning of public spaces. In the case of the Network of District Heating & Cooling City Hall, as property of the building where the central is located and connected buildings and as responsible for the public space where the network is built, has delegated the technical control to engineers of the Sigma Consortium.

From there on, there has been an UTE (Temporary Business Association in spanish) by the local engineering WATTIA and Natural Gas, that has managed the construction and future operation of the project.

### Project stakeholders

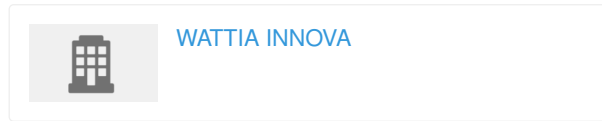
Ayuntamiento de Olot - UTE Watts - Natural Gas

Function : Developer

The council awarded the work and operation of the network of green energy. She herself is its main customer by providing cold and heat to a number of municipal buildings. The UTE WATTIA - Natural Gas will run and operate the network for a period of 17 years. The Aguasol engineering and architectural firm B01 arquitectes develop part of the project and central infrastructure.

mserrat@consorcisigma.org - b01sclaudy@gmail.com - fcomino@wattia.cat

[Construction21 company page](#) :



<http://www.wattia.cat/es/>

## SOLUTIONS

green energy plant

Description :

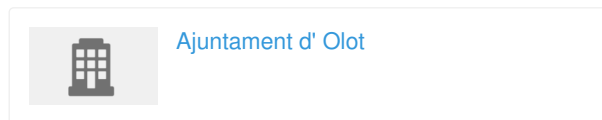
Create within the city new points of generation and distribution of energy, new power stations, it is part of the great transition that will enable us to live exclusively with renewable energy. The de-centralization of its production close to consumers, adapting sources to the context both on the demand and the supply side, is very much on the Olot draft, where consumption (according to schedules and quantities) have carried out a reduced production by geothermal energy, photovoltaic and biomass.

The insertion of the central within an existing building, the old hospital of Sant Jaume, which eventually will become an administrative building, demonstrates that rehabilitation of buildings can be part of the energy transition process.

CO2 Impact : 570,00 tCO2

- Urban project governance

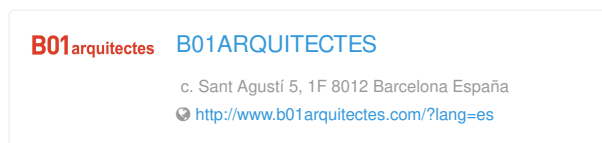
Company :



Company :



Company :



## QUALITY OF LIFE

### Ambient air quality and health

Dense urban centers are often not the healthiest. However, the city of Olot, due to its direct wooded environment, maintains a good air quality and the use of renewable energy for air conditioning of part of the municipal buildings reduces emissions caused by this urban core. It is part of the local identity of Olot to live together with the forest, not just as a leisure but even as a source of energy for urban needs.

## SOLUTIONS

- Promotion of cultural/ historical identity
- Air quality

## ECONOMIC DEVELOPMENT

### % of public spaces

73

## SOLUTIONS

### Description :

Much of the energy supplied by the network comes from biomass. The fact that in the immediate vicinity of Olot there is a lot of forest, which requires continuous forest management, makes it appropriate to create a supply-based pellet economy. Control of forest fires joins with creating a natural energy source. The local economy, in this case through the cooperative La Fageda, receives real economic momentum towards a more sustainable model.

- Business development
- Circular economy

## SMART CITY

### Smart City strategy

Linking the various uses housed by the seven municipal connected buildings and refining its energy needs on one hand and the possible supply from the green energy central, means the creation of an integrated urban management model, where the mixture provides efficiency.

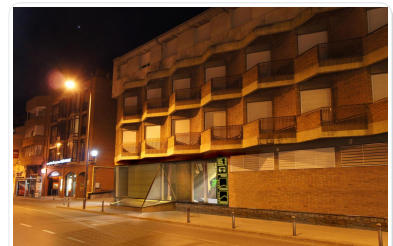
## RESOURCES

## SOLUTIONS

### Description :

The fact that the operation of the energy plant can be seen from outside, helps citizens understand how energy is created from renewable sources. This 'window' is thus a tool for public awareness against the problem of climate change and that energy transition is beginning.

- Citizen-awareness



## ENERGY/CLIMATE

### Climate adaptation, resources conservation, GHG emissions

The essence of the proposed network of District Heating & Cooling Olot is the elimination of emissions of greenhouse gases because of the air conditioning of a series of seven buildings in an urban center. Replacing the original fossil sources for a renewables ones is an example of how the centers of our cities can be adapted to combat climate change.

### Energy mix

The energy supply is based on a combination of three renewable sources. The installed capacity of the three is: Biomass: 600KW - Geothermal 60KW - PV: 2040 KW. Geothermal energy provides both cold and heat, biomass heat and PV allows pumping water at high or low temperatures.

### Total electricity needs of the project area /year

Total electricity needs of the project area /year : 2 908 710,00 kWh

### Total electricity production of the project area /year

Total electricity production of the project area /year : 2 908 710,00 kWh

## SOLUTIONS

CO2 Impact : 570,00 tCO2

- Climate adaptation
- Renewable energies
- SmartGrids

## BUILDINGS

### Buildings

This is the cold and heat supply to two homes for the elderly, a market, a museum, a civic center, an administrative building and a school solely on the basis of renewable energies. The diversity of uses and therefore of the energy demands for different time periods, makes the network management efficient in their production.

## Contest

### Building candidate in the category



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