



LIFE@Urban Roofs - LIFE@Urban Roofs - stimulating private investment in climate adaptation - who's afraid of red, yellow, green and blue

LIFE16 CCA/NL/000096



Photo: Gemeente Rotterdam

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Project description:

Background

Cities are vulnerable to flooding after extreme rainfall and to heat island effects. Effective adaptation measures are necessary to make cities more resilient to climate change.

Governments working on the development and implementation of adaptation strategies are limited by the scarcity of urban space, the availability of public funds, and regulations and policies that may be in conflict with adaptation goals.

Including roofs and facades in climate adaptation strategies can be an effective way of circumventing the first problem. Roofs on houses, office buildings, hospitals and schools can be used for green infrastructure or water storage.

Stimulating private investment is one way of tackling the lack of availability of public funds, for example by including adaptation measures in building regulations for new projects or renovations. However, such a conventional, top-down approach has a limited effect.

The third problem occurs at local, national and EU level alike. Legislation related to the distribution of sustainable energy generated by property owners reduces the return on their investments.

Objectives

LIFE@Urban Roofs will encourage real estate developers and building owners to

invest in climate change adaptation. This new approach will see the local government acting as a stimulator and facilitator.

The project will trial the use of multifunctional roofs that have greater benefits for property owners than traditional green roofs. These roofs will combine several types of infrastructure: green (to reduce the urban heat island effect and support biodiversity), blue (water storage), yellow (energy generation) and red (social use).

Rotterdam has selected three demonstration sites to maximise the climate and publicity impact:

- The Peperklip, a large, lower-income housing project requiring large-scale measures;
- De Heuvel, a community building in the city centre that is used by everyone from business executives to primary school children; and
- Robert Fruinstraat, a street with a range of property types, where the owners face a common problem from flooding.

To boost innovation, the project will provide roof space for experimental technologies, and will organise a design contest for multifunctional roofs. It will also carry out a social cost benefit analysis (SCBA) of each site. This will allow the designs for each multifunctional roof to be optimised. The adaptation measures will then be implemented.

The effects of the adaptation measures will be monitored. Data will be used to evaluate and validate the demonstration cases. This will lead to the development of a transferrable and replicable blueprint of the approach to stimulate private investment. As part of the LIFE project, Vejle in Denmark will be the first to replicate the approach. It will intensively cooperate with Rotterdam to provide solid evidence of the validity and efficacy of the approach.

Expected results:

- 20 000 m<sup>2</sup> of additional green infrastructure in the inner city of Rotterdam;
- 950 m<sup>3</sup> of additional water storage in the inner city of Rotterdam;
- 11 300 m<sup>2</sup> of additional infiltration surface at street level in the inner city of Rotterdam; and
- 745 000 kWh/year of sustainable, locally-produced energy;
- A 20% decrease in flooding risk at the demonstration locations;
- A 0.5°C drop in temperature at the demonstration locations;
- A 10% increase in the number of green/multifunctional roofs in the city of Rotterdam;
- A 10% decrease in sealed soil ratios at the demonstration locations;
- A blueprint for collaborative stimulation of private investments in climate adaptation;
- Installation of the multifunctional roofs designed by the two winners of the design contest organised by the project;
- 10 rotating test lots on the experimentation roof to be made available for technology developers and providers to test and validate roof components and technology;
- Replication of the project's approach in Vejle, Denmark.

Results

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Environmental issues addressed:

Themes

Climate change Adaptation - Resilient communities

Keywords

preventive measure, urban heat island, flood

Target EU Legislation

- Nature protection and Biodiversity
- COM(2013) 249 final “Communication from the Commission on Green Infrastructure (GI) - Enhancing E ...
- Climate Change & Energy efficiency
- COM(2013)216 - EU Strategy on adaptation to climate change (16.04.2013)
- Water
- Directive 2000/60 - Framework for Community action in the field of water policy (23.10.2000)

Natura 2000 sites

Not applicable

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Beneficiaries:

Coordinator	Gemeente Rotterdam
Type of organisation	Local authority
Description	The Municipality of Rotterdam prioritises climate and energy issues and seeks to develop a reputation as a global capital of carbon-free energy. The Rotterdam Climate Initiative has devised an ambitious and extensive long-term action programme to achieve this goal. The local authority’s target is a clean, green and healthy city where sustainability contributes to

a strong economy.

## Partners

Vejle Kommune, Denmark Trivestor  
Beleggingen BV, The Netherlands Stichting  
Gebouw De Heuvel, The Netherlands Stichting  
Vestia, The Netherlands Stichting Arosa, The  
Netherlands DRVM BV, The Netherlands

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## Administrative data:

Project reference	LIFE16 CCA/NL/000096
Duration	01-JUL-2017 to 31-DEC -2022
Total budget	8,019,590.00 €
EU contribution	3,271,021.00 €
Project location	Zuid-Holland(Nederland)

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## Read more:

Project web site	<a href="#">Project's website (Dutch version)</a>
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