

within LIFE UrbanProof

In the framework of the LIFE URBANPROOF project, selected green and soft adaptation measures have been implemented at the partner municipalities, in order to examine their effectiveness in reducing the impacts of climate change, to increase public awareness on climate change adaptation and to prepare the ground for the implementation of the adaptation strategies.



Municipality of Lakatamia: Reconstruction of Melina Merkouri Avenue roundabout

The Municipality of Lakatamia has renovated the roundabout of Melina Merkouri Avenue. A dominant element in the design of the project is the use of permeable materials such as permeable concrete as well as the collection and use of rainwater. As regards irrigation, a traditional way of it has been established, with the use of irrigation channels, tanks and wells. For the operation of the artificial well, photovoltaic panels have been installed. Concerning the plantations of the roundabout, endemic shrubs and trees with low water requirements have been used.

Melina Mencouri roundabout



Municipality of Lakatamia: Reconstruction of Melina Merkouri Avenue roundabout



Melina Mencouri roundabout



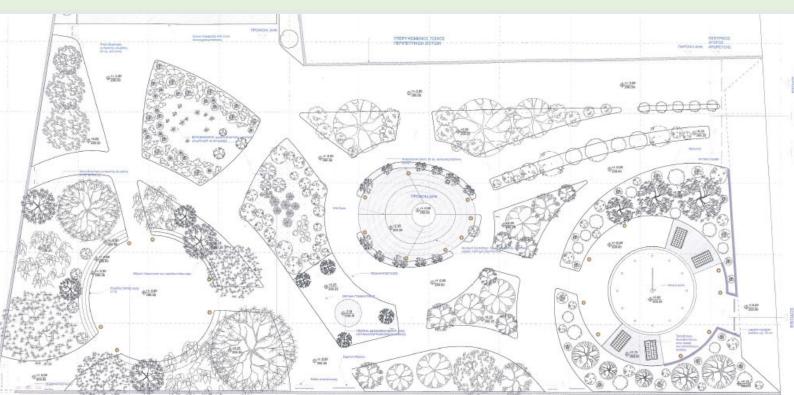
Municipality of Strovolos: Greening unexploited public area at Georgiou Iona Street

The adaptation measure implemented by the Municipality of Strovolos is related to the greening of $1909m^2$ of public area.

Within the green area, a botanical garden is created with plants highly harmonized in the natural environment of the area. The plants have been specifically selected due to their reduced irrigation needs and drought-resistant water requirements. The planting techniques which have been used aim at water retention at the level of plant rhizosphere.

As regards irrigation water, a drilling has been constructed so as to ensure its availability. In addition, all pathways' coatings are covered with water-permeable materials for the sufficient infiltration of rainwater. The plan also includes the construction of a fitness area which will produce energy through the use of fitness equipment.

Masterplan of the innovative adaptive park area in the municipality of Strovolos



Municipality of Strovolos: Greening unexploited public area at Georgiou Iona Street

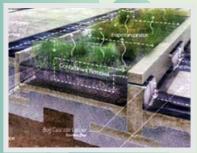








Central PAVILLION: an innovative construction with green roofs and use of recycled materials.









Botanical garden with drought resistant plants/ Plant techniques for enhancing water retention/ Rainwater collection system/ Use of advanced irrigation systems/ Use of permeable materials/ Fitness equipment producing energy

Municipality of Peristeri: Provision of thermal discomfort information

The Municipality of Peristeri installed a network of sensors across the municipality for providing real-time information to citizens about the level of thermal discomfort within the Municipality and providing instructions and advice for the avoidance of health burden during heat episodes (e.g. air-conditioned rooms, places with low discomfort, etc.).

In specific, a network of 12 online stations recording the temperature and relative humidity have been placed at selected sites within the municipality. The stations consist of 11 online installed at strategic places throughout the municipality, as well as, 1 mobile station installed at a municipal bus that crosses Peristeri. The provision of information to citizens is realized through an electronic billboard which is installed outside the municipality town hall.





Electronic billboard for citizens' information outside the town hall of Peristeri municipality

Municipality of Peristeri: Provision of thermal discomfort information



Sensors for providing real-time information to citizens about the level of thermal discomfort in the municipality of Peristeri.

Municipality of Reggio Emilia: Strengthening the adaptation aspect in existing municipal plans

The municipality of Reggio Emilia has chosen 24 adaptation projects already envisaged in Municipal programming and strengthened, where possible, the adaptive aspects for actions not yet definitively designed. In this way, EMILIA has guaranteed the realisation of more green and soft adaptation measures than those initially planned, also integrating some adaptation measures and criteria into the planning institutional tools.





Piazzale Europa Redevelopment (Left: Before redevelopment, Right: After redevelopment)

Municipality of Reggio Emilia: Strengthening the adaptation aspect in existing municipal plans

The selected adaptation projects are presented following:

De-proofing

- Via Guasco redevelopment
- Campovolo entertainment area
- Piazza Vallisneri redevelopment
- via dei Servi redevelopment

Plantings

- "Gran Mutuo Green"urban forestation
- "Regguiorespira Più verde in città" project
- viale dei Mille green redevelopment
- AV train station parking redevelopment
- Campovolo entertainment area
- Piazzale Europa redevelopment
- Piazza Vallisneri redevelopment
- Parco Nilde lotti project
- Orchard of ancient fruits in the Acque Chiare park
- Canali edible park
- Food Forest "Sorelle Sberveglieri" park
- Via Guasco redevelopment

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Vegetable gardens and orchards

- Orchard of ancient fruits in the Acque Chiare park
- Canali edible park
- Food Forest "Sorelle Sberveglieri park

Education - Information

- Parco Nilde Iotti project
- Weed guide educational project

Planning

- Index of the building impact reduction "RIE"
- Analysis of areas to address new plantings and adaptation guidelines for plantings

Experimentation

- Experimental study of the beneficial effects of parks on the microclimate and air quality
- Experimental Grove of Clear Water Park (and AV Parking)

Flooding/ droughts

- Restructuring of the Comunela kennel
- Pozzo Oasi di Marmirolo-

Green Roof

- San Pellegrino library green roof project
- Sport hall green roof

Albedo enhancement

- Via Guasco redevelopment
- Piazza Roversi redevelopment
- Via del Carbone stone paving
- AV Station Parking

Municipality of Reggio Emilia: Strengthening the adaptation aspect in existing municipal plans





Piazza Vallisneri redevelopment (Left: Before redevelopment, Right: After redevelopment)







Via GUASCO Redevelopment (Up: Before redevelopment, Down: After redevelopment)

Partners

Coordinator



Department of **Environment, Ministry** of Agriculture, Rural Development and Environment

Associated beneficiaries



National Technical University Of Athens



National Observatory of Athens



Università luav di Venezia



University IUAV of Venice



Municipality of Reggio Fmilia



Municipality of Strovolos



Municipality of Lakatamia



Municipality of Peristeri

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