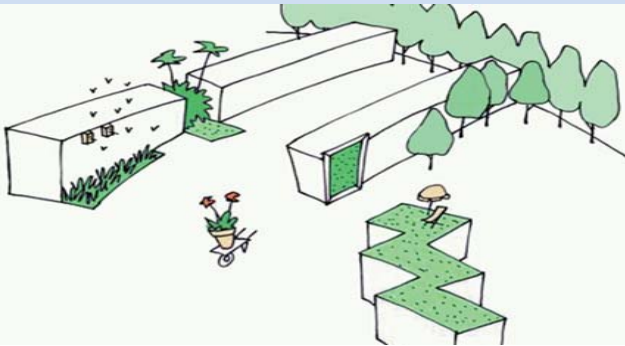


## The climate-adapted town

### The green transformation of Nijmegen, NL

The third aspect where Future Cities is working on solutions, is the town as a whole. In the Netherlands Nijmegen is initiating radical measures as part of a climate campaign entitled "Green Attacks on the Town". The green transformation of Nijmegen comprises the systematic greening of roofs, facades, urban squares and streets. Follow-up monitoring studies will investigate what positive effects on the urban climate can be achieved in reality.



The systematic greening of Nijmegen's housing stock

The town of Ieper is being made sustainable – with the participation of many stakeholders.



### The climate town of Ieper, BE

The Belgian town of Ieper will be initiating a pilot project combining the water economy with green structures. 7 ha of mixed area will be ecologically redeveloped, as will be the water economy. Further themes like waste processing will then be included. Planners are placing a particular emphasis on including decision-makers in their considerations: construction techniques leading to sustainable towns are often already known, but these have to be implemented by the right persons at the right time.

### The green-blue corridor at the Heerener Mühlbach, DE

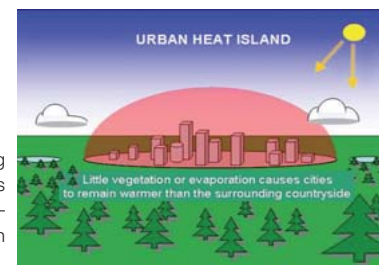
Natural waters have a positive effect on urban climates. However, this is not the case with waterways which have been heavily affected by urban activities like the Heerener Mühlbach in Kamen. The Lippeverband intends to redevelop the waterway into a quasi-natural river. A preventative high-water protection will be linked with a decentralised rainwater economy. In addition, planned screening measures will help to reduce heat accumulation in summer.



Urban waters offer a high potential to improve the climate in towns.

### Heat island effects: a model for Arnhem, NL

Alongside flooding caused by extreme levels of rainfall, urban heat islands are a second result of climate change which need urgent attention. The city of Arnhem is developing a model which allows it to illustrate the creation and spread of heat islands. As early as the planning phase the model will be used to try out countermeasures. This will ensure that only effective measures will be implemented as a result.



The overheating of a town creates a great problem – heat accumulation must be reduced.

## Exemplary buildings

Necessary actions begin with existing building stock. Badly insulated buildings require a huge amount of energy to cool them in summer, and heat them in winter.



Green roofs make a considerable contribution to insulation and cool the urban climate.

"Mobile" green is an alternative when there is a lack of space.

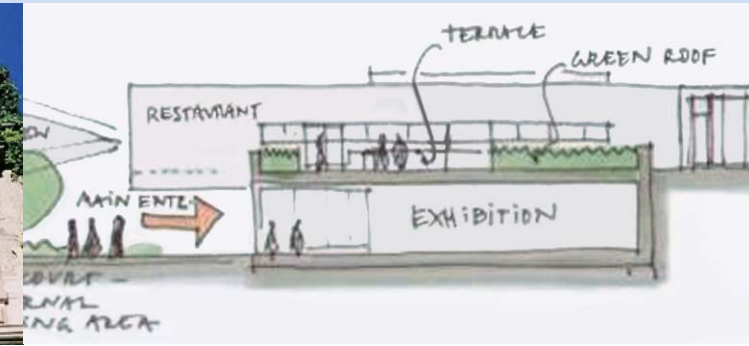


### Green roofs in Nijmegen, NL

As part of a climate campaign, the Dutch town of Nijmegen will be reconstructing 10 existing public buildings. Green roofs and green facades will help to cool the buildings, retain water and reduce energy needs. In addition other aspects will cover measures to reduce CO<sub>2</sub> emissions, and encourage water retention and air purification.

### The ENVIRO21 exhibition building, UK

A good example of a new climate-conscious construction is the ENVIRO21 exhibition building in the region of Hastings / Bexhill in the south of England.



The exhibition building ENVIRO 21 will be a prototype for climate-conscious building.

The right location, an architectural design which favours a healthy climate, with natural ventilation, the use of renewable energy, rainwater systems and roof greening make this an ideal example of how to construct new buildings to face the challenge of climate change.

An exhibition of techniques and materials within the building gives visitors further insights in how to construct buildings to meet the challenge of climate change. ENVIRO21 is simultaneously a conference centre offering optimal facilities for future events dealing with sustainability themes.

ENVIRO 21 is part of a whole range of sustainable business sites.



**Future Cities**  
urban networks to face climate change

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## Sustainable business sites

### Dry feet for the business site in Latenstein/Tiel, NL

During very heavy rainfall water levels rise as high as the inhabitants' houses, and in dry summer periods groundwater levels sink remarkably.

It is vital for Tiel to have secure business sites. Greening measures and intelligent surface-water economy measures are now being implemented on the business site in Latenstein.

## European Cooperation

The second aspect to be considered by Future Cities is examining urban quarters. There is a special need for action in respect of old business sites.



Urban structures have to adapt to climate change.

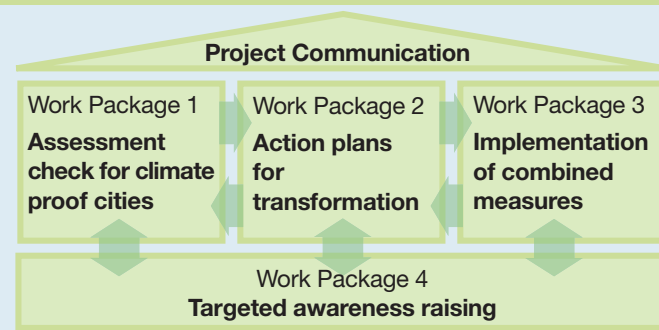
### Transnational strategy

Rising temperatures and weather extremes like floods and storms endanger the quality of life in our towns and cities. Waiting and doing nothing are not an alternative – what is needed are adaptable and cost-effective solutions which have a definite effect.

The “Lippeverband” has joined forces with eight partners from five different countries to create a project entitled “Future Cities – urban networks to face climate change”. The aim of the project is to initiate the pro-active transformation of urban structures to face the challenge of climate change.

The Future Cities strategy combines three key urban key components: water systems, green structures and energy efficiency.

The project budget for Future Cities amounts to 11 million €. The EU is supporting the project within the framework of the InterregIVB programme to the amount of 5.500.000 €.



Common working packages in the project partnership

### Future Cities-Partnership

Furthermore, water boards, local authorities, planning companies and project developers in north-west Europe will all be co-operating on the project until 2012. Taking into account individual national climate adaptation strategies, solutions will be developed and implemented at a local level, but these will also be transferable to other European regions. Four transnational working groups will ensure a targeted transfer of knowledge.

- Common evaluation methods for climate-adapted towns and cities (climate assessment)
- Action plans for current urban structures to enable the participating regions to adapt their strategies in a concrete manner
- Selected construction solutions in eight investments
- Awareness raising of decision-makers and multipliers for pro-active ways of tackling problems.



Rouen on the River Seine



Comprehensive greening and drainage strategies for new business sites

### The sustainable business site Luciline/Rouen, F

The French city of Rouen is developing the “quartier Luciline” on the banks of the Seine into a sustainable business site. The first measures to be taken concern the reconstruction of the water economy in order to deal with weather extremes more efficiently. These include decentralised percolation, water retention, landscape-greening and the aeration of the currently completely sealed 12.000 square metre area.

This reconstruction will result in considerable private investment in geothermal energy.



Tiel in the year 2015: the vision of a climate-proof city.

### Climate-sensitive businesses on the business site in Scharnhölzstraße, Bottrop, DE

The town council aims to co-operate with local business companies to adapt the buildings on the business site to face the challenge of climate change. The “Emschergenossenschaft” is supporting a sustainable, decentralised rainwater economy in the area. The co-operation between the town council, the water board and private businesses will enable the business site to be reconstructed in an integrated fashion.



The Scharnhölzstraße business site is adapting itself to face climate change.

## Project partner



## Contact

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