ENERGY PERFORMANCE CONTRACT: MUNICIPAL BUILDINGS IN ANNEMASSE (74)

As part of its Agenda 21, the City of Annemasse has committed to reducing the energy consumption of its building stock by renovating 6 public buildings. The expected reductions in consumption have been guaranteed by an Energy Performance Contract since 2013.

> Location
Annemasse is a city of 35,000 inhabitants in the northwest part of the Haute-Savoie department. It is part of the Annemasse Agglo conurbation community that covers 12 municipalities and more than 90,000 habitants. Annemasse Agglo is part of the cross-border Greater Geneva area, which has 212 towns and close to 1 million inhabitants.

> A cross-border city just outside Geneva
The City of Annemasse began addressing environmental issues in 1997, and decided to incorporate sustainable development principles into its municipal practices in 1999. It embarked on an Agenda 21 programme in 2000, which led to the adoption of an initial action plan in 2005 that was later revisited in 2009.

In 2016, Annemasse Agglo launched a Territorial Climate Air and Energy Plan (SEAP) to establish a comprehensive strategy for climate action and reduce energy consumption. The municipal government won the “Positive Energy Territory for Green Growth” (TEPCV) request for proposals. In 2012, the design office SETEC audited the City of Annemasse’s properties, identifying the 6 most energy-intensive sites: two recent buildings (the 2010 sports facility and the Saint-Exupéry school built in 2009) whose energy performances did not meet expectations, and 4 older buildings (the town hall dating from the end of the 19th century, the Martin Luther King complex, a primary school renovated in 2000, and a school complex built in the 1970s without insulation or double glazing). The need to make better use of the newer buildings and have guaranteed energy savings following renovation of the older building stock became clear. To that end, an Energy Performance Contract was launched in 2013 for the 6 buildings.
> Objective

The EPC is an 8-year contract to reduce energy consumption through energy management, optimisation, and investments in technical facilities as well as their operation, small and large maintenance work, and the updating of energy systems. The EPC was chosen for its guaranteed results.

The minimum energy reduction target in the City of Annemasse’s public tender was 23%. In the end, the operator SPIE’s final offer was a 24.77% reduction in energy consumption and a 29% in reduction in CO₂ emissions. The baseline was established using actual consumption data from 2008 to 2011.

> Implementation

This EPC applies to work on the heating installations. It does not apply to the actual buildings. The consortium representative, SPIE, can benefit from Energy Savings Certificates (ESC)¹ for any eligible actions taken.

The energy saving actions include:

• **Replacement of oil-fired boilers** with natural gas condensing boilers
• **Replacement of existing high-power natural gas boilers** with condensing boilers for better management of needs
• Implementation of a Centralised Technical Management (CTM) system that is accessible online
• **Management of occupation patterns** and **temperature adjustments** based on intermittent occupation, particularly in school buildings
• **Replacement of pumps and valves to regulate** circuits

SPIE, the operator, **is responsible for all the investments** and is paying itself with the profits obtained. **Part of its annual remuneration is a fixed rate** (€52,000 Ex. VAT/year for operations-maintenance and the total P2 and P3 guarantee). It also receives **payment for the totality of the energy savings realised** based on an average cost per kWh if the target of 24.77% is met. If the target is exceeded, the surplus will be shared by the city and SPIE.

However, **if the performance target is not met, the payment is reduced** by the percentage of savings not attained multiplied by the coefficient of penalties, which increases from 1.1 to 2 during the 8 years of the EPC. SPIE is responsible for controls and verifications in its intervention area. The protocol is based on monthly readings of the energy meters (gas and electricity).

At the end of each heating period, the annual energy savings realised are calculated using the protocol for measuring and verifying the energy performance.

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¹ A system in which public authorities require energy sellers (electricity, gas, heating and cooling, domestic heating oil, etc.) to achieve energy savings by actively promoting energy efficiency among their customers and other energy consumers (households, local governments, professionals).
Several interim reports

> Results

All the planned work was completed in 2013. Additional work was conducted in 2014 and 2015: replacement of thermostatic valves, balancing of networks, and replacement of equipment as part of the contract’s total guarantee.

The energy savings results were:

<table>
<thead>
<tr>
<th>Season</th>
<th>Savings</th>
<th>Savings in kWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013 - 2014</td>
<td>29%</td>
<td>1,208,045</td>
</tr>
<tr>
<td>2014 - 2015</td>
<td>23.4%</td>
<td>919,359</td>
</tr>
<tr>
<td>2015 - 2016</td>
<td>30.2%</td>
<td>1,305,000</td>
</tr>
<tr>
<td>2016 - 2017</td>
<td>28.6%</td>
<td>1,280,321</td>
</tr>
<tr>
<td>2017 - 2018</td>
<td>25.7%</td>
<td>1,067,053</td>
</tr>
</tbody>
</table>

> Difficulties

- The short time frame between the awarding of the contract and the beginning of the first heating season required that work be conducted quickly.
- The application of requirements to maintain a temperature of 20°C in poorly insulated premises, without having a record of the settings used to establish the baseline consumption for the EPC, resulted in reduced comfort and the dissatisfaction of some occupants, meaning the energy savings programme was not well received.

> Next steps

In 2016, the City of Annemasse launched a second EPC for 5 sites belonging to the city or the Community Welfare Centre (a home for the elderly, a community centre including an MJC [youth and cultural centre], an early childhood centre and music school, two school complexes, and a gymnasium). This EPC was awarded to IDEX Énergies with a target of 500,000 kWh in annual savings.

Stakeholders involved

- City of Annemasse
- Project Management Assistance: SETEC Bâtiment (Paris)
- Energy and environmental service company: SPIE Facilities Direction Sud-Est

Information and contacts

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