As part of its proactive energy retrofitting policy, the Roanne conurbation has committed to reducing energy consumption in its properties, particularly tertiary buildings. The expected reductions in consumption are guaranteed by an Energy Performance Contract (EPC) signed in 2012.

> Location
The Roanne conurbation is located in the Loire plains, in the northern part of the department. It includes 40 towns and totals more than 100,000 inhabitants, including 35,500 in Roanne, the main city.

> A pioneering municipality in the energy transition
In 2007, Roannais Agglomération developed a Climate Plan that included several projects to reduce energy consumption. Since 2014, the municipality has been taking action in this area through the “Positive Energy Territory” (TEPOS) and “Positive Energy Territory for Green Growth” (TEPCV) initiatives. The municipality developed an action plan to cover 50% of its energy needs with renewable energy by 2050.

The conurbation has received funding from ADEME and the Auvergne-Rhône-Alpes Region to launch this programme.

This EPC is part of Roannais Agglomération’s proactive energy retrofitting policy. The conurbation’s Maintenance and Energy department has undertaken major work projects: replacement of cooling units, renovation of boilers, more efficient lighting, etc.

The EPC brings all this work together, with the advantage of a budget that is planned out over several years with guaranteed performance targets.

**THE PROJECT IN BRIEF**

> Energy performance target
Energy consumption: -34.5% (-36.1% after revision of the contract)

> Duration
10 years

> Investment
€916 K Inc. VAT

> Type of EPC
Supplies and services

> Contracting authority
SIEL (Loire department intercommunal energy syndicate)

> Energy service company
ENGIE Axima

> Types of buildings
- 3 tertiary buildings
- 1 building of 3,000 m² (the Roannais Agglomération offices)
- 1 engineering school and offices (Technopôle Diderot) of 1,400 m²
- 1 call and data centre (Numériparc) of 5,200 m²

... for a total surface area of nearly 10,000 m²
The objective is to improve the energy performance of facilities through a 10-year service contract. The EPC covers the renovation, optimisation, and maintenance of HVAC installations in 3 public buildings as part of a public energy performance contract (MPPE). The EPC does not cover the actual buildings.

The initial energy performance target was a 40% reduction in final energy. The definitive contract was accepted with a 34.5% reduction in gas/electricity consumption (baseline consumption of 2,485 MWh/year based on actual consumption between 2008 and 2011, planned reduction in consumption of 857 MWh).

Energy saving measures for heating, ventilation, air conditioning, and lighting:

- Replacement of cooling units (running on R-22) by air conditioning heat pumps that take the burden off heating boilers
- Renovation of the heating systems in the three buildings (installation of condensing boilers) and introduction of a Centralised Technical Management (CTM) system to monitor consumption in comparison to the targets
- Replacement of one of the cooling units with a thermo-refrigerating pump to cool Numériparc’s data centre while recovering the heat from that equipment to heat Numériparc’s offices
- Installation of meters and sub-meters for consumption
- Automated lighting
- Efforts to reduce consumption of the occupants’ computers

The contract also includes maintenance of the installations (monitoring, minor and major servicing). ENGIE Axima must provide an annual action plan for raising awareness among users to obtain energy savings of 7-10%. This action plan is coordinated both by the conurbation community and the operator. The project was able to monetise Energy Savings Certificates (ESC).

If the energy savings targets are not met, ENGIE Axima is responsible for covering the cost differential. If the result exceeds the objective, the company receives two-thirds of the benefit, and Roannais Agglomération receives one-third.

The IPMVP protocol, Option (C) is used to monitor the measures. ENGIE Axima is certified IPMVP.
> Results

The work was completed in mid-November 2013. In 2014, a certain number of adjustments were made, after which an initial assessment (unofficial) showed a **31.1% reduction in consumption**.

In 2015 (with a commitment to results) there was a **32% reduction in consumption**, as compared to the target of 34.5%. Since the result was in the uncertainty range (+/- 4%), neither profit-sharing nor a penalty was generated.

In 2016 (with a commitment to results) there was a **33% reduction in consumption**, still in the uncertainly range.

In 2017 (without commitment to results following the activation of the review clause), **the target was increased to a 36.1% reduction** in energy consumption. The “unofficial” result in 2017 was a 43.2% reduction thanks to major modifications to each of the buildings: closure of most of Numérparc’s data centre, installation of LED lighting in Technopôle Diderot, replacement of external openings and improvement of insulation on the façade of another building.

> Difficulties

The contract is going well overall but raising awareness among users is a long-term effort on a topic that technical staff don’t always understand well.

> Outlook

All indicators are positive. However, vigilance is required to ensure that the new targets are met and the maintenance contract is properly carried out.

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**Stakeholders involved**

- Roannais Agglomération
- Project Management Assistance: SIEL
- Energy service company: ENGIE Axima

**Information and contacts**

http://cpeauvergnerhonealpes.org

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