

European Climate Change Programme

**Working Group II
Impacts and Adaptation**

**Building National Adaptation Strategies
Sectoral Report**



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The EU's Adaptation Programme

Adaptation is a new policy area for the European Climate Change Policy. The Impacts and Adaptation Workgroup has been set up as part of European Climate Change Programme (ECCP II). The main objective of the workgroup is to explore options to improve Europe's resilience to Climate Change Impacts, to encourage the integration of climate change adaptation into other policy areas at the European, national and regional level and to define the role of EU-wide policies complementing action by Member States

The aim of this initial programme of work is to identify good practice in the development of adaptation policy and foster learning from different sectoral experiences and explore a possible EU role in adaptation policies.

The Commission has lead a series of 10 sectoral meetings looking at adaptation issues for different sectors. One of these meetings looked at building national adaptation strategies in particular. This report summarises the state of play in relation to developing strategies in adaptation to climate change on the basis of the information gathered at the stakeholder meeting.

Key Impacts of Climate change in Europe

The impacts of climate change in Europe will vary across the different Member States. In 2004 the European Environment Agency (EEA) published a report on climate change impacts in Europe¹. This report covered impacts at the European level, and where feasible including national information. In 2005 the EEA published a report on vulnerability and adaptation to climate change in Europe.² This report provides an overview of regions and sectors vulnerable to climate change and an initial analysis of emerging adaptation activities in Europe.

Looking across Europe as a whole, a broad set of expected direct and indirect impacts can be described:

- an increase in temperature (1-7°C) by 2100, depending on the region,
- changes in precipitation patterns,
- a likely increase in frequency of intense precipitation events in Central Europe,
- increased risk of drought in southern Europe,
- increased coastal erosion in some regions,
- increases in flooding,
- thawing of permafrost and glaciers in some regions
- increase in extreme weather events.

At the sectoral level, a range of impacts are also expected, such as:

- increased pressure on water resources,
- direct heat effects on crop yields,

¹ Impacts of Europe's Changing Climate" (EEA, 2004), see: http://reports.eea.europa.eu/climate_report_2_2004/en

² Vulnerability and Adaptation to Climate Change in Europe, European Environment Agency, December 7th 2005.

http://reports.eea.europa.eu/technical_report_2005_1207_144937/en

- health effects ranging from direct deaths from extreme temperatures to increased spread of vector-borne diseases,
- direct impacts on biodiversity,
- direct and indirect impacts on forests (e.g. pressures on forest ecosystems, forest production, forest management, increased frequency of forest fires) and related consequences (e.g. loss of protection function),
- financial consequences of extreme weather events (e.g. impact on insurance).

Existing/Relevant policies at the EU level

The EU does not have any direct policy to stimulate the preparation of national adaptation strategies at Member State level. However, there are various existing research activities in this area, which could help in the building of such strategies.

These projects are listed below:

- the on-going ADAM Project (ADaptation And Mitigation strategies), is funded by the EU's Sixth Framework Programme and focusing on a combined approach to adaptation and mitigation activities³,
- the EU's Seamless project which aims to assess how future alternative agricultural and environmental policies affect sustainable development in Europe, also including climate change as an additional pressure (ongoing 2005-8)⁴,
- other projects under the EU's Sixth Framework Programme,
- the ERA-Net programme, and CIRCLE (Climate Impact Research Coordination for a Larger Europe) in particular co-ordinating research agendas on climate change impacts at the Member State level⁵.

Under the UNFCCC, Member States and the EU have obligations regarding adaptation. In addition, how the EU addresses adaptation at the European Community level might have an overspill effect on rules under the UNFCCC. Any strategy for adaptation in the EU needs to avoid setting unwanted precedents internationally.

Examples of Existing initiatives at Regional and Member State level

Some European countries have already begun work at the National level to set policy on adaptation to climate change where as others have not yet begun to tackle this issue. Examples of the different approaches that have been taken in Member States are given below:

1. France: Observatoire National sur les Effets du Changement climatique (ONERC)⁶.

The ONERC was created by law in 2001 to collect and disseminate information on climate change impacts and to develop a national adaptation strategy that would be adopted by government. The heat wave in 2003 was the source of

³ The ADAM project: www.adamproject.eu/

⁴ The Seamless project: <http://www.seamless-ip.org/>

⁵ The CIRCLE network: www.circle-era.net

⁶ ONERC: http://www.ecologie.gouv.fr/rubrique.php3?id_rubrique=639

much damage in France to both agriculture and human health. This event stimulated further interest on climate change impacts and consequently, a large amount of climate change adaptation work carried out, has focused on extreme temperatures and heat waves in particular, with the development of a National Heat Wave Strategy, as well as a comprehensive public alert system.

The Adaptation Strategy (July 2006, to be presented along with the National Climate Strategy) has broader coverage than just heat waves. This Strategy has been prepared by an inter-ministerial group, including a number of public organisations. The document identifies four key areas of priority and a range of cross-cutting approaches identified as water, risks, health and biodiversity. The sectoral views and systems that need to be approached were defined as cities, coasts and sea, mountains and forests. France is now in the process of implementing the recommended actions in this strategy. This implementation includes both national level actions and stimuli for local level activities. Work at the regional level is less developed.

2. The Netherlands: Adaptation Policy with a focus on Spatial Planning.

A resolution of the Dutch Parliament in 2005 stimulated the first approach to climate change adaptation which has a focus on spatial planning. An initial congress on this topic was held in November 2005. In March 2006 the Dutch cabinet approved "the national adaptation programme: spatial planning and climate change". The first deliverable of this programme is planned for December 2006: a national strategy for adaptation to climate change in spatial planning.

In the strategy important choices about adaptation options or concrete projects will not be made. It is a national strategy, meant as basis for at least national decision making. It contains a selected amount of key elements, like the role of the Government, the way decision making about adaptation should be integrated in financial processes and instruments, the way spatial structures should be designed, etc. Each element will be elaborated and should indicate the direction for future (spatial) developments.

This strategy will be followed in 2007 by an agenda, which will form the basis for adaptation activities initiated by different parties. In 2007, an agenda will be developed and approved by different parties (national, regional and local governments, NGOs, business community) responsible for carrying out certain activities or stimulating particular processes. Between 2008 and 2014 this agenda will be implemented.

3. Denmark: The Danish National Adaptation Catalogue.

The Danish Government had begun work on national adaptation policy in October 2005, which involved preparing a catalogue on climate change impacts and possible adaptation measures. This catalogue has now been completed and sent to the related task force for comment. The next stage will be to prepare a strategy which is likely to be ready in early 2007.

The Ministry of the Environment initiated various studies during the preparation of the adaptation catalogue. Five case studies have been carried out relating to socio-economic elements of climate change impacts. A report listing additional research, technological and information needs identified alongside the catalogue of adaptation measures has also been produced.

Future activities planned include: prioritisation of the Danish key problems, further analysis of extreme weather conditions, development of a local risk-management approach, integration of adaptation into relevant regulations, completion of socio-economic analysis of measures, and definition of the timing of measures.

4. Finland: Finland's National Strategy for Adaptation to Climate Change.

The Finnish adaptation strategy was completed in 2005, received formal approval and was formally submitted at the end of 2005. The final strategy identifies impacts and adaptation measures and has a time horizon of 75 years. It addresses the main impacts of climate change to Finland (mean temperature and precipitation) and all key sectors.

The following cross-sectoral priorities for implementation in 2006-15 were identified:

- integrate climate change impacts and adaptation into sectoral planning,
- improve capacities to address extreme weather events,
- include climate change aspects into long-term investments,
- develop further observation and monitoring systems,
- strengthen and focus research and developments,
- relate this work to the international and development agenda.

A review of the adaptation strategy is planned within 6-8 years, in light of the on-going associated five-year research programme, thus providing adequate time for monitoring the sectoral programmes and studies.

5. The UK: An Adaptation Policy Framework.

The UK is currently in the process of developing its Adaptation Policy Framework. There are three key streams to the UK adaptation work; the government's work through the adaptation policy framework, the UK Climate Impacts Programme (UKCIP) work to engage and support stakeholders, and research on mainstreaming adaptation.

The UK considers an Adaptation Policy Framework (APF) as an integrating framework, rather than a new, separate policy area. It should avoid duplication, define roles and responsibilities for key actors and highlight cross-sectoral issues.

The APF will set out a rational structure for the roles and activities of different organisations (from Central Government down to individual actors) to ensure a comprehensive and coherent approach to adaptation in the UK and to prevent adaptation in one sector having negative impacts on another sector.

UKCIP is part of the UK's approach to climate change policy overall. UKCIP has a mission to help organisations assess how they might be affected by climate change so that they are better-equipped to take well-informed decisions by providing tools and resources to support adaptation to climate change impacts.

In general, the tools devised by UKCIP can be characterised as technical reports authored by experts. Several reports have already been developed and rolled-out, however, these have generally been designed for the sophisticated end of the stakeholder groups. The current challenge for UKCIP is to translate these

documents into more focused reports in order to appeal to the full range of stakeholders.

The existing tools and publications include climate change scenarios, socio-economic scenarios, the adaptation wizard, a risk management tool, costing tool, adaptation case studies, business impacts tool and a local communities' tool. The local communities' tool has been translated and adapted by the French government to be used in France.

6. Spain: National Framework on adaptation to climate change.

Spain, due to its geographical situation and socio-economic characteristics, is particularly vulnerable to climate change, as recent scientific research shows. The National Plan for the Adaptation to Climate Change, (PNACC) is an initiative of The Spanish Ministry of Environment, which will provide the general reference framework for evaluation activities of impacts, vulnerability and adaptation to climate change in Spain. In July 2006, this plan was formally approved (19 July) by the Climate Change Policies Coordination Commission.

The main objective of the PNACC is the integration (mainstreaming) of adaptation to climate change in the planning strategy of the different sectors and/or systems. It will assist all those administrations and organizations interested – private and public – in evaluating the impacts of climate change in their area of interest, facilitating knowledge, tools and methods, and promoting participation processes focus on the definition of the better options for adapting to climate change.

The PNACC takes into account the more relevant predicted impacts in the different sectors and systems, in accordance with the publication *Preliminary Assessment of the Impacts in Spain due to the Effect of Climate Change* (MIMAM 2005,

http://www.mma.es/portal/secciones/cambio_climatico/documentacion_cc/historicos_cc/en_impactos2.htm).

The plan coordination will be ensured by the Spanish Bureau of Climate Change (OECC in its Spanish initials). The OECC will regularly inform to the main coordinating bodies for Climate Change in Spain:

- Inter-ministerial Group in Climate Change (GICC in its Spanish initials),
- Climate Change Policies Coordination Commission (CCPCC in its Spanish initials),
- National Climate Council (CNC in its Spanish initials),
- Sectoral Conference on the Environment.

Last February, the draft of the PNACC was presented to the Climate Change Policies Coordination Commission, to the National Climate Council and to the Sectoral Conference on the Environment. Subsequently, a public consultation process started in order to get comments and contributions that are now being reviewed and incorporated – if applicable – to the document.

Information, communication, training and raising awareness are social instruments that, together with participation, are considered vital in order to get efficient results from the National Plan for the Adaptation to Climate Change.

The development of the PNACC will be carried out via Working Programs elaborated by the OECC. These Programmes will include the activities and projects to be developed, along with a schedule for them.

Gaps identified

The majority of European Member States have yet to initiate a process to consider adaptation to climate change at the national level.

One of the key approaches to adaptation is its integration with other policies and measures. This is likely to result in considerable challenges, the solutions of which constitute another key gap in this agenda. Some of these challenges would include:

- addressing scientific uncertainties,
- increasing awareness of the timescales needed for effective action,
- stakeholder engagement,
- cross-sectoral relations between themes,
- funding resources,
- performing cost/benefit analyses, allocating costs and assessing the costs of inaction,
- co-ordination between sectors, organisations and institutional structures.

Constraints on adaptation strategies are also Member State specific and can be based on institutional, economic or other existing constraints within the relevant government policy system.

Policy options for the EU level

In keeping with the subsidiarity principle, the development of National Adaptation Strategies falls within the remit of Member States, not the EU.

There are two broadly different approaches that the EU could take to this agenda, including:

- mandating Member States to develop National adaptation strategies, with differing degrees of direction as to how this could be done; or
- supporting Member States in taking diverse approaches to the adaptation challenge – which may or may not involve a specific adaptation legislative policy instrument.

In addition, the EU has a role in supporting Member States to undertake cross-border initiatives in terms of concrete projects in the field of adaptation to climate change.

The ECCP II stakeholder meetings on climate change impacts and adaptation recommended that the EU should not introduce any compulsory strategies on adaptation at this stage.

Rather, the EU should take a key supporting role in providing a long-term view and in encouraging information sharing, and providing tools, with the aim of making best use of synergies in order to be more cost-efficient. Within this role, there may be scope to introduce some compulsory elements such as reporting. Some of the particular areas where the EU should lend support to Member States developing National Adaptation strategies and other approaches are listed below.

Information and Knowledge

- a) the EU has a continuing role in coordinating research and disseminating results, e.g. ADAM and SEAMLESS projects,
- b) the EU should consider setting up a body similar to the UKCIP at the EU level, to provide tools and information to be used by policy-makers at the national level. The provisions would include both tools and a database of approaches to adaptation across the EU. Alternatively, the EU could provide support for similar bodies to the UKCIP to be set up at the national level,
- c) the EU has a key role in the monitoring of policy, selection of indicators and regular review cycles, taking into account regional differentiation of impacts. The creation of a new dedicated body at the EU-level in charge of these activities could ensure consistency and help realise positive effects and avoid negative ones

Planning Process for Policy

- d) the EU has a role in building co-operation between countries on this agenda, and ensuring that cross-border areas in the EU are evenly addressed,
- e) the EU should help formulate the long-term aims of good adaptation policy across Europe. This long-term goal should include the need to successfully adapt to the unavoidable impacts of climate change, and to do so in a cost-effective manner, seeking to avoid maladaptation,
- f) the EU should play a key role in leading by example and ensure the mainstreaming adaptation into existing EU policies is carried out, for these are highly influential at the national level,
- g) the EU should co-ordinate with on-going international work on adaptation (e.g. Gleneagles dialogue, UK Stern review, OECD, etc.) and be responsible for ensuring that the EU learns from these different approaches,
- h) the EU may need to provide extra support to particular regions such as the new member states that are particularly new to this agenda,
- i) the EU should analyse their own policy/directives to see how climate change proof it is and develop a framework to integrate climate change in future directives of EU policy.

Economic instruments

- j) the EU needs to consider how to better target its funding in relation to the adaptation agenda,
- k) the EU could help to define the role that different actors, such as the private sector (e.g. finance and insurance sectors), need to play in terms of funding and adaptation.

Risk and Disaster Management

- l) the EU should promote the risk management approach at the highest levels through the information and tools route,
- m) in terms of its civil protection responsibilities, the EU should promote resilience and encourage Member States to take a variety of approaches to ensure the most vulnerable are protected.

Actions relevant at national, regional and local level

The development of national adaptation strategies is clearly the remit of national governments. However, the EU should provide a supporting role, and the overall aspirations and visions as noted earlier, whilst local level governments also have a responsibility for engaging directly with stakeholders in the most relevant manner.

National governments need to set up a strategic approach that:

- adopts the long-term view,
- is supported by relevant research and information at the national level,
- lends support to the regional and local levels of government,
- sets out clearly the impacts of climate change,
- addresses the lack of awareness about options and how to proceed by informing on possible adaptation measures,
- integrates stakeholder consultation, thus encouraging the identification of priorities and favoured actions early on in the process,
- provides analyses setting-out the risks and benefits of adaptation activities in order to make a clearer case to stakeholders for taking action,
- co-ordinates individual actions in order to avoid negative spill-over effects (e.g. building a dyke in a given region which leads to adverse consequences elsewhere),
- shows the cost effectiveness of taking action now instead of over 50 years, clarifies the responsibility of all relevant parties and stresses the need for an integral approach for different sectors.

National governments have a particularly important role to play in improving co-ordination internally between different levels of government in order to facilitate a common approach in relation to climate change adaptation. In some cases this could mean following an example set by a particularly forward-thinking region (see examples in the regional sectoral report).

The distributional impacts of adaptation show that the burden of risk tends to flow towards the most vulnerable. National governments have a key role in identifying these vulnerable groups and protecting them through a clear strategic approach.

Further References and Weblinks

European Environment Agency, *Vulnerability and Adaptation to Climate Change in Europe*, December 7th 2005. Available at:

http://reports.eea.europa.eu/technical_report_2005_1207_144937/en

The ADAM project: Adaptation and Mitigation Strategies: supporting European climate policy is an integrated research project (funded by EC) that will improve understanding of the trade-offs and conflicts between adaptation and mitigation policies. www.adamproject.eu/

The Seamless project (System for Environmental and Agricultural Modelling; Linking European Science and Society); an EU FP6 Integrated Project that aims at generating an integrated framework of computer models. This framework can be used for assessment of how future alternative agricultural and environmental policies affect sustainable development in Europe: <http://www.seamless-ip.org/>

Information on the Climate Impact Research Coordination for a Larger Europe (CIRCLE); can be found at www.circle-era.net: The vision and future perspective of CIRCLE is to support the creation of a European Research Area (ERA) for research on climate change. The contact address is: circle@circle-era.net

Interesting information on adaptation and climate change from the OECD: www.oecd.org/env/cc

Ministry of Agricultural and Forestry of Finland: www.mmm.fi

UK Department for Environment Food and Rural Affairs dealing with adaptation issues: <http://www.defra.gov.uk/environment/climatechange/uk/adapt/index.htm>