

**ICA-RUS/CCRP-PJ2 International Workshop 2013**

4–6 December 2013, Tokyo, Japan

# **European Union and EEA activities on climate adaptation and mitigation**

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European Environment Agency



# 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.*

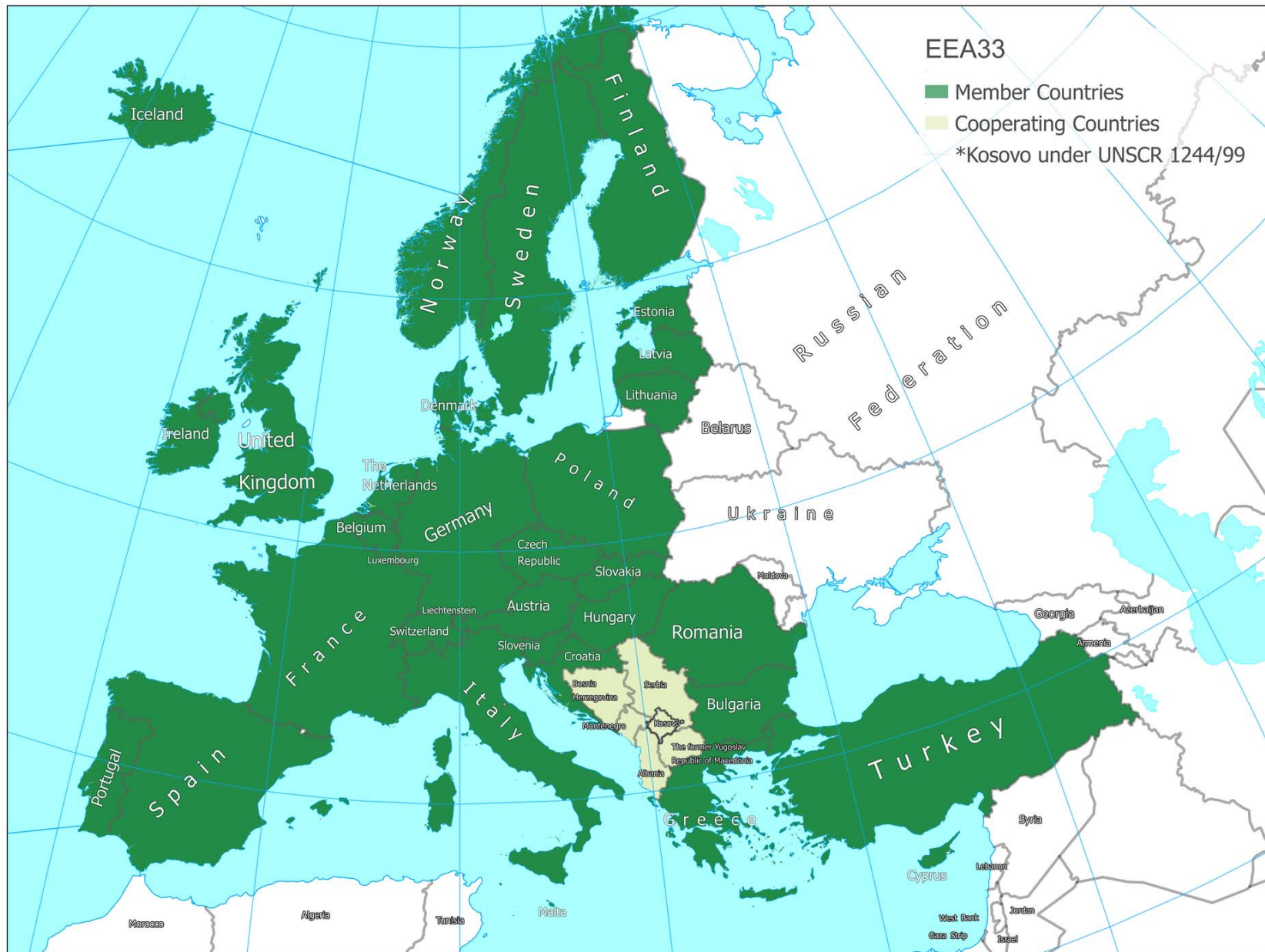


## EEA clients:

- European Commission, European Parliament, Council of the European Union, EEA member countries
- Policy influencers: NGOs, business, media, advisory groups, scientists, debaters
- General public



# EEA member and cooperating countries





EUROPEAN COMMISSION

PRESS RELEASE



Warsaw, 19 November 2013

## 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 budget<sup>1</sup>. 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**

[http://ec.europa.eu/clima/news/articles/news\\_2013111901\\_en.htm](http://ec.europa.eu/clima/news/articles/news_2013111901_en.htm)



# 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

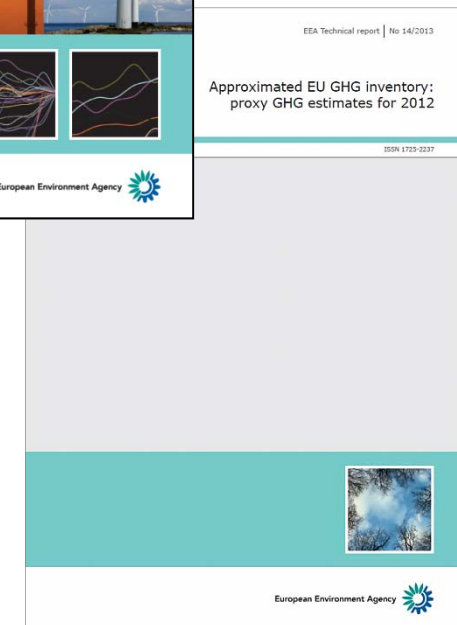
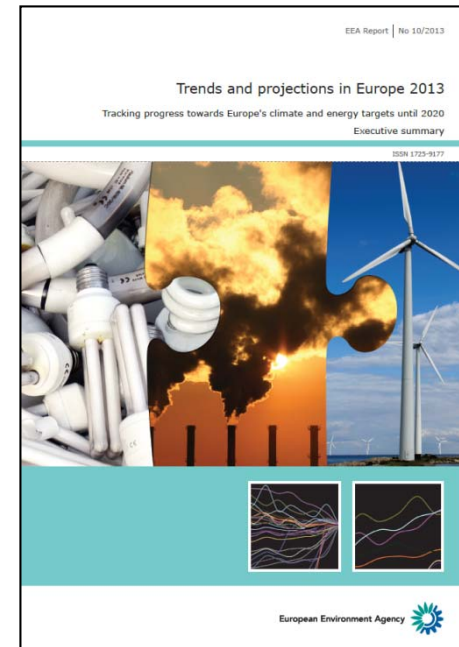
## Legal measures:

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)
5. Energy Efficiency Plan and the Energy Efficiency Directive

Climate  
Action

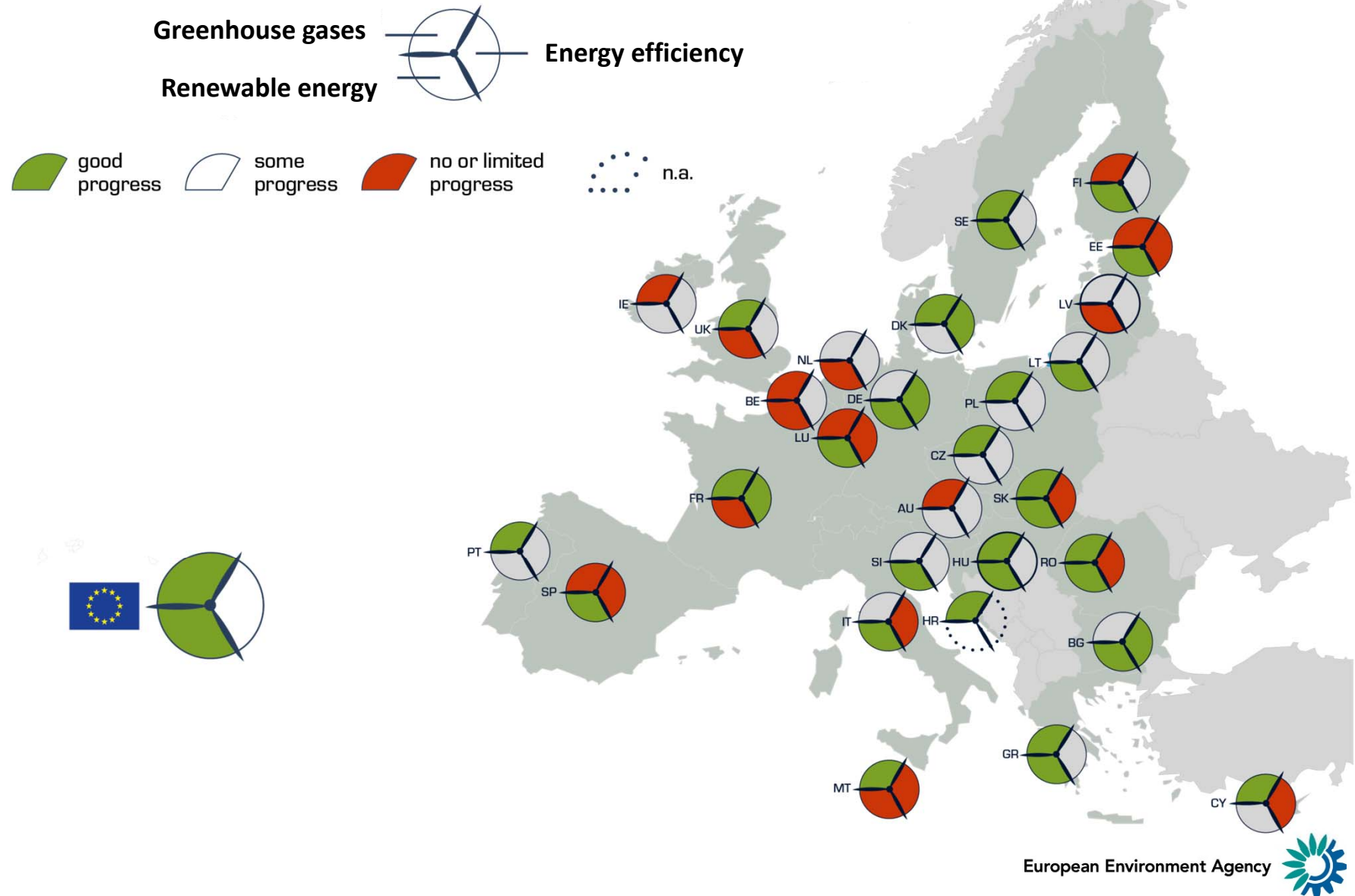
# The 2013 EEA report on 'GHG Trends and Projections': Headline messages in light of 2020 objectives

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.

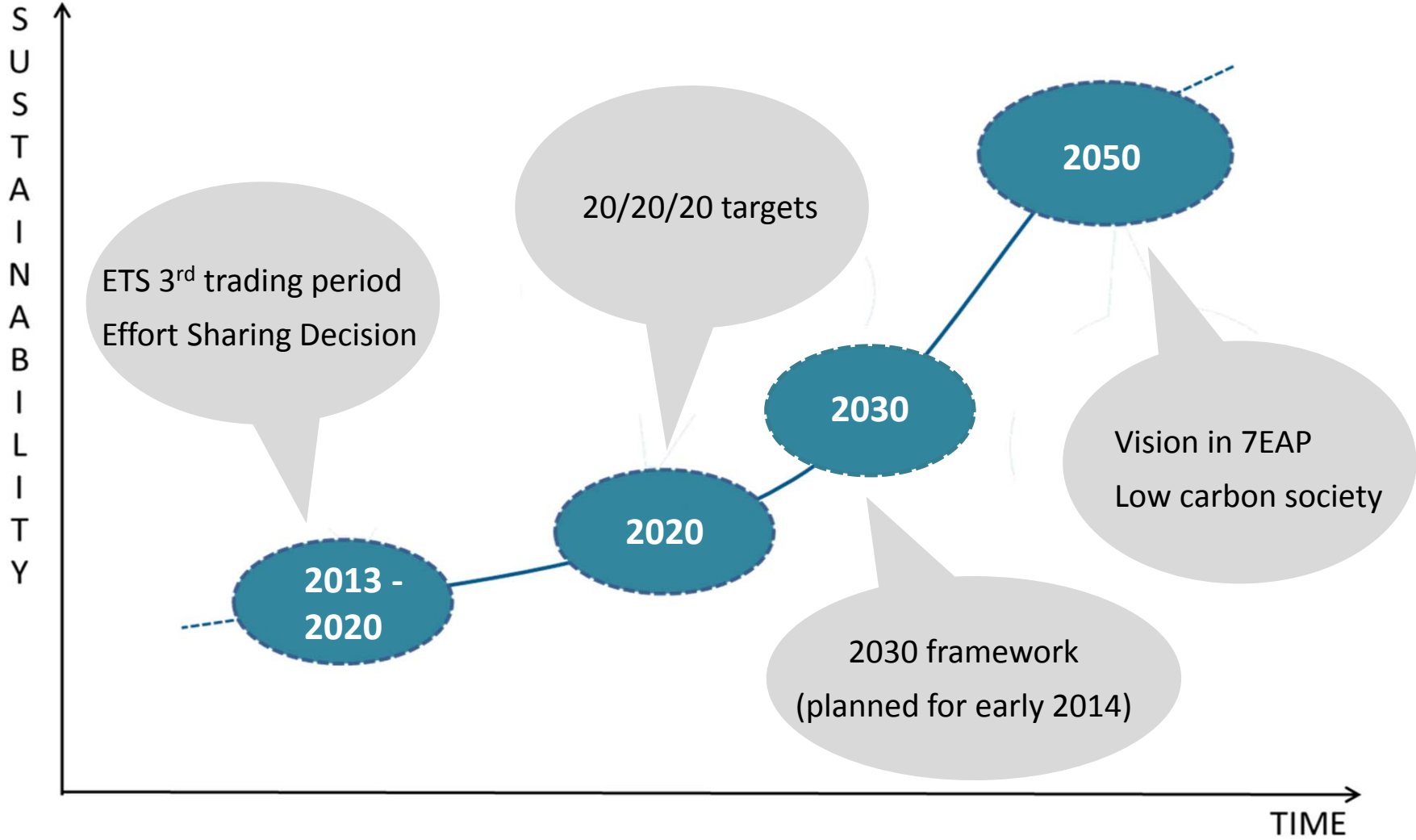




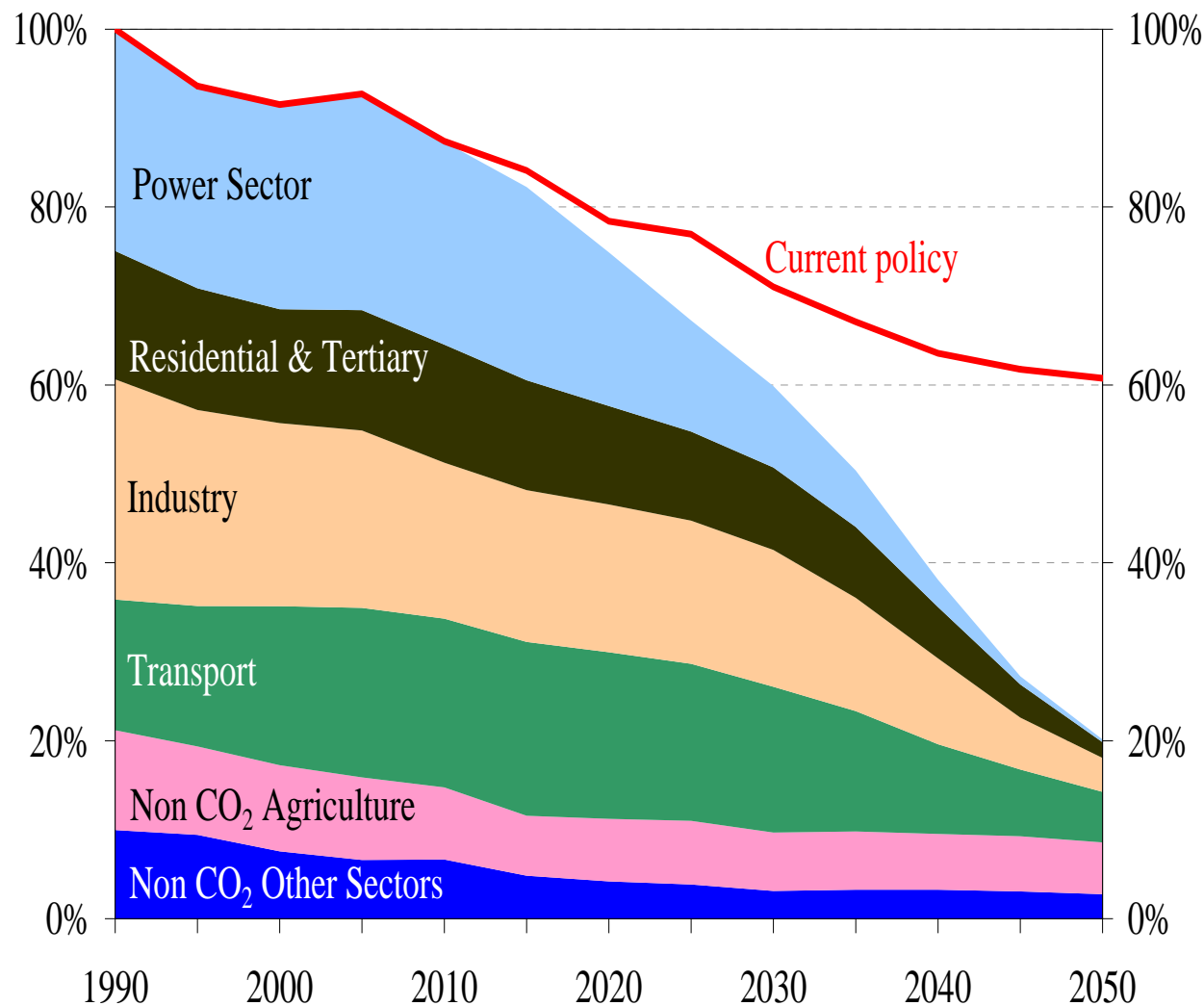
# Progress towards the 2020 energy and climate targets



# EU Climate and Energy Policy



# 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 CO<sub>2</sub> 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
- CO<sub>2</sub> 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**



Climate  
Action





## 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?

# EEA activities 2011-2013

<p>EEA Technical report   No 13/2010</p> <p><b>Mapping the impacts of natural hazards and technological accidents in Europe</b> An overview of the last decade</p> <p>ISBN 978-92-9277-000-0</p> <p>European Environment Agency </p>	<p>EEA Report   No 12/2012</p> <p><b>Urban adaptation to climate change in Europe</b> Challenges and opportunities for cities together with supportive national and European policies</p> <p>ISBN 978-92-9277-001-7</p> <p>European Environment Agency </p>	<p>EEA Report   No 12/2012</p> <p><b>Water resources in Europe in the context of vulnerability</b> EEA 2012 state of water assessment</p> <p>ISBN 978-92-9277-002-4</p> <p>European Environment Agency </p>	<p>EEA Report   No 12/2012</p> <p><b>Climate change, impacts and vulnerability in Europe 2012</b> An indicator-based report</p> <p>ISBN 978-92-9277-003-1</p> <p>European Environment Agency </p>	<p>EEA Report   No 9/2013</p> <p><b>Adaptation in Europe</b> Addressing risks and opportunities from climate change in the context of socio-economic developments</p> <p>ISBN 978-92-9277-004-8</p> <p>European Environment Agency </p>
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CLIMATE-ADAPT  
**European Climate Adaptation Platform**

Glossary | Contact | Sitemap | Legal notice | About

Search the website:

Home | Adaptation information | EU sector policies | Countries and other areas | Tools | Links | Search the database

**Adaptation Support Tool**

New to adaptation? Use the Adaptation Support Tool

**What are European countries doing?**

Choose your country:

### Climate Change Adaptation in Europe

The European Climate Adaptation Platform (CLIMATE-ADAPT) aims to support Europe in adapting to climate change. It is an initiative of the European Commission and helps users to access and share information on:

- Expected climate change in Europe
- Current and future vulnerability of regions and sectors
- National and transnational adaptation strategies
- Adaptation case studies and potential adaptation options
- Tools that support adaptation planning

[Read more](#)

**Find case studies on adaptation in Europe**

**Share your information**

#### News

25 April 2012. Survey on Adaptation strategies for European Cities - DG Climate Action invites cities to participate in a survey on their

#### Events

24 April 2012. First Baltadapt Policy Forum, Berlin, Germany

12-15 May 2012. ICLEI Resilient Cities 2012. 3rd Global Forum on Urban

#### EU sector policies

Agriculture & Forestry [Read more](#)

Water management [Read more](#)

#### EU information systems

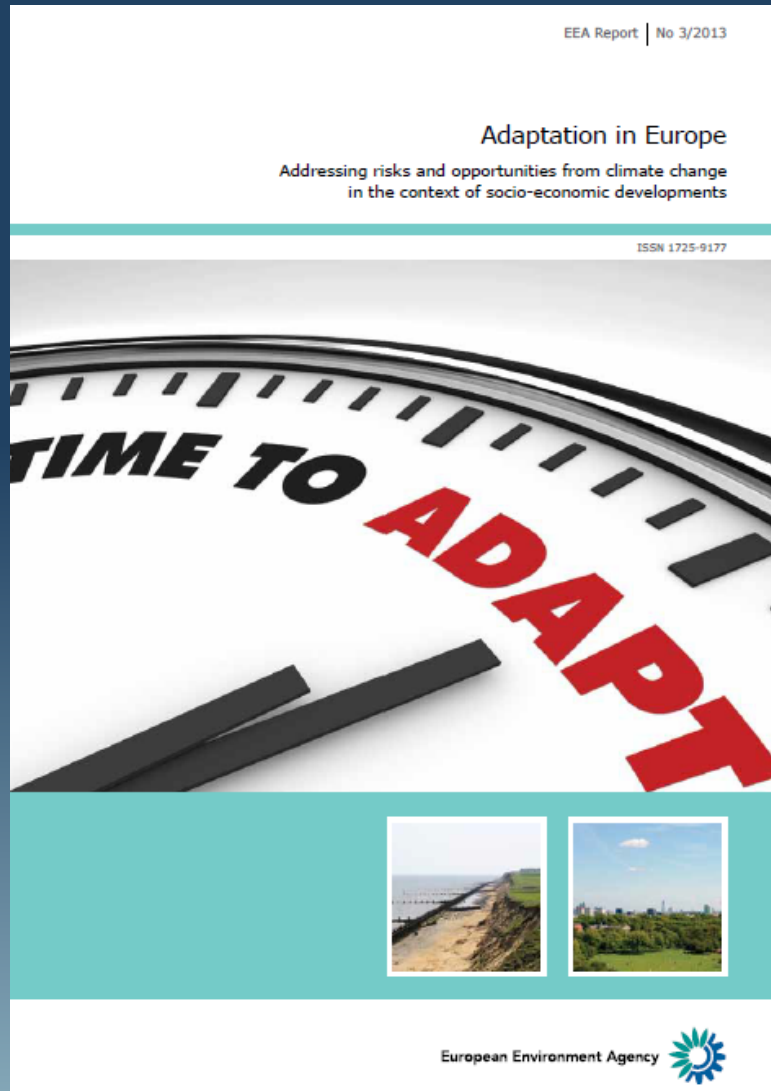
**WISE** Water [Read more](#)

**Biodiversity** [Read more](#)





# 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



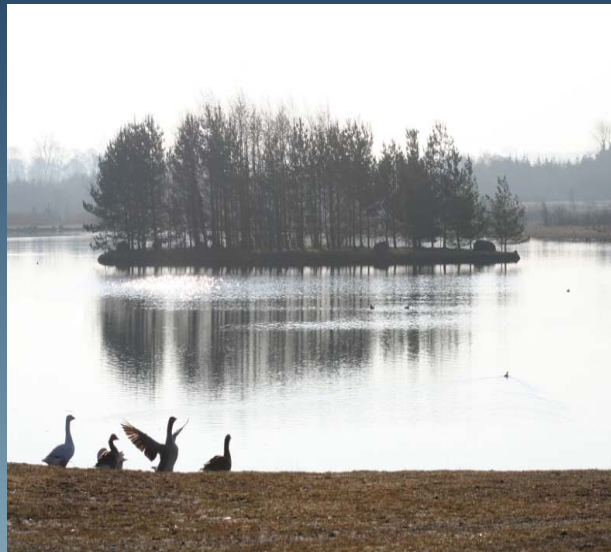
Campaign to prevent insect-borne diseases, Emilia-Romagna, Italy



New grape variety research, Spain



Restoration of the Danube, Kalimok marsh, Bulgaria



Peatland restoration, Lough Boora, Ireland

Cantonal Insurance Monopolies, Switzerland

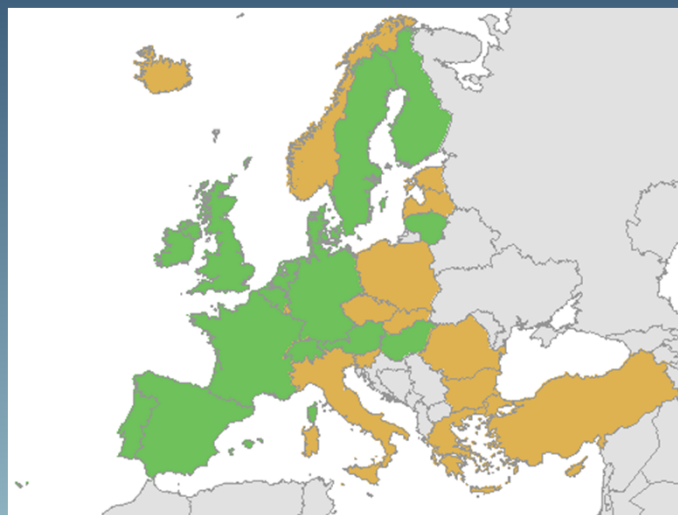


European Environment Agency



# 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



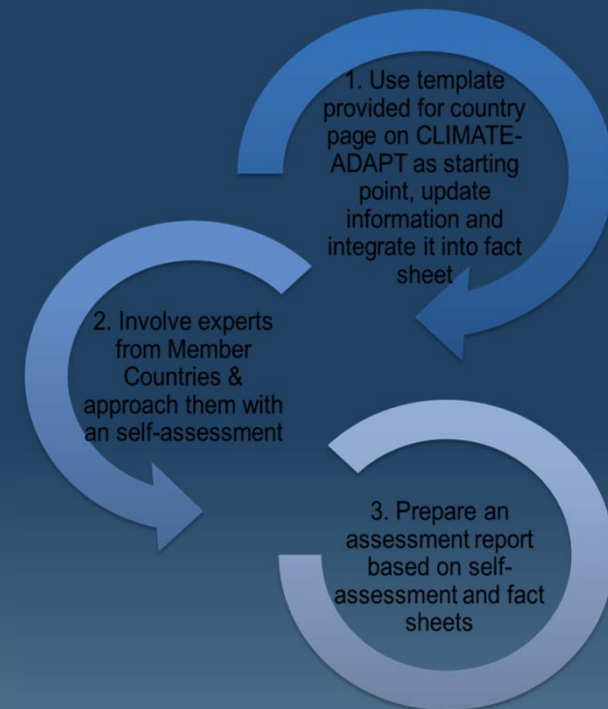


# Assessment of adaptation policy processes in EEA member countries (2013/2014)

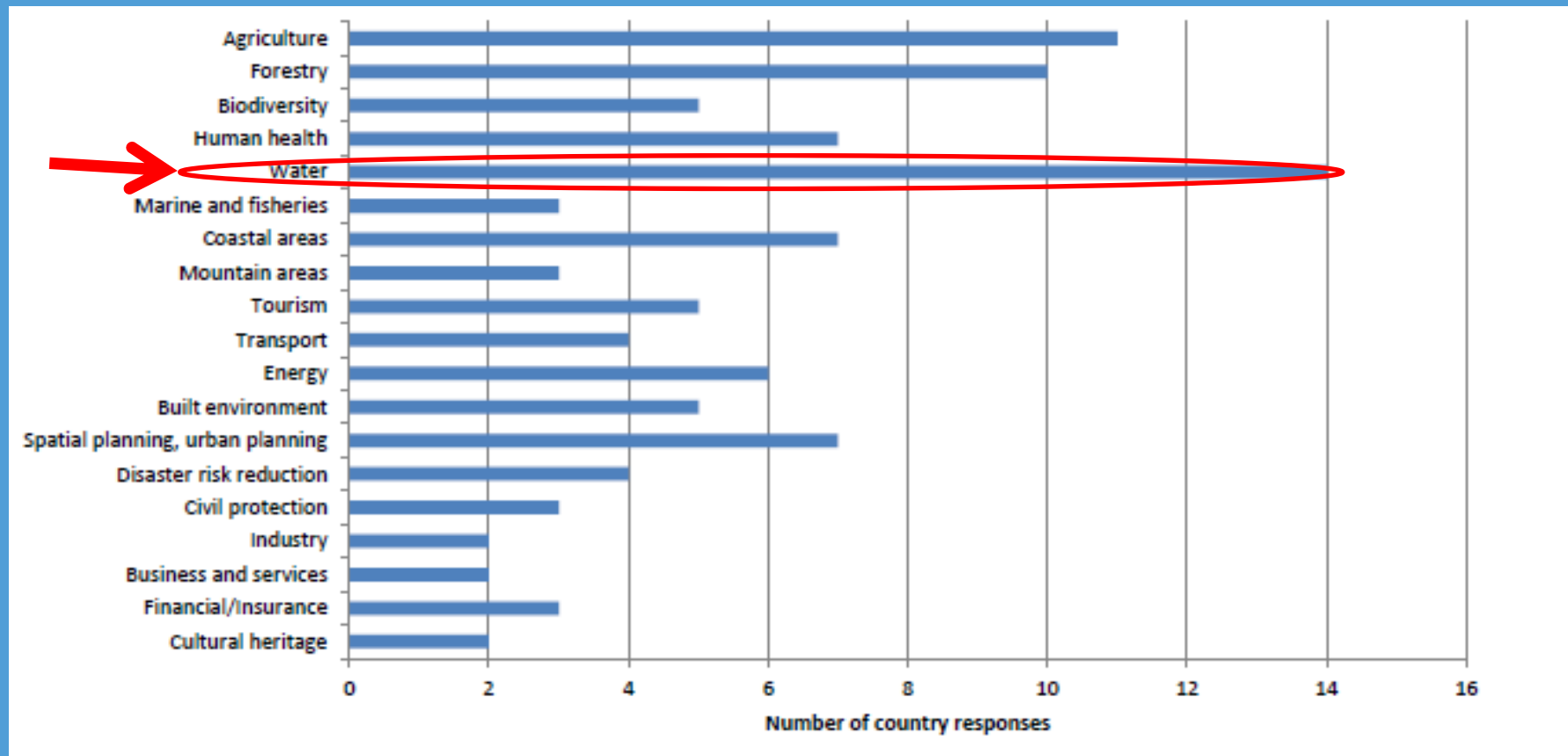
- Online Self-assessment, consultation of countries. Topics:
- General statements on adaptation
- The adaptation policy process:
  - Prepare the ground for adaptation
  - Identify risks and explore options
  - Implementation, monitoring and evaluation
- Level of adaptation and policy instruments in sectors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





# 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

<http://www.eea.europa.eu/publications/climate-impacts-and-vulnerability-2012>



# 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)

(x): Number of "indicators"

**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

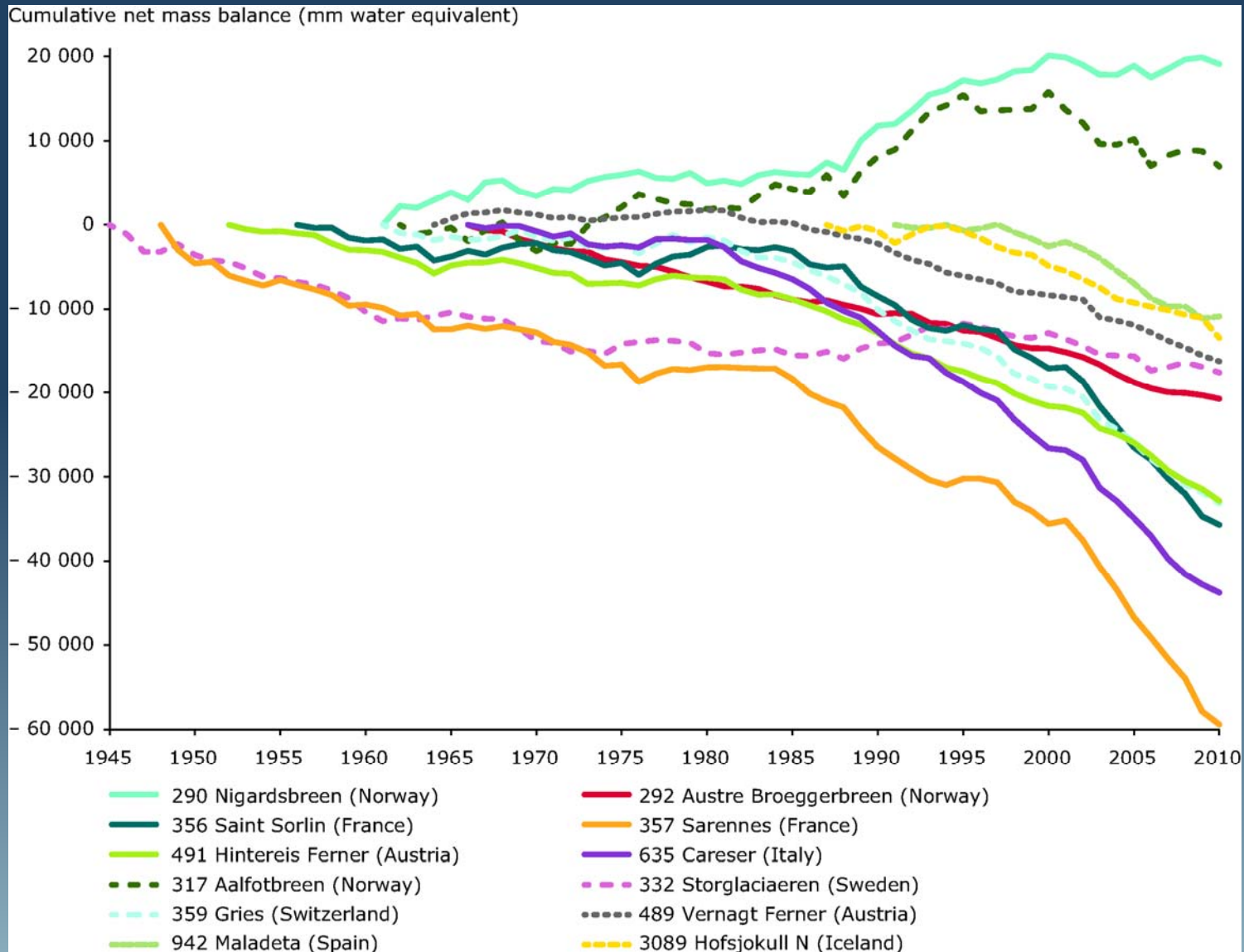
**5. Vulnerability to clim. change (1)**

- River flooding, water scarcity and droughts
- Integrated assessment of vulnerability
- Cities and urban areas
- Damage costs (1)

**6. Indicator and data needs**

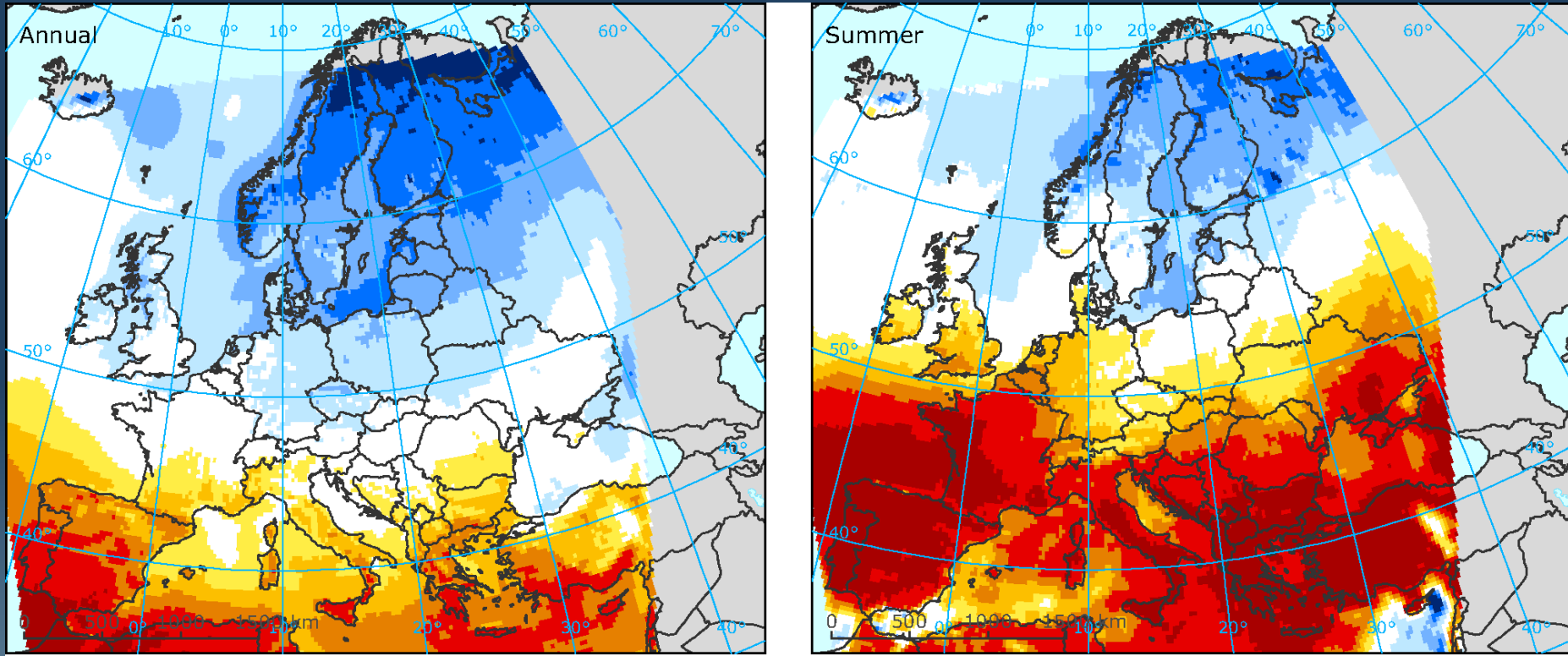
# Example: glaciers

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



## Projected changes in precipitation

(%)



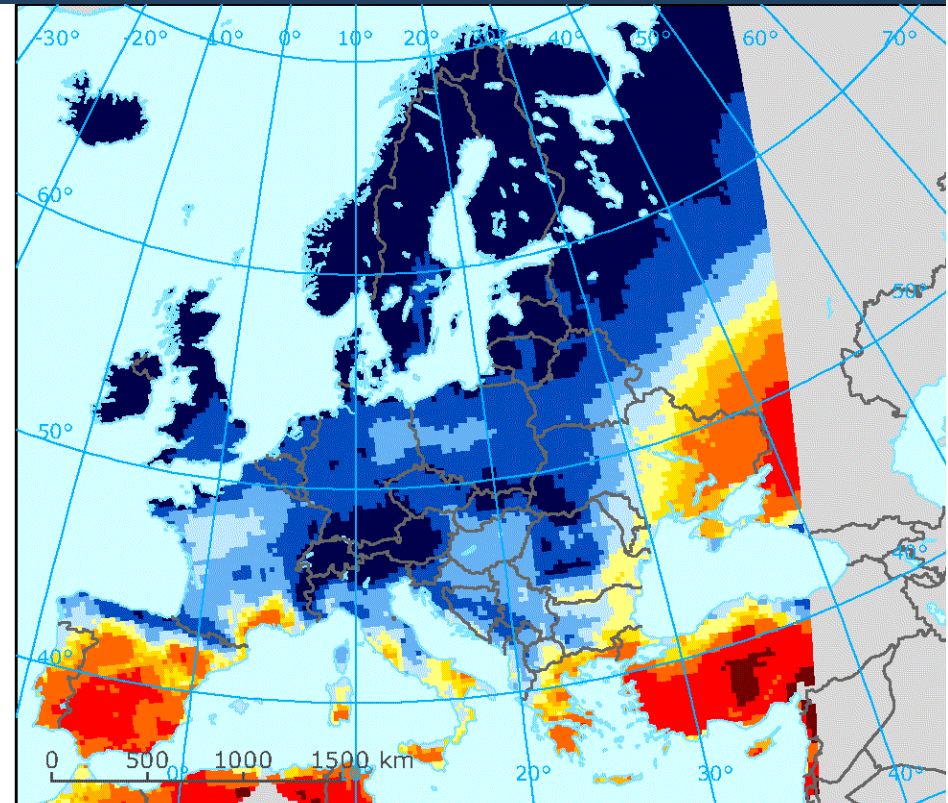
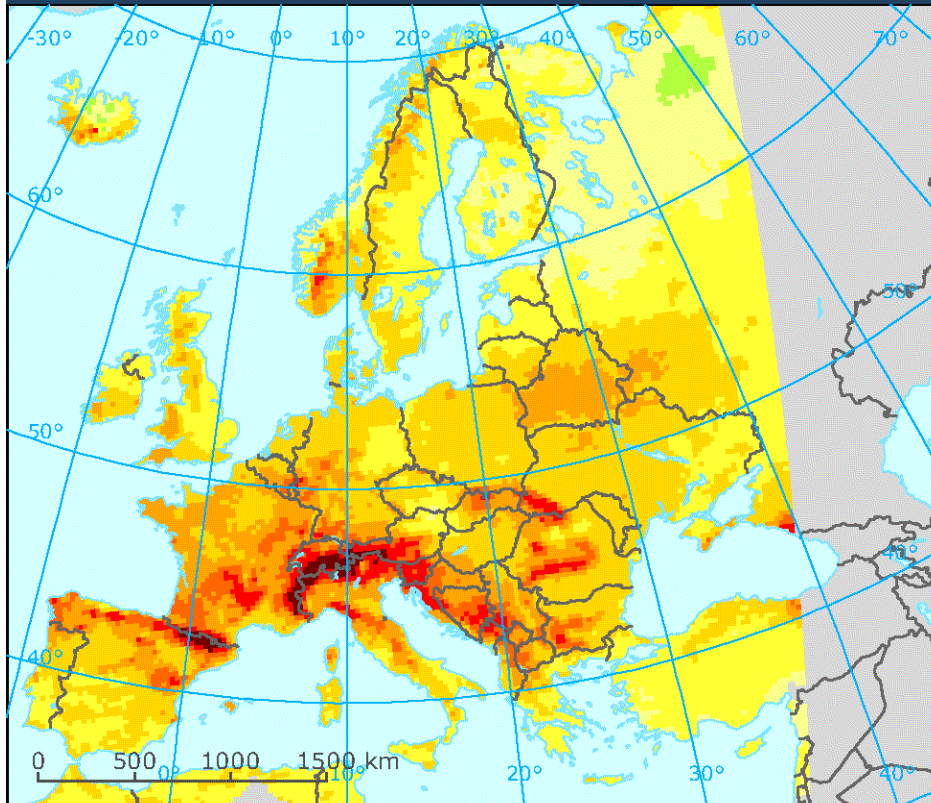
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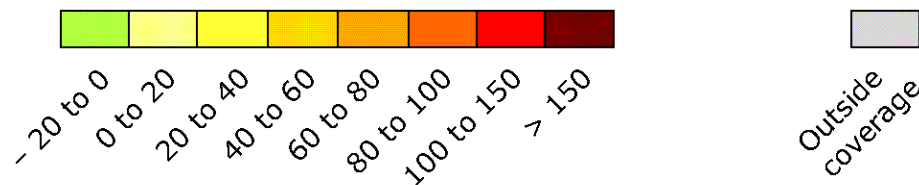
# Example: forest fire risk

Projections show an expansion of the fire-prone area and longer fire seasons



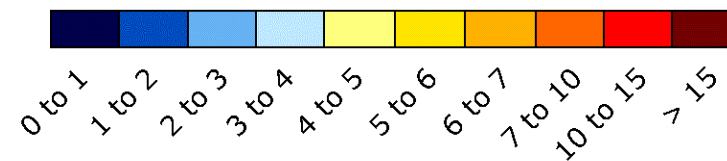
**Projected change in fire danger  
(SSR, 2071-2100 vs. 1961-1990)**

% change in SSR



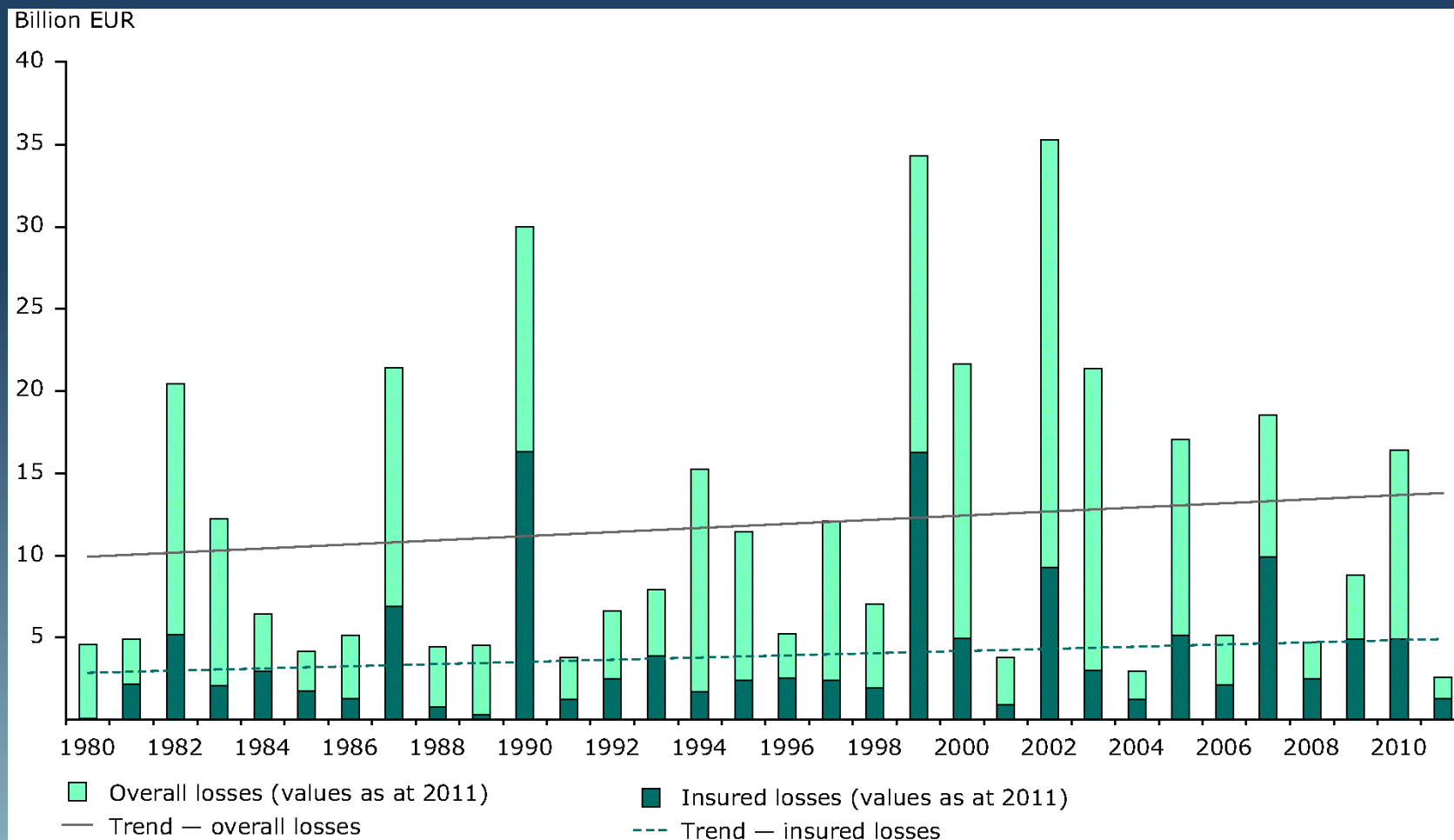
**Projected fire danger (SSR, 2071-2100, annual average)**

SSR



# 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

The screenshot shows the homepage of the European Climate Adaptation Platform (Climate-ADAPT). The header features the logo, navigation links (Sign In, Glossary, Contact, Sitemap, Legal notice, About), and a search bar. The main navigation bar includes Home, Adaptation information, EU sector policies, Countries and other areas, Tools, Links, and Search the database. The central content area is titled "Climate Change Adaptation in Europe" and includes a sub-section "Adaptation support tool" with a numbered diagram (1-6) and a "New to adaptation? Use the Adaptation Support Tool" link. Below this is a "What are European countries doing?" section with a map and a "Choose your country" dropdown. To the right, a "Find case studies on adaptation in Europe" map and a "Share your information" icon are visible. A "Search the database" bar is also present. The bottom section is divided into four columns: "News" (listing EU adaptation strategy launches and LIFE+ calls), "Events" (listing conferences and launch events), "EU sector policies" (listing Agriculture & Forestry and Water management), and "EU information systems" (listing WISE and Biodiversity).

<http://climate-adapt.eea.europa.eu>



CLIMATE-ADAPT

# European Climate Adaptation Platform

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Search the website

Home | Adaptation information | EU sector policies | Countries and other areas | Tools | Links | Search the database

**Adaptation support tool**

New to adaptation?  
Use the Adaptation Support Tool

## Climate Change Adaptation in Europe

### Key tools:

**Adaptation support tool**

**Overview of countries activities**

**Case study search tool**

**Database**

**Share information**

Find case studies on adaptation in Europe

What are European countries doing?

Choose your country

Share your information

### News



- » Apr 2013 EU adaptation strategy launched - advancing adaptation action
- » Apr 2013 EU adaptation strategy: stakeholder event, 29 April
- » Feb 2013 LIFE+ 2013 call for proposals

### Events



- » 17-19 April 2013, 7th European Conference on Sustainable Cities & Towns, Geneva, Switzerland
- » 29 April 2013, Launch event for EU strategy on adaptation to climate change, Brussels, Belgium
- » 31 May - 2 June 2013, Resilient

### EU sector policies



**Agriculture & Forestry**

» [Read more](#)



**Water management**

» [Read more](#)

» [View all sectors](#)

### EU information systems



**Water**



**Biodiversity**

# Adaptation support tool



CLIMATE-ADAPT

European Climate Adaptation Platform

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Search the website

Search...



[Home](#) | [Adaptation information](#) | [EU sector policies](#) | [Countries, regions and cities](#) | **[Tools](#)** | [Links](#) | [Search the database](#)

[General](#) | [Adaptation support tool](#) | [Case study search tool](#) | [Map viewer](#) | [Uncertainty guidance](#) | [Guidelines for project managers](#)



- » 1. Getting started
- » 2. Assessing risks and vulnerability to climate change
- » 3. Identifying adaptation options
- » 4. Assessing adaptation options
  - » 4.1. How to decide which options to include in an adaptation strategy?
  - » 4.2. What are costs and benefits of adaptation?
- » 5. Implementation
- » 6. Monitoring & Evaluation

## 4 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.

[Read more](#)

### Explore the Cost Benefit Database

Climate impact

All climate impacts

Adaptation sector


All adaptation sectors

- » 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 World Bank (2010). Natural Hazards, Unnatural Hazards: The Economics of Effective Prevention.
- » 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

## European Climate Adaptation Platform

Sign In | Glossary | Contact | Sitemap | Legal notice | About

Search the website

Home | Adaptation information | EU sector policies | Countries, regions and cities | Tools | Links | Search the database



### 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>

