

Florence's smart, climate resilient projects

Summary:

Florence in Tuscany, Italy is not only a place with an impressive artistic heritage and literary history, beautiful landscapes, high-quality fashion and lifestyle, agricultural and gastronomy products, but it also has efficient digital public services, high-level industries in innovation and technology, and excellent training institutes. Florence has demonstrated how an integrated smart city plan focussing on climate change resilience, implemented in conjunction with local stakeholders can be tried and tested on a pilot basis in a small district, and then replicated further.

Objective and rationale:

- To understand climate risks and vulnerabilities and to integrate into projects the right improvements and safeguards to protect the city against climate change
- To understand the budgetary framework to finance these new resilient projects.
- To create new Green-Blue infrastructure on the Ema river for a range of measures from reduced heat island effect to improved water quality and increased biodiversity.

Key stakeholders:

- European Investment Bank
- Municipality of Firenze

Implementation in practice:

The demonstration pilot area is the Novoli park, a mixed-use area with residential and tertiary settlements with mobility infrastructure consisting of a highway, an airport, and a main station. Florence adopted energy efficiency measures for buildings; district heating with innovative seasonal solar thermal storage for social housing; smart grid and energy-demand management with smart metering and consumer mobile apps; public multi-vendor e-mobility infrastructure; advanced mobility services for citizens; data management and a smart city control room with intelligent systems. All these interventions were demonstrated in a small district, and then replicated and scaled up.

The solutions demonstrated were primarily:

- Energy efficiency in buildings – Retrofitting building envelope in social housing blocks
- Energy systems integration – District heating & cooling, thermal storage, smart streetlighting
- Mobility & Transport – Electric, hybrid & clean vehicles, public multivendor charging points
- Information & Communication Technology – Smart electricity grid, mobile apps for citizens

The model chosen for Florence was overseen by an '**internal steering group**' playing the role as 'project owner' and interacting with several 'habitat teams' formed by local stakeholders and citizens by specific

. Every member of this internal steering group is in charge of a thematic area: the internal referees coordinate the subgroups and refer to the steering team about the results. The coordination activities are carried out inside the internal group.

Impact:

The interventions have led to energy efficiency - achieving energy savings in relation to the existing situation in building retrofitting and in district heating exploiting renewable energy sources integration, has enabled sustainable mobility - integrating sustainable modes like electric vehicles, recharging infrastructure and information mobility systems, and integrated ICT infrastructure - developing a smart city platform delivering sustainable and cost-effective services to citizens, while improving the efficiency and synergy in the use of local public resources and the delivery of public services.



Lessons learnt:

From citizen's participation perspective, the communication plan to engage stakeholders and citizens was created on the basis of two primary tools: non-stop institutional communication and direct participation. Citizens have been reached through social media activities and by interacting with associations and representatives. Thus, a multi-stakeholder institutional mechanism plays a critical role in guiding and coordinating complex interventions, which require effective stakeholder and citizen communication for ensuring desired outcomes.

Replicability and Sustainability:

Such climate resilient interventions could be scaled up to cover the entire city and could be easily replicated in other cities. The internal steering group model and extensive public participation and feedback is a model that could be explored by other cities too.

Fact Sheet:

Thematic area	Climate resilience
First-year of the program	2016
Responsible institution	Municipality of Firenze
Target audience	Residents of Florence
Coverage	Florence, Tuscany-Italy

Source: (European Commission, 2017).