European Union and EEA activities on climate adaptation and mitigation

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Overview

1. The European Environment Agency (EEA)
2. EU and EEA activities on climate mitigation
   • Policy framework
   • Policy implementation and support by EEA
3. EU and EEA activities on climate adaptation
   • Policy framework
   • Policy implementation
   • Information support by EEA (EEA Reports, Climate-ADAPT web portal)
The EEA mission

The EEA is the EU body dedicated to providing sound, independent information on the environment.

We are a main information source for those involved in developing, adopting, implementing and evaluating environmental policy, and also the general public.

EEA clients:

- European Commission, European Parliament, Council of the European Union, EEA member countries
- Policy influencers: NGOs, business, media, advisory groups, scientists, debaters
- General public
An EU budget for low-carbon growth

At least 20% of the entire European Union budget for 2014-2020 will be spent on climate-related projects and policies, following the European Parliament's approval today of the 2014-2020 EU budget¹. The 20% commitment triples the current share and could yield as much as €180 billion in climate spending in all major EU policy areas over the seven-year period. The EU’s development policy will contribute to achieving the 20% overall commitment, with an estimated €1.7bn for climate spending in developing countries in 2014-2015 alone. This is on top of climate finance from individual EU Member States. This budget marks a major step forward in transforming Europe into a clean and competitive low-carbon economy and helping developing countries adapt to the impacts of climate change.

Connie Hedegaard, EU Commissioner for Climate Action, said: "Today is an incredibly important day for Europe and for the fight against climate change. At least 20% of the entire EU budget for 2014-2020 will be climate-related spending. This is a major step forward for our efforts to handle the climate crisis. Rather than being parked in a corner of the EU budget, climate action will now be integrated into all the main spending areas. This underscores yet again Europe's leadership in the fight against this crucial challenge. I believe the EU is the first region in the world to mainstream climate action into its whole budget."

Climate action integrated into all the major EU policies

Mitigation and adaptation are both necessary and complementary

- **We need to increase mitigation efforts.**
  If the 2°C target is missed, adaptation increasingly costly.

- **We need to adapt.**
  Adaptation is inevitable (delayed impact of emissions). Adaptation is cheaper.

- **We need to act now.**
  Postponed adaptation and maladaptation will lead to higher damage costs.

- **We need to prioritise actions:**
  - that can address current climate variability
    - synergies climate change adaptation / disaster risk reduction
  - that create benefits no matter what the climate scenario is:
    e.g. ecosystem-based adaptation
  - influencing long term investment decisions;
    e.g. infrastructure, forestry
EU climate and energy package (2008)

Climate and energy targets for 2020 ("20-20-20" targets):
1. A 20% reduction in EU greenhouse gas emissions from 1990 levels
2. Raising the share of EU energy from renewable resources to 20%
3. A 20% improvement in the EU's energy efficiency

Legal measures:
1. Reform of the EU Emissions Trading System (EU ETS)
2. National targets for non-EU ETS emissions
3. National renewable energy targets
4. Carbon capture and storage (legal framework)
The 2013 EEA report on ‘GHG Trends and Projections’: Headline messages in light of 2020 objectives

1. EU emissions reduced by approximately 18 % compared to 1990 levels.

2. The EU is on track for reaching its 20 % target for renewable energy consumption by 2020.

3. The EU is making progress towards its energy efficiency objective.
Progress towards the 2020 energy and climate targets

- Greenhouse gases
- Renewable energy
- Energy efficiency

Legend:
- good progress
- some progress
- no or limited progress

European Environment Agency
EU Climate and Energy Policy

ETS 3rd trading period
Effort Sharing Decision

2013 - 2020

2020

20/20/20 targets

2030

Vision in 7EAP
Low carbon society

2030 framework
(planned for early 2014)
A cost-efficient pathway towards 1Gt emissions in 2050

80% domestic reduction in 2050 is feasible
- with currently available technologies,
- with behavioural change only induced through prices
- If all economic sectors contribute to a varying degree & pace.

Efficient pathway:
- -25% in 2020
- -40% in 2030
- -60% in 2040
# Climate Mitigation in Norway

## Emissions and targets
- 52.9 million tons CO₂ equivalents emitted from GHG in 2012
- By 2020:
  - Reduce GHG emissions by 30% (relative to 50.36 million tons in 1990)
  - In context of global and comprehensive agreement:
    - Reduction target of 40% by 2020
    - Carbon neutrality by 2030

## Measures
- Emission trading scheme
- CO₂ taxes
- Direct regulations
  - Permits to industrial plants
  - Waste sector
- Energy and fuel regulations
  - Renewable Directive
  - Green certificates
- Physical planning on regional and local level
- Support new technology
EU Adaptation Strategy (2013):
Strategic objective
Contribute to a more climate-resilient Europe

Priority 1: Promoting action by Member States
Priority 2: Better informed decision-making
Priority 3: Key vulnerable sectors
**Priority 1: Promoting action by Member States**

**Action 1.** Encourage Member States to adopt Adaptation Strategies and action plans  
- Guidelines on adaptation strategies  
- Check in 2017 coverage & quality of National Adaptation Strategies

**Action 2.** LIFE funding, including adaptation priority areas  
- Cross-border floods management, cross-border coastal management  
- Urban environment  
- Mountain and island areas  
- Drought-prone areas (water, desertification, fire risks)

**Action 3.** Promoting adaptation action by cities along the Covenant of Mayors initiative  
- Launch in 2013/2014  
- Complements mitigation efforts under existing Covenant
Priority 2: Better informed decision-making

Action 4. Knowledge-gap strategy
- Identify and prioritise knowledge gaps
- Feed this into programming Horizon 2020
- Better interfaces science/policy/business
- EU-wide vulnerability assessments: JRC (economic costs of climate change); Integrated threat and risk assessment reports (2015).

Action 5. Climate-ADAPT:
- Develop interfaces with other databases and climate services
- Inclusion of Copernicus climate services
Priority 3: Key vulnerable sectors

Action 6. Climate proofing the Common Agricultural Policy, Cohesion Policy, and the Common Fisheries Policy
  • Guidance
  • Capacity building

Action 7. Making infrastructure more resilient
  • Mapping standards through CEN/CENELEC
  • Guidelines for project developers

Action 8. Promote products & services by insurance and finance markets
  • Green paper insurance of disasters
  • Stakeholder dialogue
Governance, financing and review

- **Governance:**
  discussion with Member States and stakeholders

- **Financing:**
  EU 2014-2020 programmes; EU funds...

- **Monitoring:**
  developing indicators (“Adaptation Score-board”)

- **Report to European Parliament and Council in 2017:**
  complementary steps?
Adaptation in Europe (EEA report, 2013)

- To inform and support policymakers who are/will be formulating or implementing adaptation policy and actions (transnational, national, regional and local authorities, private stakeholders)
- To demonstrate that adaptation actions are already being taken across Europe
- To support the implementation of the 2013 EU Adaptation Strategy
Adaptation is already happening...

'Sand motor' beach replenishment, Ter Heijde, Netherlands

New grape variety research, Spain

Campaign to prevent insect-borne diseases, Emilia-Romagna, Italy

Cantonal Insurance Monopolies, Switzerland

Restoration of the Danube, Kalimok marsh, Bulgaria

Peatland restoration, Lough Boora, Ireland

European Environment Agency
Key messages on adaptation

- 16 of the 33 EEA member countries have national adaptation strategies, and some have started to prepare/implement action plans.

- Some transnational regions and cities have developed or are developing adaptation strategies.

- Examples are available of actions taken, using different measures (‘grey’ measures using technological and engineering approaches, ‘green’ ecosystem-based approaches using nature, and ‘soft’ measures such as policies to change governance approaches)

- Challenges include the need for coherent, flexible and participatory approaches
Assessment of adaptation policy processes in EEA member countries (2013/2014)

- Online Self-assessment, consultation of countries. Topics:
  - General statements on adaptation
  - The adaptation policy process:
    - Prepare the ground for adaptation
    - Identify risks and explore options
    - Implementation, monitoring and evaluation
  - Level of adaptation and policy instruments in sectors
  - Involvement of stakeholders
  - Open questions on next steps

**Added value:**
- Assessment covers all 32 EEA member countries (thus, complement information on CLIMATE-ADAPT)
- Assessment provides up-to-date information
- Assessment allows to draw lessons learned on what worked and what did not work
- Develop an (stable) assessment methodology which can be applied in the following years and allow to report on the adaptation progress across Europe
Water most covered sector in national strategies

Source: new self-assessment for EEA/ETC-CCA to be published 2014; courtesy Stéphane Isoard
Climate change, impacts and vulnerability in Europe
(EEA indicator based report, Nov 2012)

Content:
- Climate change and impacts
- Past trends and projections
- Sectors and regions most at risk
- Main sources of uncertainty

Preparation:
- European Topic Centres, incl. ETC climate change adaptation, WHO, ECDC, JRC (about 90 experts)
- Data primarily from international databases and (European) research projects
- External advisory group
- Expert and government review process

Next steps:
- Selected indicators on the EEA web site to be updated after publication of IPCC WGI/II reports in 2013/2014

Structure of EEA climate impacts report

Executive Summary

Technical Summary

1. Introduction

2. Changes in the climate system (11)
   • Key climate variables (5)
   • Cryosphere (6)

3. Climate impacts on environmental systems (20)
   • Oceans and marine environment (5)
   • Coastal zones (2)
   • Freshwater quantity and quality (5)
   • Terrestrial ecosystems (5)
   • Soil (3)

4. Climate impacts on socio-economic systems and health (11)
   • Agriculture (4)
   • Forests and forestry (2)
   • Fisheries and aquaculture
   • Human health (4)
   • Energy (1)
   • Transport
   • Tourism

5. Vulnerability to clim. change (1)
   • River flooding, water scarcity and droughts
   • Integrated assessment of vulnerability
   • Cities and urban areas
   • Damage costs (1)

6. Indicator and data needs

(x): Number of “indicators”
Example: glaciers

Most European glaciers are in retreat; glaciers in the Alps lost two thirds of their volume since 1850. The retreat is projected to continue.
Example: precipitation

Annual precipitation has increased in northern Europe (mostly in winter) and decreased in southern Europe (mostly in summer); these trends are projected to continue.
Example: forest fire risk

Projections show an expansion of the fire-prone area and longer fire seasons
Example: Natural disasters

- Increases in damage costs from extreme weather events are due to increases in population, wealth and human activities in hazard-prone areas and to better reporting.
- Climate change is projected to increase these damage costs due to a projected increase in the intensity and frequency of extreme weather events.

Source: MunichRe
European Climate Adaptation Platform (Climate-ADAPT)

- Web portal that supports governmental decision-makers developing and implementing climate change adaptation strategies, policies and actions
- Launched March 2012 (DG CLIMA, EEA)
- EEA maintains, with Commission, and supported by ETC CCA

http://climate-adapt.eea.europa.eu
Key tools:
- Adaptation support tool
- Overview of countries activities
- Case study search tool
- Database
- Share information
Assessing adaptation options

4.2 What are costs and benefits of adaptation?

In order to assess feasible adaptation options the analysis of costs and benefits is crucial. This section provides information and guidance for the costing of adaptation options.

In this section you can also query the CLIMATE-ADAPT database for available information on the economics of adaptation originating from various sources as research projects and studies, information portals etc.

Explore the Cost Benefit Database

- Potential costs and benefits of adaptation options: A review of existing literature
- River Floods - Climatecost Technical Policy Briefing Note nr. 3
- Climate change: costs of impacts and lines of adaptation
- The economics of climate change adaptation in Europe
- ClimateCost Policy Brief No 2: The Costs and Benefits of Adaptation in Europe: Review Summary and Synthesis
Database search

CLIMATE-ADAPT database
The database contains quality checked information and is annotated by climate adaptation experts with keywords.

Find data that has...
- Any of these words:
- All of these words:

Type of data
- All types
- A selection of types

Extended search
- Adaptation sectors
- Climate impacts
- Adaptation elements
- Countries

Search results: 1305

- Publications and reports (357)
- Information portals (135)
- Guidance (67)
- Tools (30)
- Maps, graphs and datasets (100)
- Indicators (42)
- Research and knowledge projects (367)
- Adaptation options (65)
- Case studies (66)
- Organisations (76)
Some statistics on Climate-ADAPT

- About 15 000 unique visitors per months on average
- 5th most visited EEA domain after HomePage, EUNIS (nature information), Glossary and Natura2000 (protected areas)
- Pages most visited are:
  - Country profiles
  - Adaptation support tool
- Visitors mostly from Denmark, Italy, Germany, UK, Netherlands, France, Belgium, US, Spain and Austria
- Visitors access through:
  - Direct link (25%)
  - Google (25%)
  - EEA web site (20%)
Conclusions

1. The European Union (EU) is developing and implementing policies for climate change mitigation and adaptation

2. The European Environment Agency (EEA) supports the EU and its Member States by providing relevant information on policy planning and implementation

3. The EU will spend at least 20% of its 2014-2020 budget on climate-related activities

4. The EU is on track to meet its 20/20/20 mitigation targets

5. More than half of the EEA member countries have already developed national adaptation strategies
Thank you for your attention

http://www.eea.europa.eu/themes/climate
http://climate-adapt.eea.europa.eu