



Programme



TARGETED CALL ON

INNOVATION FOR RENEWABLE ENERGY AND ENERGY EFFICIENCY SOLUTIONS IN MEDITERRANEAN REGIONS AND CITIES

PROJECT IDEA TITLE

E²STORMED: Improvement of energy efficiency in the water cycle by the use of innovative storm water management in smart Mediterranean cities.

THEME OR KEYWORDS

Integrated storm water management, energy efficiency, local governance.

PROGRAMME OBJECTIVE

Axis 2. Protection of the environment and promotion of a sustainable territorial development.
Objective 2.2. Promotion of renewable energies and improvement of energy efficiency.

- To strengthen public policy and strategy. To identify methods, public policies and exchange experiences on the way to plan and setup “eco-quartier” and “smart cities” initiatives. To find out and overcome obstacles hindering cities to launch such initiatives.

PROJECT IDEA IN SHORT

Rainfall regime in Mediterranean areas is irregular and very often torrential. This poses storm water management difficulties in urban areas, affecting sizing of drainage (related to flood prevention) and waste water treatment (environmental impact control) infrastructures as well as their associated running costs. In addition, this natural resource could be captured and re-used at source improving water supply efficiency (even more important when considering the scarcity of water in the MED region).

A challenge for smart cities must be to consider how to improve energy efficiency as well in the water cycle. Recent studies show that around 20% of total waste water treatment cost is directly related to energy consumption (around 0.39 €/m³ treated water in the Valencia region, Spain). Besides, re-use of rain water at source when potable water is not required (irrigation, surface cleaning ...) would mean savings not only in waste water treatment but also in drinking water treatment (around 0.44 €/m³ drinking water in the Valencia region, Spain), being 40% of the treatment cost directly related to the energy used. If potable water is obtained from desalination plants, energy consumption increases significantly.

For all the above, this project proposes to promote in Mediterranean cities the use of innovative storm water solutions such as Sustainable Drainage Systems (SuDS), which also allow the protection of the environment and the promotion of a sustainable territorial development through the improvement of energy efficiency in the urban water cycle. The project will take into account solutions not only at urban scale but also at building scale, i.e., the effect of green roofs on air conditioning energy savings (as they also act as an isolation layer). The final aim of the project is to improve existing integrated management tools incorporating energy efficiency indicators for storm water management in urban areas, adapting them to, and testing them by, MED cities.

WORK PACKAGES

Component 0. Preparation of the application (Responsible Partner: Lead Partner. All partners involved).

Component 1. Management and coordination of the project (Responsible Partner: Lead Partner. All partners involved.).

Component 2. Information, communication and capitalisation measures (Responsible Partner: Partner 2. All partners involved.).

Component 3. Adaptation of existing tools and methods for innovative energy efficiency in storm water management to MED cities. Exchange of practices and experiences (Responsible Partner: Lead Partner).

- **3.1.** Review of the state of the art, with special attention to the outputs generated and know-how gathered by partners in projects already implemented (AQUAVAL, SWITCH, SUFRI...). (By: Lead partner and partner 3 and 4 with information also provided from the rest of the partners).
- **3.2.** Analysis of storm water systems: efficiency towards flood and environmental impact. Recommendations. (By: Lead Partner).
- **3.3.** Analysis of energy consumption in the urban water cycle. Recommendations. (By: Partner 3).
- **3.4.** Analysis of management practices and tools, and degree of integration of sustainability aspects related to water and energy efficiency. Recommendations. (By: Partner 4).
- **3.5.** Improvement of existing integrated management tools incorporating energy efficiency indicators for storm water management in urban areas, adapting them to MED cities. (By: Lead partner, from the analysis of points 3.2 to 3.4)
- **3.6.** Incorporation of results from Component 4 and delivery of final version of the integrated management tools for MED cities.

Component 4. Pilot actions (Responsible Partner: Partner 4. Partners 5 to 10 involved.).

- **4.1.** Data gathering on municipality partners.
- **4.2.** Application to the case studies: calibration and validation of integrated management tools (output point 3.5).

PARTNERSHIP

Lead partner: Universitat Politècnica de València (Spain). Confirmed.

Potential Partner 2: UNCEM Piemonte (Italy). Confirmed.

Potential Partner 3: Energy Agency (Croatia/Montenegro/Albania). **To be confirmed.**

Potential Partner 4: University of Abertay – Dundee (UK). Confirmed.

Potential Partner 5: Municipality of Benaguasil (Spain). Confirmed.

Potential Partner 6: Municipality of xxxxxx (France). **To be confirmed.**

Potential Partner 7: Municipality of xxxxxx (Greece). **To be confirmed.**

Potential Partner 8: Municipality of Pisa (Italy). Confirmed.

Potential Partner 9: Local Council's Association (Malta). Confirmed.

Potential Partner 10: City of xxxxxx (Croatia/Montenegro). **To be confirmed.**

EXTERNAL PARTNERS - OBSERVERS

Oficina Española de Cambio Climático (Spain). **To be confirmed.**
ICLEI - Local Governments for Sustainability (Belgium). **To be confirmed.**
Others. Partners to propose national external partners.

MAIN BENEFICIARIES/TARGET GROUPS

Local governments.

DURATION

30 months (Jan 2013 – Jun 2015)

APPROXIMATE BUDGET

Lead Partner: 210 000 €
Partner 2: 150 000 €
Partner 3: 130 000 €
Partner 4: 130 000 €
Partner 5: 160 000 €
Partner 6: 160 000 €
Partner 7: 160 000 €
Partner 8: 160 000 €
Partner 9: 160 000 €
Partner 10: 160 000 €
Total budget: 1 580 000 €

PROJECT CONTACT

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