Sanierung/Umbauen

Europe's future depends on cities resilient to climate change

Around three quarters of Europeans live in cities. Most of Europe's wealth is generated in cities, and urban areas are particularly at risk due to climate change. Europe should seize the opportunity of improving quality of life while adapting to climate change in cities, according to a report from the European Environment Agency (EEA). The report also warns that delaying adaptation will be much more costly in the long-term.

In Europe, temperature is increasing, precipitation is changing and sea level is rising. However, the effects will not be uniform across the continent, according to the EEA report, 'Urban adaptation to climate change in Europe'.

The report is the first Europe-wide assessment of urban vulnerability to climate change. It argues that the distinct design and composition of urban areas compared to rural areas alters climate change impacts in cities, leading to many diverse challenges for cities within Europe. For example, a lot of artificial surfaces and little vegetation exacerbates heatwaves in cities . This so-called 'urban heat island' effect leads to much higher temperatures in cities than in the surrounding area.

"Most Europeans live in cities, which can be extremely vulnerable to extreme weather events exacerbated by climate change," EEA Executive Director Jacqueline McGlade said. "Many cities are now facing impacts such as water scarcity, flooding and heatwaves, which are expected to become more frequent and intense than they are used to. Cities need to start investing in adaptation measures using ideas and best practice from around the world. The longer political leaders wait, the more expensive adaptation will become and the danger to citizens and the economy will increase." One example was the extreme rainfall that took place in Copenhagen in 2011. The city centre was flooded when over 150 mm of rain fell in during a two hour period on 2 July 2011. Insurance damages alone were estimated at EUR 650–700 million. The frequency of such events is expected to increase in future due to climate change.

According to the report, roughly one fifth of European cities with over 100 000 inhabitants are very vulnerable to river floods. More than half of Europe's cities have a low share of vegetated areas, which can strongly exacerbate heatwaves. This is particularly relevant in cities where there is a high proportion of vulnerable people, such as the large proportion of elderly citizens in Italian, German and Northern Spanish cities.

Cities are heavily interconnected with other cities and regions in Europe. The report stresses that urban adaptation is therefore not only a local task but requires concerted action at all policy levels. The report draws attention to the important role of European and national policy in helping cities adapt to climate change by providing a supportive framework. Such a framework includes a coherent and 'climate-proof' policy, a stronger territorial approach targeted at the specific challenges in different regions, a capable set of institutions and access to funding. Last but not least it calls for more knowledge to support a multi-level approach to urban adaptation.

Examples of adaptation

The report provides generic advice for adapting cities to climate change and examples of best practice:

- Climate change adaptation should be flexible to accommodate uncertainty. This is evident in the Thames barrier, which protects London from sea level rise – the barrier height can be adjusted to cope with different levels of warming and climate change.
- Adaptation should work with nature, not against it. The Dutch government assessed that climate change demanded a change in its water management. This includes actions to give more space to rivers in the Netherlands, achieved by lowering and widening the flood plains and constructing water retention and storage areas and at the same time creating additional nature areas.
- In the city of Oostend, Belgium, a new beach has been constructed which will help protect the city from storm surges and coastal flooding.
- Many adaptation measures can make cities more pleasant places to live. Malmö in Sweden manages rainwater flows with a new open storm-water-system. Here, green roofs and open water channels lead rainwater into collection points that form a temporary reservoir.
- The city of Łódź, Poland, has restored its river area with more green spaces to reduce flood risk – also improving quality of life for city-dwellers.
- People also need to change behaviour in order to adapt. Following water shortages in the 1990s, the City of Zaragoza in Spain managed to create a 'water saving culture'. Within 15 years this successful campaign aimed at citizens and businesses helped the city cut water consumption by almost 30 %, despite a 12 % population increase.
- Many areas have to anticipate impacts which may be more intense or frequent than before. Botkyrka in Sweden was the only Swedish municipality that was prepared for heatwaves when high temperatures hit in 2010. Social services had identified vulnerable people, and the authorities were prepared to help them.
- Many measures do not have to be huge in scale or cost to be effective when mainstreamed into other planning. A new metro line is being built in Copenhagen, Denmark, with elevated entrances to avoid storm water flooding the tracks.

The recently launched European Climate Adaptation Platform Climate-ADAPT provides a comprehensive web resource aimed at policy makers and 'practitioners' – engineers, planners and administrators – who can obtain adaptation knowledge in Europe and learn from the experience of others facing similar challenges already carrying out adaptation actions elsewhere.

The report includes:

- an overview of generic planning steps, adaptation options and success factors for urban adaptation , and
- a pathway to effective multi-level governance of urban adaptation.

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