



The Copernicus climate change service: EU Climate Policy User Needs

**Velina Pendolovska, Alfonso Gutiérrez Teira, Jelena Milos
DG Climate Action
Climate change projections workshop
Reading, UK
20-21 April 2015**



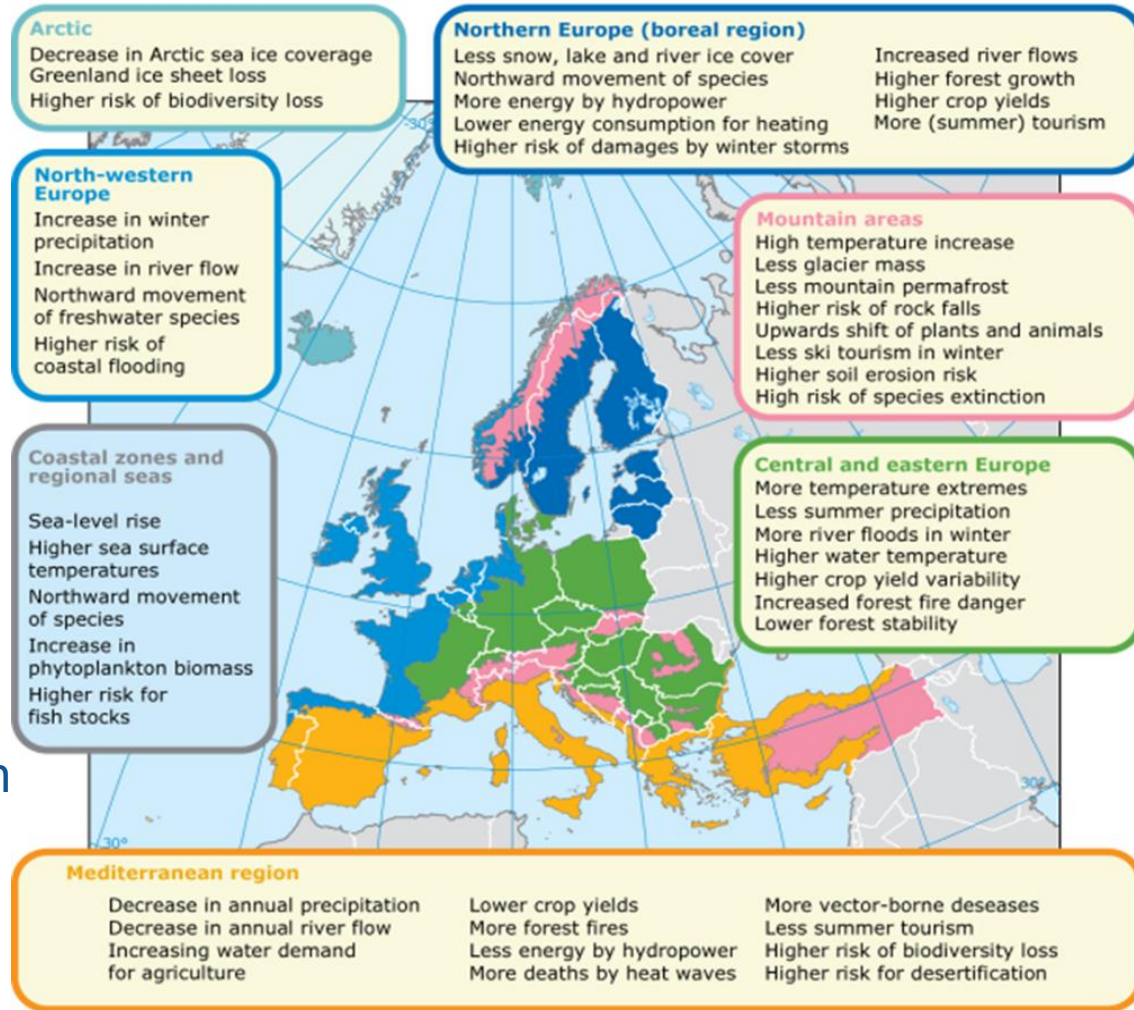
European Commission

Vulnerable EU

The EU is already facing **unavoidable impacts of climate change**

Impacts will affect the full EU territory, with regional differences

Sea level rise, increasing temperatures and changes in precipitation and flood patterns have impact on **coastal areas**



To adapt or to mitigate: is that really a valid question?

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***
 - ➔ 1€ invested in flood protection saves 6€ damage costs.
 - ***Postponed adaptation and maladaptation will lead to higher damage costs.***
 - ➔ ≥ 100 bn/year by 2020; 250 bn/year by 2050 for the EU



Adaptation – main client for Copernicus information and analyses



Priority 1: Promoting action by Member States

Action 1. Encourage MS to adopt Adaptation Strategies and action plans

Action 2. LIFE funding, including adaptation priority areas

Action 3. Promoting adaptation action by cities along the Covenant of Mayors initiative



Priority 2: Better informed decision-making

Action 4. Knowledge-gap strategy

Action 5. Climate-ADAPT



Priority 3: Key vulnerable sectors

Action 6. Climate proofing the Common Agricultural Policy, Cohesion Policy, and the Common Fisheries Policy

Action 7. Making infrastructure more resilient

Action 8. Promote products & services by insurance and finance markets



COPERNICUS and the EU Adaptation Strategy

General considerations

- Adaptation Strategy addresses adaptation in all EU policy sectors (Priority 3), all EU Member States, local level (Priority 1).
- Need for climate observations, projections (several resolutions), ECVs, sectoral indices, communication and capacity building
- EU level:
 - Dialogue with sectors to inform sectoral policies
 - EU indices to inform integrating adaptation in key EU policies and funds
 - Cross-border issues and regional assessments (Mediterranean, mountains)
 - Neighbouring countries and effects in EU of impacts abroad
- MS, Local:
 - Demand for centralised reference site with available climate change information (observation, projections) for 'my location'.
 - Some MS develop own climate services and websites; others do not. Complementarity is important, but challenging.
- Link Copernicus – RTD's roadmap for climate services needed.

Priority 2: Better informed decision-making

Action 4. Knowledge-gap strategy

- Aim: identify and prioritise knowledge gaps
- Feed this into programming Horizon 2020
- Draft paper on knowledge gaps on adaptation submitted to WG6.

KNOWLEDGE GAPS RELEVANT TO COPERNICUS

B.1. DATA, PROJECTIONS AND SCENARIOS

B.1.1. Long term data: long-term monitoring of environmental and social indicators linked to climate change and its effects, through long-term and sustainable programmes. (linked to monitoring, see slide below)

B.1.2. Enhanced access to and comparability of data

- *Improve access to data, identified as a major barrier to the development of comprehensive and comparative IVA assessments.*
- *Ensure compatibility and consistency of data and parameters across the European region, through standardisation and cross-regional cooperation. .*

B.1.3. Coherent and consistent sets of climate scenarios for Europe

- *Ensure comparability of strengths, weaknesses, usability, etc. of regional scenarios developed at European, national and regional levels and scales,*
- *Facilitate bottom-up / top-down links and the nesting of scenarios at different levels to ensure comparability and enable transboundary evaluations of impacts and vulnerability.*

KNOWLEDGE GAPS RELEVANT TO COPERNICUS

B.1.4. Provision of reliable climate information at adequate scales

Information at local scales to inform decision making (short, medium and long term) is needed to enhance adaptation capacity. This involves:

- Improving resolution and parametrisation, developing further regional scenario ensembles,*
- Developing standardized methods and tools for presenting regional projections at resolutions suitable at local scales.*

B.1.5. Address uncertainties of climate projections and scenarios

Support better understanding and reducing uncertainty and its sources to inform decision-making. This involves:

- analysis of models and assessment of propagation of uncertainties.*
- Uncertainties linked to non-linear responses with strong impacts (e.g. ice sheets, sea level) should be addressed.*
- Research on effective tools for communicating uncertainties and building capacity on how to deal with them in adaptation decision-making.*

KNOWLEDGE GAPS RELEVANT TO COPERNICUS

C.3.2. Categorisation and communication of information

Highly technical information on uncertainties, impacts, risks, needs to be translated into content that can be handled by different kinds of users, in most cases not specialised: administrations at several levels (from local to regional), sectoral managers, private sector. This would include:

- Developing language that allows displaying scientific-technical information sources to adaptation practitioners*
- Understanding different user groups' needs, analysing their specific communication needs (regional, sectoral, etc.).*
- Developing tailored information of potential climate change impacts and risks and uncertainties, to users' groups*

KNOWLEDGE GAPS RELEVANT TO COPERNICUS

C.1. CLIMATE SERVICES

C.1.1. European adaptation climate services

- *Identify user requirements and the capacity of climate services to meet them.*
- *Develop interfaces and interaction between climate researchers, climate services providers and the IVA communities, and other potential users, in order to identify and address needs.*
- *Foster cooperation at European level to ensure consistency of approaches, avoid duplication, and reinforce the sharing of information, tools, case studies, experiences etc.*

C.1.2. Development and Provision of guidance on climate services

- *Methods and tools for communicating and providing guidance about*
 - *climate change information provided by climate services,*
 - *how to use scenarios and the information derived from them,*
 - *Managing uncertainty*
- *Catalogues of existing climate services and providers, including experiences using them, cross-border case studies, and Web portals of climate services in countries.*

KNOWLEDGE GAPS RELEVANT TO COPERNICUS

C.3. LINKING THE RESEARCH AND DECISION-MAKING COMMUNITIES

C.3.1. Mechanisms and media for effective communication

and collaboration to bridge the science/policy-practice gap to allow the adaptation decision-making process to be fed with new information, by

- Develop channels and mechanism for enhancing the potential of climate change knowledge sharing and transmission to different potential users' groups: public or private bodies, different sectors and target groups.*
- Research on the role of communication media, including the social media.*
- Collect information on good practices about effective and sustained communication and iterative dialogue processes between researchers and stakeholders, and use the results to foster them.*

KNOWLEDGE GAPS RELEVANT TO COPERNICUS

D.1. MONITORING IMPACTS AND VULNERABILITY

D.1.1. Development of systems of Impacts indicators.

Research and innovation is needed on cost-effective indicator and monitoring systems to monitor climate change and its associated impacts , and detecting the crossing of thresholds. The indicators systems to be developed should build on:

- Identifying indicators ready to be monitored, i.e. building on existing observation and tracking systems
- Focus should be on systems for long-term (sustainable) monitoring.
- Monitoring systems should allow targeting regional and local levels, allowing integration and comparison at higher aggregated levels,
- Establishing IT systems for their maintenance and consultation.
- Advancing and optimizing the interactive use of remote sensing and ground-based information.

KNOWLEDGE GAPS RELEVANT TO COPERNICUS

D.1. MONITORING IMPACTS AND VULNERABILITY

D.1.2. Analysis of observed vs. projected climate change and impacts.

Monitoring of effective climate change and Impacts should be used to analyze reality vs. projections. This analysis would allow:

- Evaluating and refining projections of climate change and impacts*
- Identifying and evaluating thresholds of impacts in systems and rates at which they are approached.*
- Duly interpreted, these should help determine the need for certain policies and the momentum for action.*

Priority 2: Better informed decision-making

Action 5. Climate-ADAPT

- The one-stop shop for climate change adaptation information in Europe
- Inclusion of future Copernicus climate service planned
- Copernicus and Climate-ADAPT should be complementary



About 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](#)

SEARCH THE CLIMATE ADAPTATION DATABASE

Search Term(s):

Keyword Search

Sectors:

Country:

[SEARCH](#)

[Advanced Search](#)

Adaptation support tool

New to adaptation?
Use the Adaptation Support Tool

What are European countries doing?

Choose a country

Find case studies on adaptation in Europe

Share your information

News



- » 20 Jan 2015 ECCA2015 newsletter for latest progress and deadlines
- » 20 Jan 2015 New video on Paris experience of responding to heatwaves
- » 17 Dec 2014 2014 - Europe's warmest year on record

[» More news](#)

Events



- » 26 Mar 2015, Which way to the future?, 4th Informed Cities Forum, Rotterdam, the Netherlands
- » 6 May 2015, URBACT City Festival, Riga, Latvia
- » 12 May 2015, European Climate Change Adaptation Conference, Copenhagen, Denmark

EU sector policies



[Agriculture & Forestry](#)



[Water management](#)

[» View all sectors](#)

EU information systems



[Mayors Adapt](#)



[Water](#)

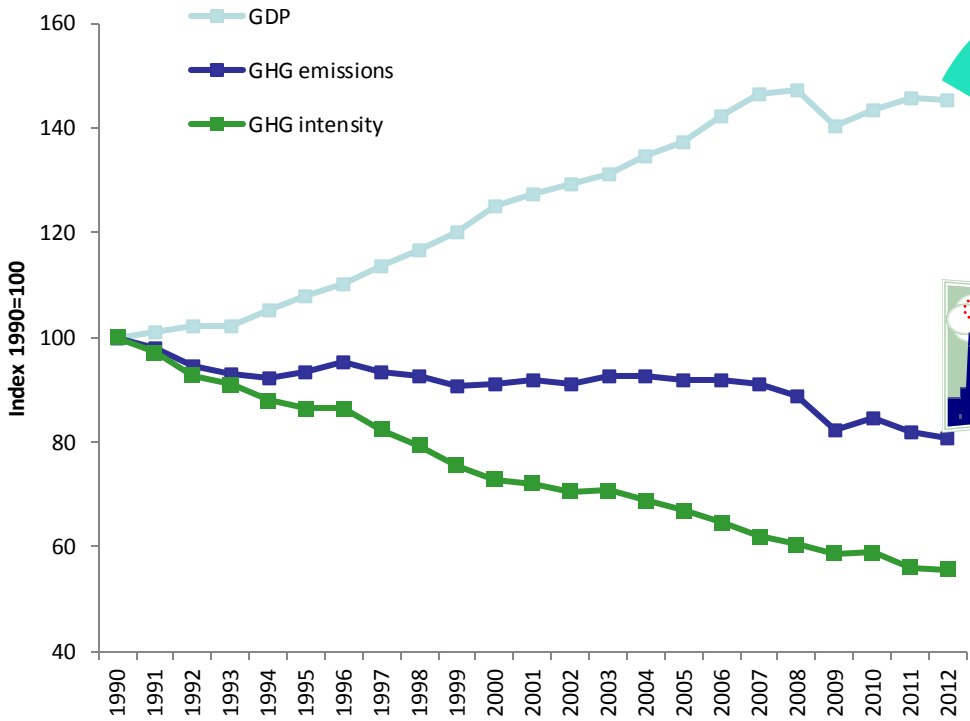


[Biodiversity](#)



Mitigation: Copernicus in support of efforts to reduce emissions, aiding the promotion of renewable energy

Growing EU economy while reducing GHG emissions



Decoupling between economic growth and GHG emissions:

- ✓ EU GDP growth 1990-2012: **45%**
- ✓ Emission decreased by **18%** during the same period
- ✓ GHG emission intensity reduced by almost half over the period

EU is one of the most **energy efficient economies** in the world

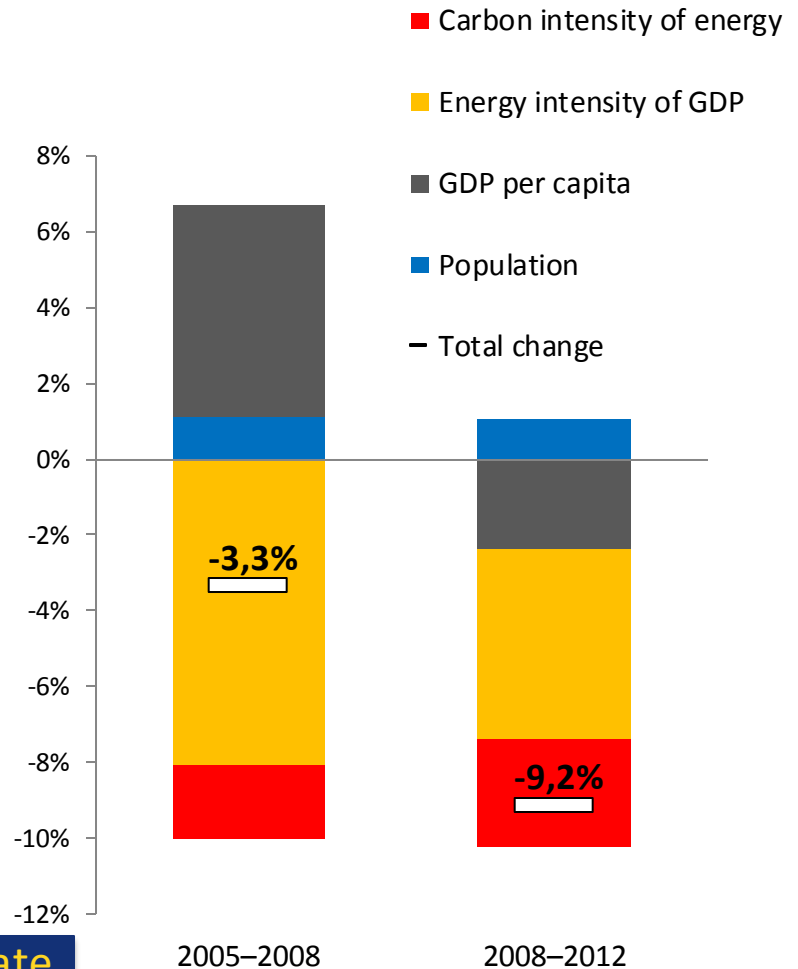
Reduction GHG emissions per capita: from 12 to 9 tonnes/capita

Source: European Commission

EU policies are delivering results

CO₂ emission reduction since 2005 can be attributed to:

- ✓ **Reduced energy intensity** of the economy (including through energy efficiency)
- ✓ **Reduced carbon intensity** of energy use (increased share of renewables)
- ✓ **GDP: economic recession** accounts for less than half of the emission reductions observed since 2008.



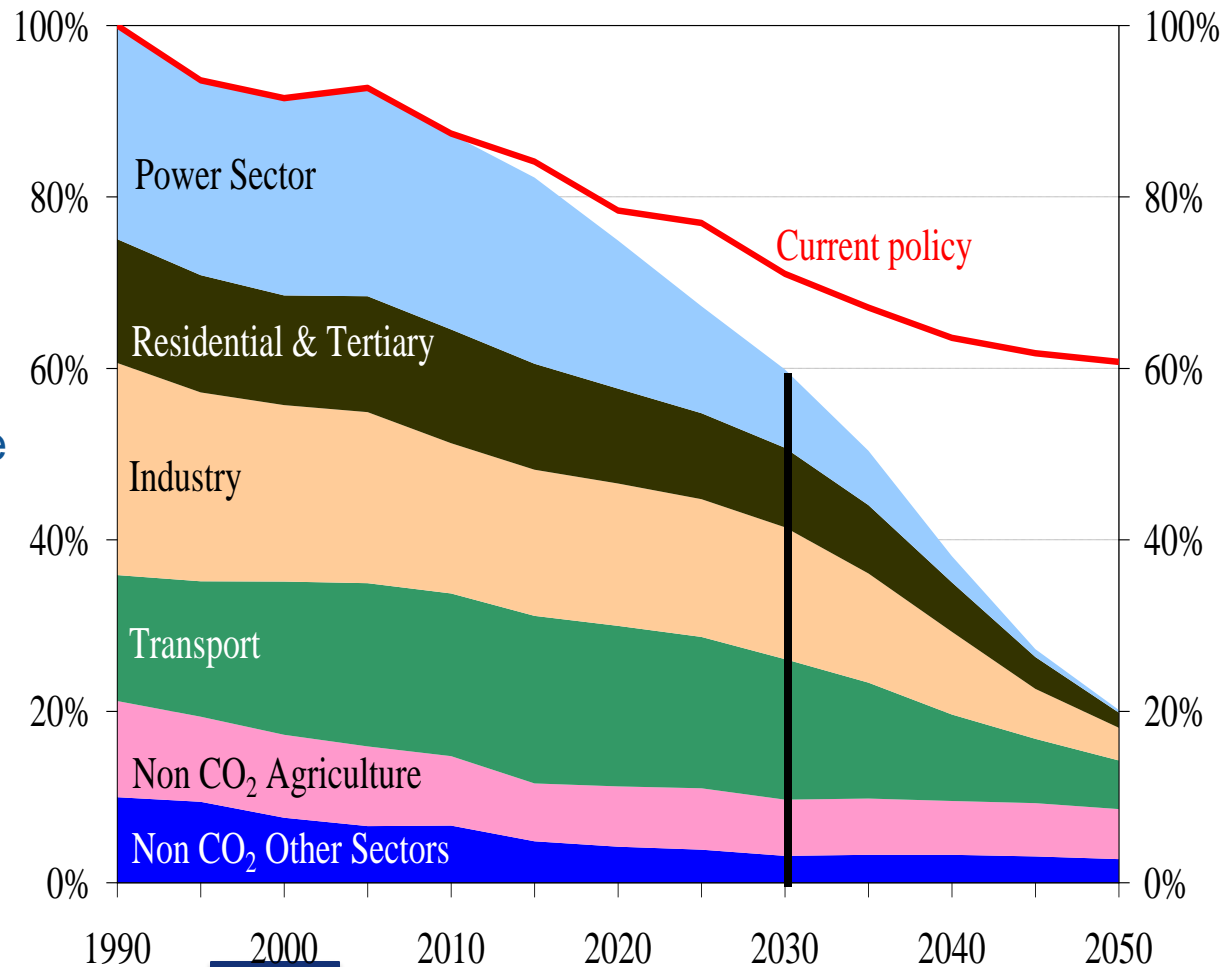
The 2050 Low-Carbon Roadmap

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 and pace.

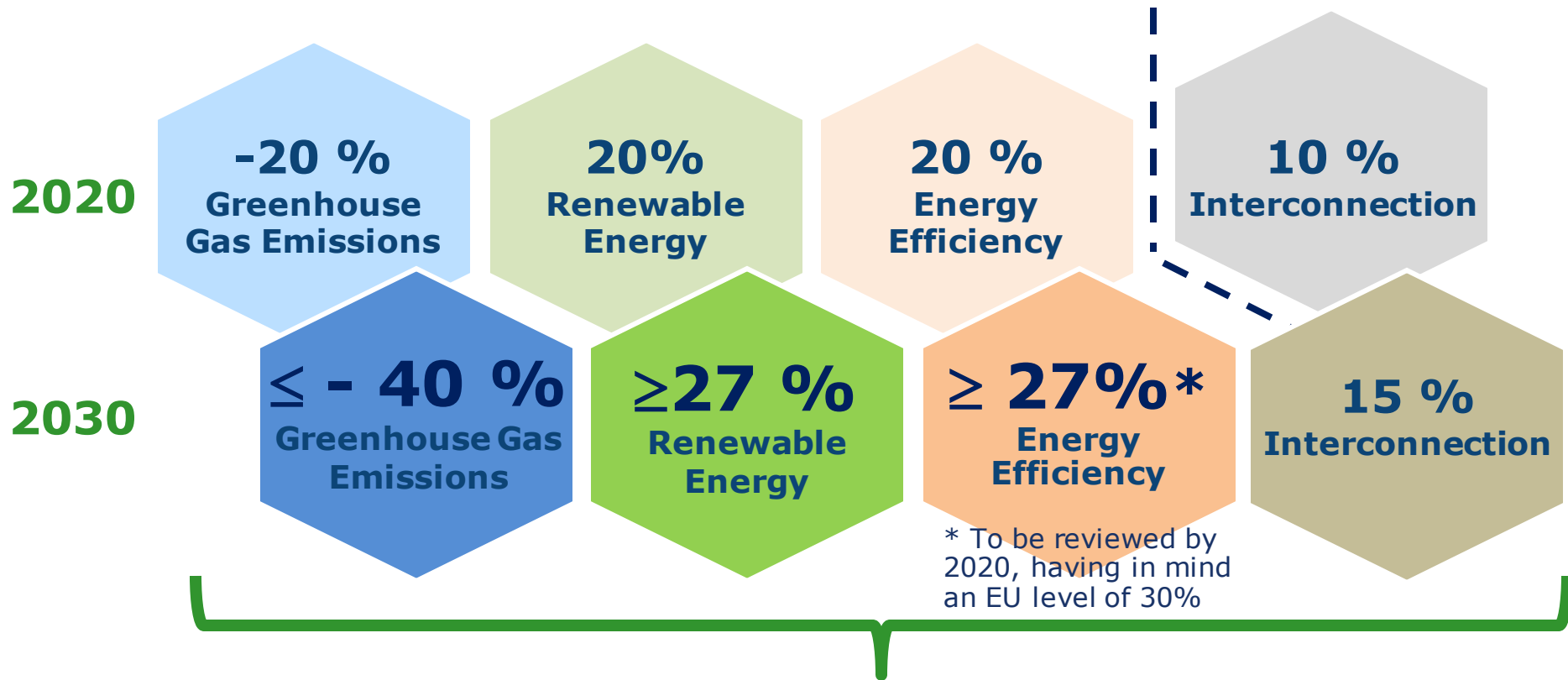
Efficient pathway and milestones:

- 25% in 2020
- 40% in 2030
- 60% in 2040



EU 2030 framework for climate and energy policies

Agreed targets



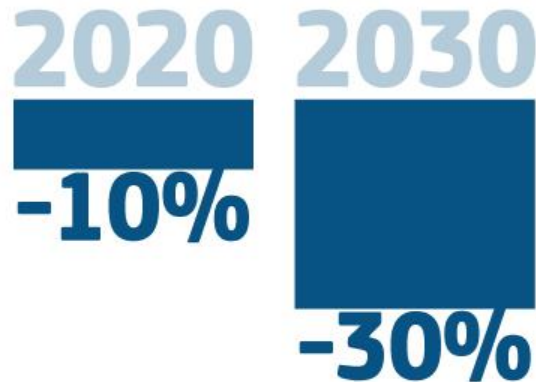
New governance system + indicators



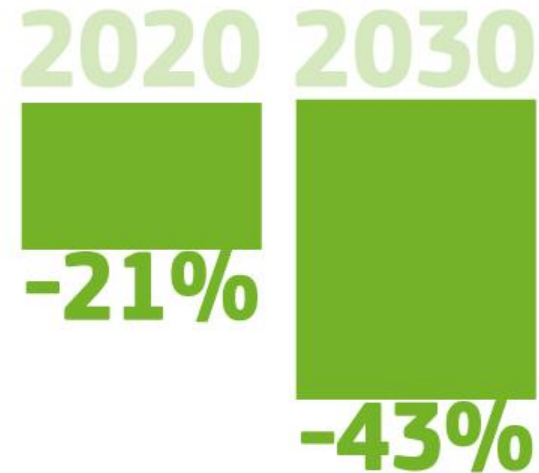
European
Commission

Emission reductions in ETS and non-ETS

**EMISSION
REDUCTIONS
IN ETS AND
NON-ETS**
COMPARED TO 2005



**NON
ETS**
INCLUDING
ROAD TRANSPORT,
HOUSING,
AGRICULTURE
etc.



ETS
INCLUDING
POWER/ENERGY
SECTOR & INDUSTRY

Copernicus and mitigation

Land use, land use change and forestry

- *Information on land use change and forestry: in Europe and globally, in particular on deforestation and forest degradation*
- *Remote monitoring of croplands, grazing lands, wetlands and other carbon pools in support of official greenhouse gas inventory reporting*
- *Information on the carbon cycle and the observed changes in the climate, to underpin IPCC Assessment Reports that guide climate action in line with the 2°C objective*

Renewable energy

- *Information on solar activity and wind patterns in support of renewable energy investors and policy planning*

Thank you!



CLIMATE ACTION

European Commission > Climate Action



Home



About us



Climate
change



EU Action



Citizens



News



Contract &
Grants



News & Events



24/02/2015

[EU sets out vision for Paris agreement alongside Energy Union strategy](#)



16/02/2015

[New financial instruments for environment, energy efficiency and climate action projects](#)



06/02/2015

[EU seeks progress on text of 2015 climate agreement at Geneva talks](#)



19/12/2014

[New funding under the Natural Capital Financing Facility](#)

Policies



[Reducing emissions from transport](#)

Highlights



Search

Search



➤ **Miguel Arias Cañete** -
Commissioner

➤ **ETS Regulatory Updates**



"We are all committed to making Europe the most climate-friendly region in the world"