



## The System Thinking for comprehensive city Efficient Energy Planning project



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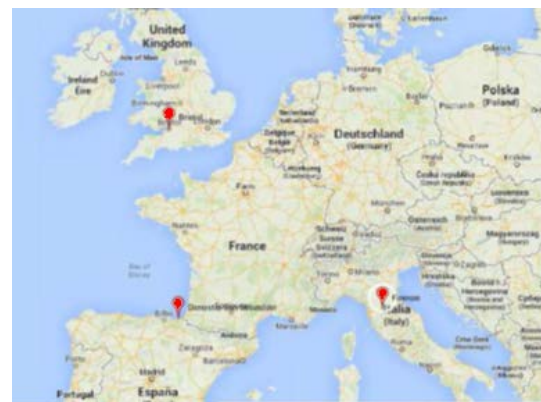


# The STEEP Project

**Systems Thinking for comprehensive city Energy efficient Planning (STEEP)** is a two year **European FP7** funded project between the cities of **Bristol, San Sebastian and Florence**. The objective is to make the production and use of energy in cities more sustainable and efficient through the development of energy process models and smart city plans using a systems thinking approach which sees each process as a complex system of issues and dependencies.

The project aims to draw up a smart energy plan and it utilizes a decision-making model, the Systems Thinking, able to analyze the different needs to be met, not so sectoral as usually happens, but in an integrated and practical way, calculating benefits and disadvantages of all the elements that compose it.

The main components analyzed are those concerning the efficiency of the buildings, the smart mobility and ICT as an instruments but also as a goal to achieve by the project.



# Objective



The development of **local strategic sustainable smart city plans** which address the efficiency of energy flows across all the key sectors on the energy value chain in an **integrated manner** (from a pilot area to the entire city)

The **partners** of the consortium are experts on Energy (FSS, SANSEBASTIAN, TECNALIA and ACCIONA), ICT (BRISTOL, UNIBRISTOL and ARUP) and Mobility (FLORENCE, SPES and ATAF).

## Specific Objectives:

- To enable all participant cities and partners to learn from the successful and unsuccessful experiences of other cities and experts.
- To integrate all the stakeholders in the smart city plan definition: public administrations, policy makers, technology providers, financial organizations, enterprises and citizens.
- To better understand the complex energy, resource, social and economic flows and their relationships.
- To have a clear picture on the number, effectiveness, cost and interdependence of the possible smart city interventions and projects.
- To disseminate a replication plan to other similar cities at the European Scale

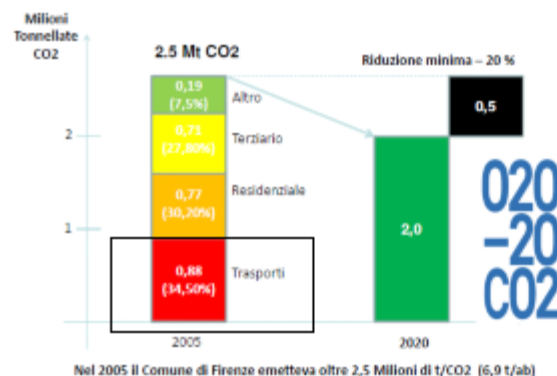


# The starting point of the project

A strong increase of interest in sustainability issues and in particular in the efficiency of energy flows in cities is a consequence of European, national and local pressure. These ambitious targets are set down in initiatives such as the Covenant of Majors, in which municipalities prepare SEAPs (Strategic Energy Action Plans) which are translated to CO2 emissions reduction.

*The baseline inventory of CO2 emissions (2005) shows that the mobility sector is the most relevant in the city of Florence (34,50%)*

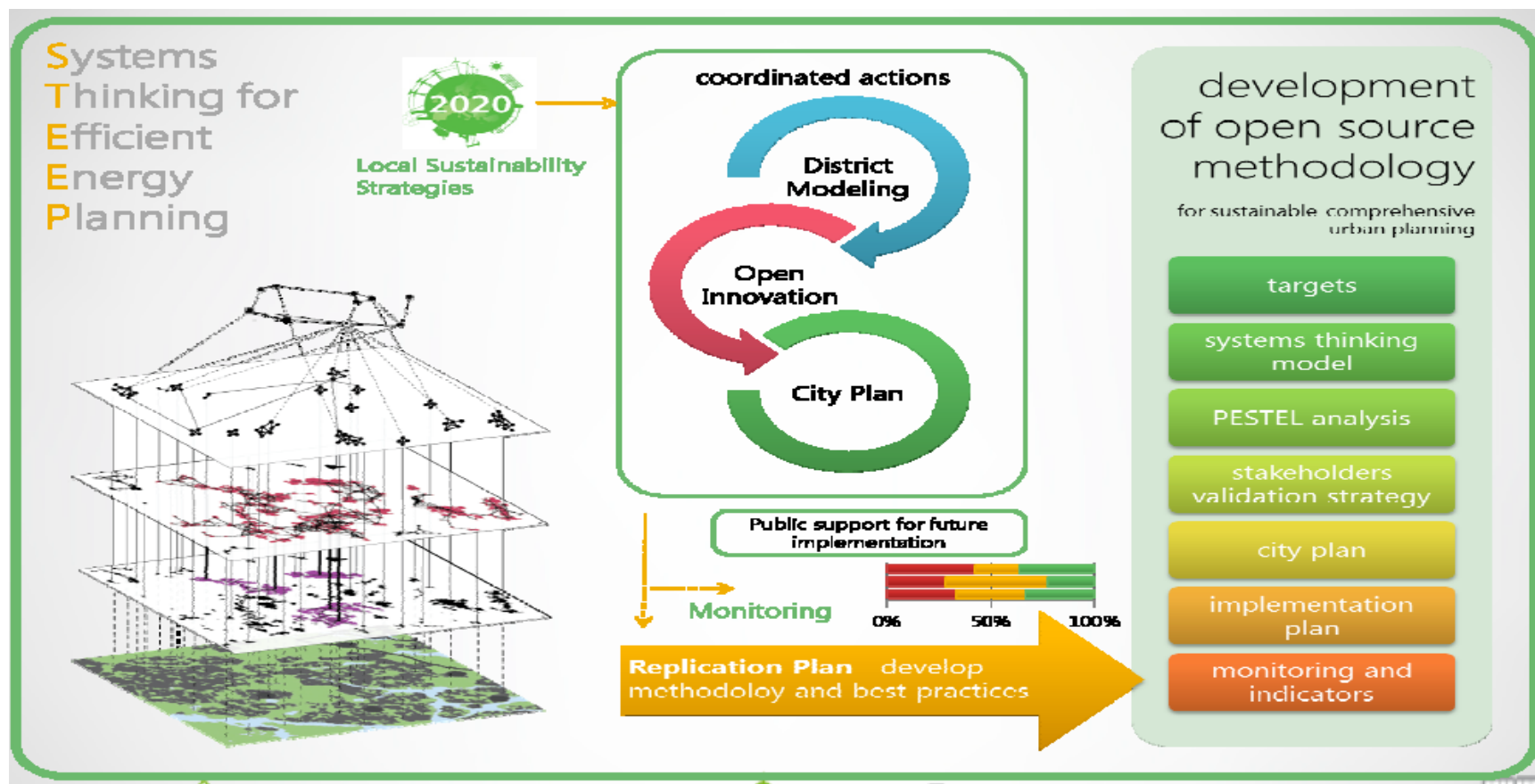
The actions for the sustainable mobility stand out in the city of Florence and are mainly focused on the policies of eco road pricing, expansion of bike lanes and bike sharing, promotion of electric mobility, optimized management of traffic, with which it intends to demolish 198,000 tCO2 / year



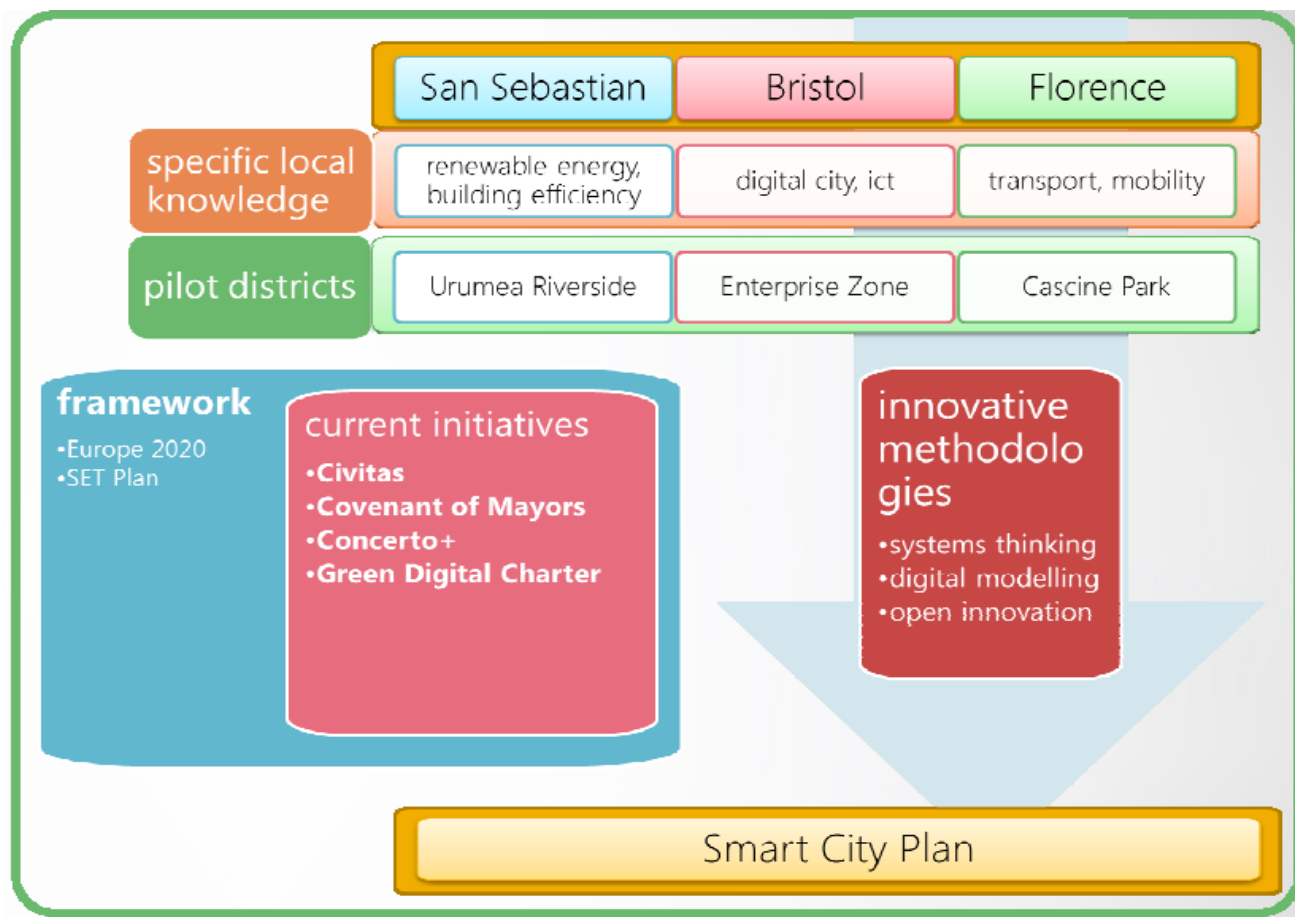
Nel 2005 il Comune di Firenze emetteva oltre 2,5 Milioni di t/CO2 (6,9 t/ab)



# The Concept



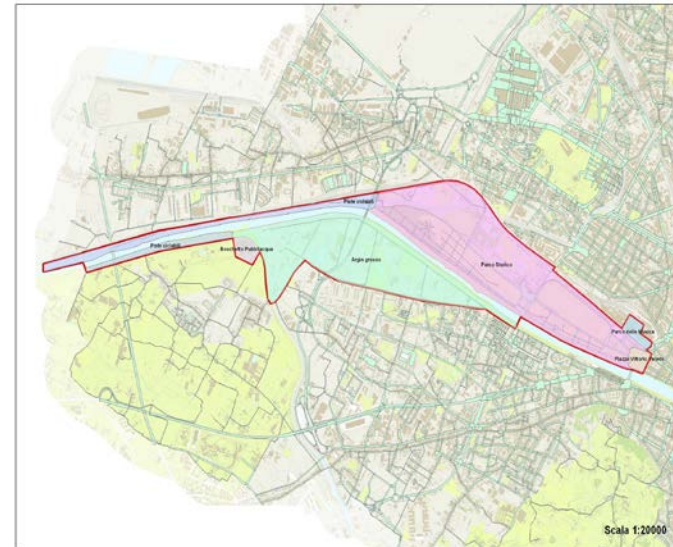
# The Concept development





# The pilot area

The project involves the pilot areas of study and testing: Florence chose the Cascine Park, also for its connection to the historic center, which is a multifunctional ecosystem. The park looks like an ideal district to experience an integrated actions in planning efficient energy (smart mobility, adaptive lighting, wi fi area)



# The smart city plan at le Cascine Park



mobility

efficiency

ict



# The smart city plan at le Cascine Park: focus on SMART MOBILITY



along the lines of the tramway system, the pedestrian paths of walking city, a system of park and ride bus, bike paths, is on a system of bicycle and electric vehicles riding throughout the park that allows to go and visit the park in sustainable way as well as also allow to experience the electric vehicle itself



Florence aims to become one of the leading european cities of electric mobility since 2015 : with the construction of the tramway lines 2 and 3, it will be possible to restrict the movements of individuals on non-electrical means, especially in the city center via a wild restrictive access policy.

If this it is combined with

- investment in charging infrastructure
  - extension of number of charging points
  - eco-incentives for electric vehicles
  - the gradual replacement of the municipal fleet with electric vehicles
- the strategic planning of a smart and electrical Florence becomes concrete and real action.



THANK YOU FOR YOUR ATTENTION  
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*Alessia Bettini*

