



About the project

Life GreenCity: Green public building platform for the promotion of a Green City.

Life Green City is a European collaborative project coordinated by Schneider Electric-Vizelia, aiming at implementing an electricity, water, diesel oil and gas consumption control and management software in public buildings of the cities of Nantes (France) and Vigo (Spain). This software platform allows citizens to follow **the energy consumption real-time** in an understandable and simple unit (CO₂ or kWh).

The main objective was to decrease the public energy consumption and to avoid the environmental and economic **impacts of waste** of lighting, heating and electrical consumption, by involving all users in public buildings.

During **34 months**, the **5 partners** have pooled their expertise in order to reach the precise objectives of 20% of energy savings.

- **Schneider Electric-Vizelia** (France) has developed software that works on reducing operating and energy costs of commercial buildings. Schneider Electric-Vizelia was the **coordinating beneficiary of the project**, and has developed the software platform.
- **Nantes** (France) is the capital city of the Pays de la Loire region and Loire-Atlantique department and is located at 50 km from the Atlantic coast. Nantes is also the **European Green Capital in 2013**. The involvement of the municipality has been essential to set up the project in the public buildings of Nantes.
- The **Fundación Axencia Intermunicipal da Enerxía de Vigo** (FAIMEVI), in Spain, promotes the economic, efficiency and renewable energy policies locally. This partner was in charge of the implementation of the project in the public buildings of Vigo.
- **Cyrisea** (France) designs and implements information systems to manage energy consumptions in buildings. At the end of the project, Cyrisea analysed and evaluated the **results** obtained in terms of energy savings.
- **Euroquality** (France) is a service provider specialized in Innovation and European research projects. This partner was in charge of the dissemination of the results as well as the administrative and financial management.



Life GreenCity in short

- **Budget: 1 675 528€ EU financial contribution: 756 088€ (50% of total eligible budget)**
- **Main objectives:**
 - ✓ **Reduce energy consumption by up to 20%** and thus reduce **equivalent CO₂ emissions by up to 10%**.
 - ✓ **Increase the overall efficiency of the building** in terms of electricity, water, diesel oil and gas consumption, further reducing equivalent CO₂ emissions
 - ✓ Promote **good practices**.
 - ✓ **Increase the awareness of citizens** to both environmental and economical solutions.
- **Main results:**
 - ✓ **18,4 %** of energy savings in **47** public sites of **Nantes** and in **6** sites of **Vigo**
 - ✓ **100 tones** of equivalent **CO₂** or **18 000 km** by car saved thanks to the project
 - ✓ Implementation of **awareness** campaigns and **optimization** actions in the public buildings
 - ✓ **Dissemination** of the results at a European scale and drafting of recommendations
 - ✓

For more information, please, visit us at: <http://www.lifegreencity.eu>

Events (conferences, fairs, workshops...)

The **GreenCity** project has recently attended the following events.

EcoCity World Summit

From September, 25th to September, 27th 2013

Nantes, France

The **EcoCity World Summit** took place in September 2013 in Nantes, European Green Capital in 2013. In the frame of this world annual event, numerous international actors in the fields of **urban sustainable development** and energy management in cities were present. On this occasion, the partners involved in the project **GreenCity** have presented and disseminated their results.

Sustainable development week – Energy Transition

April 04th, 2013

Université Paris Ouest Nanterre La Défense, France

Energy Workshop for Barcelona City Council

October 17th, 2012

Barcelona, Spain

Innovative City Convention

From 2012-06-06 to 2012-06-07

Nice, France



Results in terms of energy savings

Through the GreenCity project **47 public sites** in Nantes (France) and **6 public sites** in Vigo (Spain) have been equipped with general and sub-meters.

In **Nantes 7** buildings have been equipped with **sub-meters** whereas in **Vigo** the **6** public buildings have sub-meters. A sub-metering strategy allows identifying and integrating consumption data by use and / or specific local (electricity lighting, ventilation electricity, gas restaurant, gas heating ...).

Energy savings have been calculated thanks to the **IPMVP method**:

$$\text{Savings for the given period} = \frac{\text{Measured energy consumption during the period} - \text{Theoretical energy consumption following the features of building's environment}}{\text{Theoretical energy consumption following the features of building's environment}}$$

18,4% of energy savings have been realized during the whole project, corresponding to **16,6%** of electricity savings, **7,7%** of district heating savings and **22,6%** of gas savings.



18,0% of energy savings have been measured, corresponding to **13,8 %** of electricity savings, **7,7%** of district heating savings and **22,6%** of gas savings.



22,9 % of electricity savings have been measured.



Reduction actions in public buildings

To achieve those results, **actions** aiming at reducing energy consumption in public buildings have been carried out by the partners.

In order to **commit users** in the project and to implement all possible ways to save energy in the frame of the project **GreenCity**, awareness actions involving pupils and teachers have been implemented in schools.

Some optimisation actions aiming at influence **directly** the energy consumption have been also set up.

Awareness actions

- ✓ Encouraging users to **turn off** all the equipment during the weekends and on holidays
- ✓ Display of **posters** describing the « 10 simple steps to save energy »
- ✓ Designation of **students in charge** of lights, windows and doors in schools
- ✓ Display of **environmental advices** on flushing, switches and radiators
- ✓ Scientific workshop with an **Energy Box** in Nantes



Optimisation actions

- ✓ Setting-up of heating and lighting **schedules**
- ✓ Decrease of the **setpoint** temperature
- ✓ Purchasing of low-consumption equipment and of **strips** with **switch** for electrical devices
- ✓ Creation of **water leaks alarm** system





A specific example – School Sully (Nantes)

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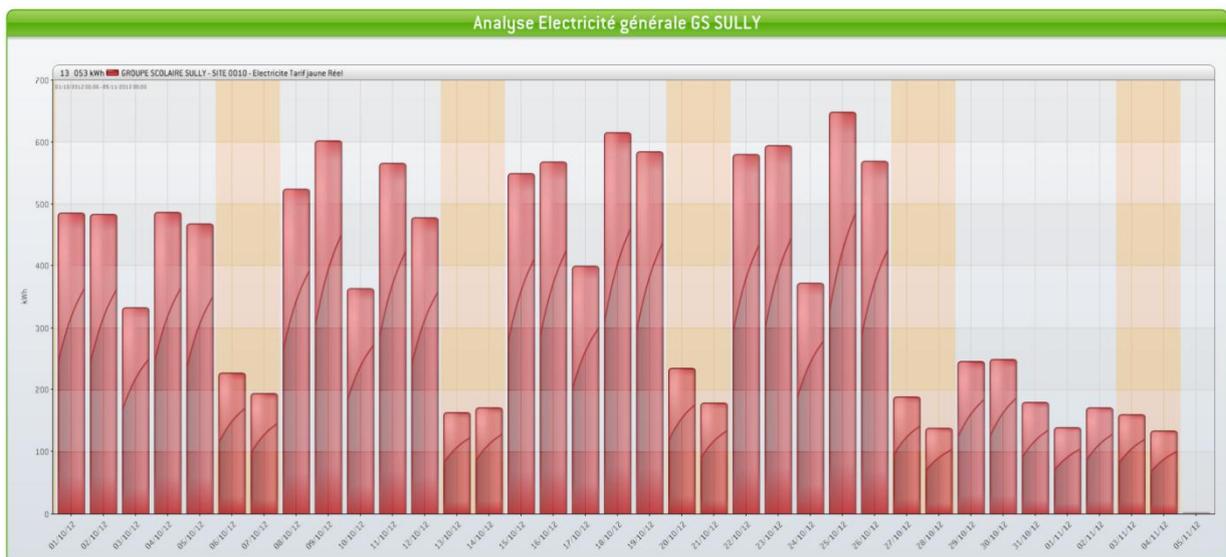
In this school the reduction actions such as encouraging school users to switch off all devices before weekends have been implemented.

Thanks to the Schneider’s software platform named « **Struxure Energy Operation** », the evolution of the energy consumption before and during the monitored period can be represented with graphics.



Results

Following the awareness action (A1) encouraging school users to switch off all devices before weekends and vacations, **a decrease of 17%** of the weekend electrical consumption has been observed at the School Sully (*calculation done comparing the 2 weekends before and following the implementation of the actions*).



Evolution of the week-end consumption after the implementation of an awareness action



Awareness campaigns – European Survey

An online **European survey** about monitoring of energy consumption in public buildings has been disseminated to the main cities of the 27 Member States of the European Union.

(<https://docs.google.com/spreadsheet/viewform?formkey=dEZEeDBJT3VNRGs5akEySI9YR0FrV3c6MQ>)

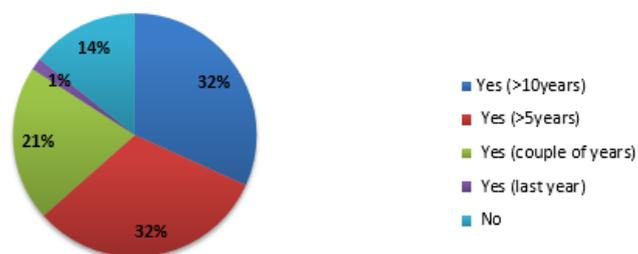
The aim of this survey was to perform an inventory of the local energy policy and to assess the needs at the city level, but also to constitute an updated **database of contacts** to disseminate the results of the projects.

The European survey has been sent to around 600 contacts corresponding to 334 cities. **63 answers have been received** in total with at least two answers per country.

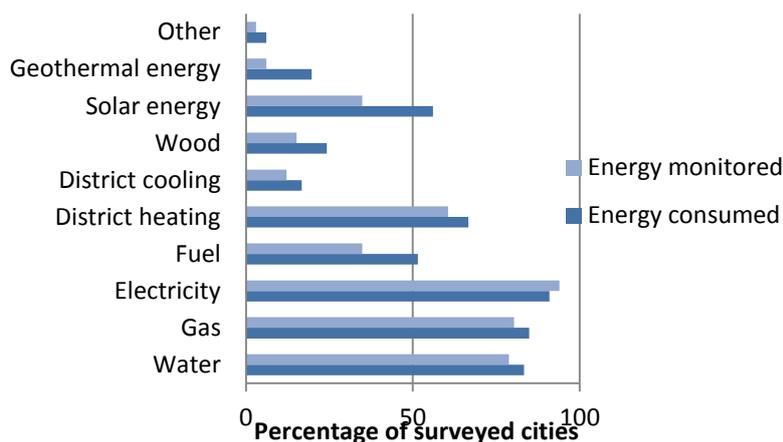
It has been observed that only **30%** of the cities own a real-time energy management system, because of a lack of money, of competences or of interest. However, the great majority of municipalities is involved in an **environmental policy**, and they are **concerned** by the issues raised by the energy management.

The main conclusion is that there is a real need and demand of such **real-time energy management** system.

- ✓ All results have been analyzed and are available in the Deliverable D15 Report on the **awareness campaigns**.



Results of the survey about the implementation of an environmental policy/strategy in the surveyed cities



Results of the survey about the type of energy/fluids consumed /monitored in the public buildings in the 63 surveyed cities



Awareness campaigns – Competition

A **competition of energy savings** has been organized between 12 **schools** in Nantes and 3 **schools** in Vigo.

This competition took place from November 2012 to March 2013 in Nantes and from November 2012 to June 2013 in Vigo.

The aim of this competition was to **involve** pupils, teachers and parents in creating an emulation effect through **awareness actions**.

Only the **electricity consumptions** of the two groups of schools have been compared. The schools of Nantes have saved **4,8%** of electricity, while in Vigo the savings reached **15,6%**.

A **page** of the project website (http://www.lifegreencity.eu/?page_id=1158) is especially dedicated for children allowing them to follow the results of the competition while playing a **game**.

- ✓ The details of the competition are available in the Deliverable 15 about **awareness campaigns**.

