



Smart and Inclusive
Solutions for a Better
Life in Urban Districts

Smart City Toolbox

Replicable measure:

Lyon - Energy data collection through the city platform

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Energy data collection through the city platform

Presentation of the measure

Dynamic energy data is collected on the Lyon Metropole data platform to monitor the environmental performance of the Lyon-Confluence area: energy consumption of new and eco-refurbished buildings, renewable energy production, energy distribution, electric mobility, etc.

Budget needed

The required budget lines to be taken into account are:

- IT development
- Instrumentation (sensors, meters, concentrators, etc.), depending on the size of the buildings
- Human resources to work with companies, owners of the buildings and the city administration

Between 500,000 to 700,000€ of staff cost, indirect costs and subcontracting costs are planned to be used in SMARTER TOGETHER by the Lyon Métropole data platform for data integration on the city platform and development of the data visualization tool (Lyon Confluence Monitoring System).

Funding sources

Grants and municipal budget

Implementation timeframe

The implementation timeframe might take several years. It is difficult to be specific as this depends on the projects. In any case, a lot of anticipation is needed to integrate some requirements before the tender process. The duration of the test phase might be long or short depending on the reactivity of the stakeholders and the possible technical difficulties. Similarly, the signature of the data sharing agreement might take a long or short time depending on the level of priority of the stakeholders involved and the level of details of the discussion between legal departments.

In the case of Lyon, the timeline was as follows:

- 2005-2010: FP6-Concerto project involving Lyon Métropole, Lyon-Confluence, Hespul (local energy agency) and Enertech, focusing on the improvement of energy performance of new buildings.
- First return on experience in Lyon-Confluence on the importance of detailed monitoring after the commissioning of the buildings to identify possible discrepancies between expected and actual energy performance.
- Beginning of 2016: end of the 5-year project “Lyon Smart Community”, implemented in Lyon-Confluence (thanks to a partnership with NEDO, Japanese governmental agency in charge of energy and innovation), with Lyon Métropole, Hespul and other partners. First lessons learnt after a test phase of a prototype of a data visualisation tool of few data sets of the neighbourhood, developed by Toshiba.
- Beginning of 2016: start of the SMARTER TOGETHER project in Lyon-Confluence with a strong feature on data collection and analysis through the city data platform; with SPL Lyon Confluence, Hespul, Enertech, Lyon Métropole, Enedis (electric grid operator).
- Beginning of the involvement of the IT department of Lyon Metropole (in charge of the city data platform) in the Lyon-Confluence area, to work on the data collection of Lyon-Confluence in SMARTER TOGETHER.
- July 2018: first version of the Lyon-Confluence Monitoring System (data visualisation tool using energy and mobility data of the Lyon-Confluence area to monitor the energy performance of the neighbourhood) with the first 10 data sets.

Partners required to implement the solution

Public and private data providers:

- distribution network operators (electric grid & district heating)
- producers of renewable energy (mainly photovoltaic installations)
- owners of new and eco-refurbished buildings
- facility managers
- operators of electric mobility services
- etc.

Preparation of the ground to create a fertile ecosystem for this measure to be set up

- Long-term sustainable development strategy of the Lyon-Confluence urban project with continuity in the objectives and the stakeholders involved, coherence between the features of the project.
- Several people involved “on the ground” on a regular basis to make the connection between operation, IT and financial support.
- Fruitful relationships with important public and private data providers.
- Willingness of the city data platform to solve complex technical issues for such data collection.
- Guidelines set up by SPL Lyon Confluence for real estate developers (in the contract to sell the land) for making compulsory the signature of data sharing agreements with the city platform.
- Guidelines set up by SPL Lyon Confluence, Hespul and Enertech for eco-refurbishment projects making compulsory the signature of data sharing agreements with the city platform.
- Guidelines set up by SPL Lyon Confluence, Hespul and Enertech with the electric mobility service providers part of SMARTER TOGETHER, for the signature of data sharing agreements with the city platform.
- Willingness of the SPL Lyon Confluence, operator of the district heating system, to set up communication infrastructure in its substations and share dynamic data with the city platform.
- Technological progress that ease the data collection and reduce the price, such as the implementation of smart electric meters by the electric grid operator (deployment at the national scale).

Step by step approach

- Setting-up guidelines for data collection, for the different type of data source (building, photovoltaic installations, district heating substations, electric mobility solution etc.).
- Work with the data providers to help them comply with these guidelines.
- Early involvement of people from the city data platform to design the guidelines and work with the data providers.
- Test phase.
- Signature of data sharing agreement between the data provider and the city platform.

- Data collection and monitoring.

Results/benefits available at this stage

- Public control on the data collection and analysis.
- Feedback on the actual energy performance of the project with the same data collected on various projects, to ease the comparison and assessment.

Is this measure a low hanging fruit?

This is not a low hanging fruit as it can take a long time between the first contacts and the effective data collection.

Lessons learned: enablers, barriers, solutions found

Barriers:

- A lot of different data format and data protocol for communication between the data providers and the city platform as there is no standardisation so far in this field.

Solutions found:

- An open-source based city data platform allowing a wide range of data format and communication protocol helps.
- Improve the guidelines to ease the next data collection and make it more precise.
- Anticipation of the technical exchanges with the real estate developers and their consultants.
- Anticipation of the technical exchanges with the engineering companies of the eco-refurbished housing, prior to the official decision to fund the works.
- Continuous support towards the different stakeholders involved (building owners, building managers, facility managers, consultancy companies, etc.), including time spent to explain and convince these stakeholders of the interest of such data collection and monitoring.

Enablers:

- An existing city data platform that has been running for several years.
- Level of expertise of people involved in the development and management of the Grand Lyon data platform.
- Use of data standards.
- (Open source) technologies that makes the evolution of the IT tools easier.
- Consistence and coherence in the features of the Lyon-Confluence urban project with several key people being involved in these topics for many years: SPL Lyon Confluence and external partners.
- EU subsidies that allow to make a significant step forward.
- Willingness of the city administration to experiment new data-based services in Lyon-Confluence.

Replicability



The solution is replicable in Lyon-Confluence, for other data sources (non-electric mobility services, health-related data, other energy data, etc.) as well as elsewhere in the Lyon Métropole area.

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Further information

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