



EUROPEAN APPROACHES TO ADAPTATION STRATEGY

# Controlling the elements

**The climate crisis demands damage prevention and control. But how do EU member states approach and tackle the challenges?**

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Maria Luisa Beach,  
Portugal, immediately  
after the landslide.  
PHOTO: ANP



In October 2009, The London Climate Change Partnership launched a detailed report on the climate change-effects on London's biodiversity. In 'Adapting to climate change: creating natural resilience' the report explores how the role of protecting, managing, designing and creating biodiverse landscapes will help the city adapt to droughts and expected heat-waves. In neighbouring Ireland the country's Heritage Council launched a study into the impact of climate change on the Irish coast and inland waterways. Its recommendations include a discussion of adaptation options and the challenges they bring.

Further to the south, the Portuguese have similar concerns. With 832 km of coastline, many settlements are under the direct influences of a capricious Atlantic Ocean. At Maria Luisa beach in Portugal's Algarve, five people died this August in a coastal landslide, which, according to Environment minister Nunes Correia, was the result of heavy waves hitting the coastline. Some coastal municipalities are already studying on adaptation strategies or have been strengthening their coastal defence systems.

### The PEER report

In a growing number of European countries the impacts of climate change are at the top of the agenda at local, regional and national government levels. Although vulnerabilities and impact scenarios differ between sectors and countries, leading policy-makers are on high alert.

Earlier this year, a 280-page study, conducted by six large European environmental research centres, presented a comparison of national adaptation strategies. In the PEER report 'Europe Adapts to Climate Change: Comparing National Adaptation Strategies', scientists describe how European countries undertake the development of adaptation strategies. They also signal a need for continuing climate adaptation research to connect innovative science with local, regional and sectoral policy needs.

Rob Swart of Alterra, PEER partner at Wageningen University and Research Centre, states: "The PEER report provides information on lessons learnt in frontrunner countries and identifies areas where additional efforts are urgently needed. It also helps to broaden the available menu of options for individual countries, since it makes clear that different countries choose very different approaches to adapt to climate change."

## Adaptation

According to the Intergovernmental Panel on Climate Change (IPCC) adaptation means: "adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities."

## Different countries choose very different approaches to adapt to climate change.

EU member states are at different stages in preparing, developing and implementing national adaptation strategies. In May, when the PEER report was published, only Finland, Spain, France, the United Kingdom, the Netherlands, Denmark, Germany and Hungary had adopted an adaptation strategy. The recent and rapid pace of development across Europe, however, implies that policies in this area are developing extremely fast, and the information about national activities in the report will soon be outdated.

### The Finnish approach

Finland was the first European country to have a national adaptation strategy. A wide range of sectors are covered in the strategy: agriculture and food production, forestry, fisheries, reindeer and game, water resources, biodiversity, industry, energy, transport, land use and communities, building, health, tourism and insurance. The objective of Finland's National Strategy for Adaptation is to reduce the adverse consequences of climate change as well as take advantage of its potential opportunities. Apart from serious risks, Finland also foresees some positive impacts on its national economy. It expects better conditions for agriculture, increased forestry growth and a reduced need for heating.

### The Dutch approach

The Dutch approach to adaptation is relatively specific compared to adaptation strategies in most countries. The Dutch national adaptation strategy 'Make Space for Climate!' focuses primarily on physical planning measures, a direct consequence of the country's geography. Almost one-third of the country is located below mean sea level, while a further third has to be protected from flooding by rivers in periods of high river discharge. A national research programme has recently been approved to climate-proof the country. 'Knowledge for Climate' aims to develop applied knowledge



Turfzak, the Netherlands.  
Former polder the Turfzak has  
been included in the Biesbosch  
Nature Reserve. It will serve as  
a conservation area and will also  
increase the waterstorage ca-  
pacity of the Biesbosch. In the  
background the River Meuse.



through cooperation between the Dutch government, the business community and scientific research institutes. Among other goals, the research programme aims to develop regional adaptation strategies in eight case study areas (hotspots) that are particularly vulnerable to climate change. Like Finland, the Netherlands also expects some improvement in sectors like agri-

## The conclusions of the PEER report can help to broaden the adaptation agenda

culture and tourism, besides the export of knowledge related to water and coastal engineering.

### The Spanish approach

In Spain, the 'Plan Nacional de Adaptación al Cambio Climático' (PNACC) was started in 2006. Among its main priorities are impacts on the water sector, coastal zones, mountainous regions and biodiversity. Spain's geographic situation and socio-economic circumstances make it very vulnerable to climate change. Spain therefore signed the Kyoto protocol in 2001 and subsequently developed its National Adaptation Strategy. The plan provides the framework for action on adaptation for the several autonomous communities taking part, as well as for governmental and non-governmental organizations. The PNACC argues

Lake Paijanne, Finland. The irregular shoreline around Päijänne is heavily forested and supports important timber operations that use the lake as a means of transport.



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## EEA report on water adaptation

“The impact of climate change on Europe’s water resources is a critical issue for people’s lives and the economy”, according to a study by the European Environment Agency (EEA). “Even if emissions of greenhouse gases were stabilized today, increases in temperatures and the associated impacts will continue for

many decades to come.” With periodic floods, droughts and heat-waves, Europe has a serious water problem. “Analyses from climate change models project show an exacerbation in the frequency and intensity of the events. Changes in precipitation, combined with rising temperatures and reduced snow cover, will have

impacts on water quality and quantity, requiring water managers to incorporate climate change in their planning and investment decisions.” Economic sectors which are projected to be most affected are agriculture, energy, health, tourism and recreation, fisheries and biodiversity. “Strategies for adaptation

need to be embedded within existing national policy and institutional frameworks”, the EEA advises. Top priorities for adaptation should be to reduce the vulnerabilities of people and societies, to protect and restore ecosystems that provide critical land and water resources and services, and water saving initiatives.

that climate change adaptation is inextricably linked to mitigation policies. Mitigation policies determine and influence greenhouse gas concentration levels, and planning a strategy for a two-degree increase in temperature is very different from planning for a four-degree increase. An adaptation strategy therefore requires a significant degree of coordination in respect of mitigation measures.

### CIRCLE Extended Country Report

The ‘Extended Country Report’, a study of the CIRCLE ERA-NET, a network of European research institutes, concludes that the key vulnerable sectors in Europe are: “water resources (especially in South and South-Eastern Europe), agriculture (especially in Southern and Central Europe), ecosystems (especially marine ecosystems and wetlands) and tourism (especially summer tourism on the South-East Mediterranean coasts) and the winter sports industry, (especially in the Alps). Key vulnerable areas in Europe are: the Mountains, the Coastal areas and the Arctic environment.

Throughout Europe, public health, water resources management and management of ecosystems are among the sectors that urgently need to develop adaptation measures.

Existing adaptation measures focus mainly on flood defence and health-related issues, spurred by the significant losses incurred from extreme weather events in recent years (e.g., the 2002 floods and 2003 heat-wave). As a result, many countries started or intensified studies of the potential impacts of climate change and adaptation measures in vulnerable sectors. Extreme weather events have already motivated countries to reconsider their health care services and flood risk management plans. Other existing adaptation measures focus on natural hazard prevention, environmental protection and sustainable resource management.

Studies such as the PEER report, CIRCLE’s Extended Country Report, but also the Climate Change and Water Adaption report from the European Environment Agency (see box), as well as the various National Adaptation Strategies, have put adaptation issues on the European political climate change agenda, which was dominated until recently by mitigation. But much remains to be done. “Even if the PEER report doesn’t include any value judgments as to good or bad, the overview presented may lead some countries to feel they are lagging and must step up their efforts”, states PEER project leader Rob Swart. “The report’s conclusions can help to put particular adaptation issues on the agenda in some countries, or reinforce developments that are going on anyway.”

### Follow-up steps

Among researchers, policy-makers and stakeholders there is a growing awareness that jointly produced knowledge is needed at all levels of government to assist policy makers in developing and implementing adaptation strategies. European countries have started to design specific science-policy processes, targeted research programmes, policy instruments, and digital information tools, to provide scientific and technical information in support of policy development for adaptation. Only eight countries have adopted a National Adaptation strategy till date, so many more will have to follow to develop their own strategies or address their vulnerability in another way. All have, as Swart puts it, to recognize that a strategy alone is not enough. “Successful adaptation requires careful and urgent preparation of follow-up steps, including the identification of policy instruments, allocation of sufficient resources and evaluation procedures.”

The PEER report  
[www.peer.eu](http://www.peer.eu)

The EEA’s Climate Change and water adaptation issues  
[www.eea.europa.eu/publications](http://www.eea.europa.eu/publications)

CIRCLE’s Extended Country Report  
[www.circle-era.net](http://www.circle-era.net)

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