

# Mainstreaming of Climate Action into ESIF

European Commission  
5<sup>th</sup> meeting of the Expert group on the EMFF  
3 March 2015





## Observed changes and their causes:

- Warming of the climate system is unequivocal
- Widespread impacts on human and natural systems
- Changes in many extreme weather and climate events

## Future climate changes, risks and impacts:


- Continued GHG emissions will cause further warming
- Rising surface temperature for all emission scenarios
- More frequent and longer lasting heat waves
- More frequent and intense precipitation events typically
- Ocean warming, acidification, global mean sea level rise

## Pathways for adaptation, mitigation, sustainable dev.:

- Quick emission reductions will reduce risks, costs and challenges, help climate-resilient sustainable development

## Adaptation and mitigation:

- No single option, but integrated responses, enabling factors



**ipcc**  
INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE  
**CLIMATE CHANGE 2014**  
Synthesis Report

**Headline statements from the Summary for Policymakers\***

**Observed Changes and their Causes**

Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems.

Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen.

Anthropogenic greenhouse gas emissions have increased since the pre-industrial era, driven largely by economic and population growth, and are now higher than ever. This has led to atmospheric concentrations of carbon dioxide, methane and nitrous oxide that are unprecedented in at least the last 800,000 years. Their effects, together with those of other anthropogenic drivers, have been detected throughout the climate system and are extremely likely to have been the dominant cause of the observed warming since the mid-20<sup>th</sup> century.

In recent decades, changes in climate have caused impacts on natural and human systems on all continents and across the oceans. Impacts are due to observed climate change, irrespective of its cause, indicating the sensitivity of natural and human systems to changing climate.

Changes in many extreme weather and climate events have been observed since about 1950. Some of these changes have been linked to human influences, including a decrease in cold temperature extremes, an increase in warm temperature extremes, an increase in extreme high sea levels and an increase in the number of heavy precipitation events in a number of regions.

**Future Climate Changes, Risks and Impacts**

Continued emission of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems. Limiting climate change would require substantial and sustained reductions in greenhouse gas emissions which, together with adaptation, can limit climate change risks.

Cumulative emissions of carbon dioxide largely determine global mean surface warming by the late 21<sup>st</sup> century and beyond. Projections of greenhouse gas emissions vary over a wide range, depending on both socio-economic development and climate policy.

Surface temperature is projected to rise over the 21<sup>st</sup> century under all assessed emission scenarios. It is very likely that heat waves will occur more often and last longer, and that extreme precipitation events will become more intense and frequent in many regions. The ocean will continue to warm and acidify, and global mean sea level to rise.

Climate change will amplify existing risks and create new risks for natural and human systems. Risks are unevenly distributed and are generally greater for disadvantaged people and communities in countries at all levels of development.

Many aspects of climate change and associated impacts will continue for centuries, even if anthropogenic emissions of greenhouse gases are stopped. The risks of abrupt or irreversible changes increase as the magnitude of the warming increases.

\* Headline statements are the overarching highlighted conclusions of the approved Summary for Policymakers which, taken together, provide a concise narrative. The four statements in boxes here are those summarizing the assessment in the Summary for Policymakers, sections 1-4.

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# Territorial climate impacts



## Arctic

Temperature rise much larger than global average  
Decrease in Arctic sea ice coverage  
Decrease in Greenland ice sheet  
Decrease in permafrost areas  
Increasing risk of biodiversity loss  
Intensified shipping and exploitation of oil and gas resources

## Northern Europe

Temperature rise much larger than global average  
Decrease in snow, lake and river ice cover  
Increase in river flows  
Northward movement of species  
Increase in crop yields  
Decrease in energy demand for heating  
Increase in hydropower potential  
Increasing damage risk from winter storms  
Increase in summer tourism

## North-western Europe

Increase in winter precipitation  
Increase in river flow  
Northward movement of species  
Decrease in energy demand for heating  
Increasing risk of river and coastal flooding

## Mountain areas

Temperature rise larger than European average  
Decrease in glacier extent and volume  
Decrease in mountain permafrost areas  
Upward shift of plant and animal species  
High risk of species extinction in Alpine regions  
Increasing risk of soil erosion  
Decrease in ski tourism

## Coastal zones and regional seas

Sea-level rise  
Increase in sea surface temperatures  
Increase in ocean acidity  
Northward expansion of fish and plankton species  
Changes in phytoplankton communities  
Increasing risk for fish stocks

## Central and eastern Europe

Increase in warm temperature extremes  
Decrease in summer precipitation  
Increase in water temperature  
Increasing risk of forest fire  
Decrease in economic value of forests

## Mediterranean region

Temperature rise larger than European average  
Decrease in annual precipitation  
Decrease in annual river flow  
Increasing risk of biodiversity loss  
Increasing risk of desertification

Increasing water demand for agriculture  
Decrease in crop yields  
Increasing risk of forest fire  
Increase in mortality from heat waves

Expansion of habitats for southern disease vectors  
Decrease in hydropower potential  
Decrease in summer tourism and potential increase in other seasons

Source: EEA





## Temperature change relative to 1986-2005

## Precipitation change relative to 1986-2005

Temperature change RCP4.5 in 2016-2035: December-February

Temperature change RCP4.5 in 2016-2035: June-August

Precipitation change RCP4.5 in 2016-2035: October-March

Precipitation change RCP4.5 in 2016-2035: April-September

2016-2035

Temperature change RCP4.5 in 2046-2065: December-February

Temperature change RCP4.5 in 2046-2065: June-August

Precipitation change RCP4.5 in 2046-2065: October-March

Precipitation change RCP4.5 in 2046-2065: April-September

2046-2065

Temperature change RCP4.5 in 2081-2100: December-February

Temperature change RCP4.5 in 2081-2100: June-August

Precipitation change RCP4.5 in 2081-2100: October-March

Precipitation change RCP4.5 in 2081-2100: April-September

2081-2100

“Winter”

“Summer”

“Winter”

“Summer”

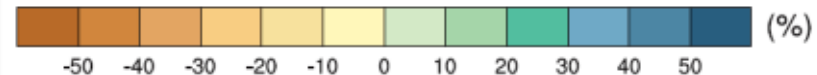
December-February

June-August

October-March

April-September

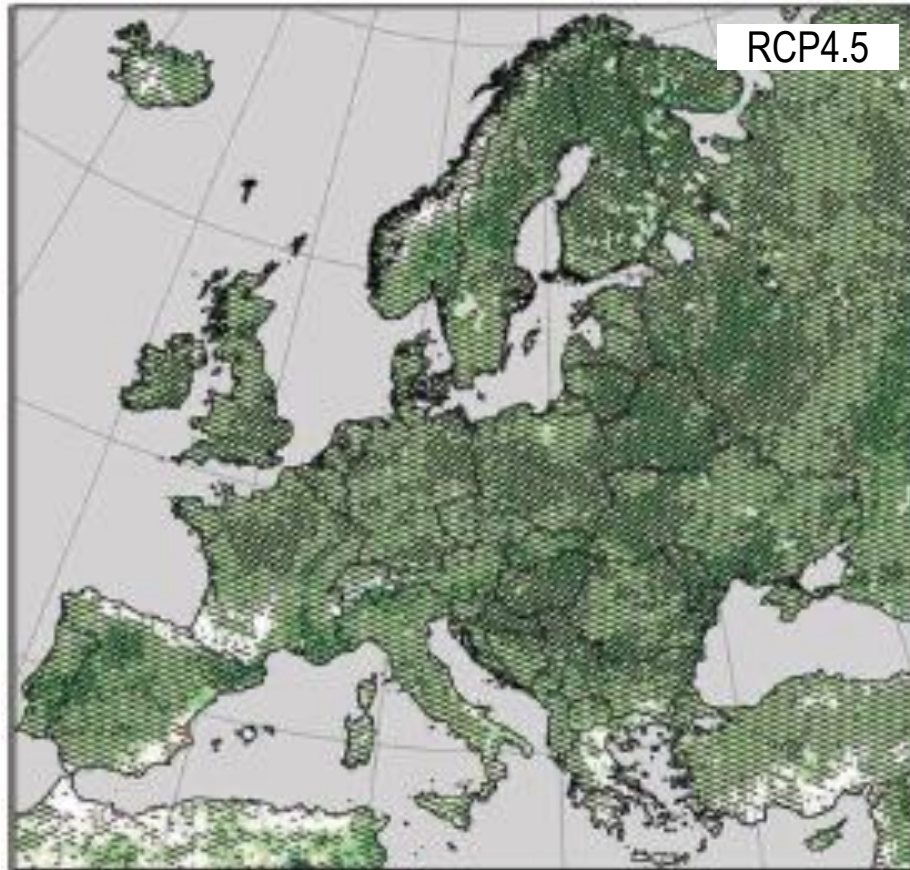
All graphs  
RCP4.5  
scenario







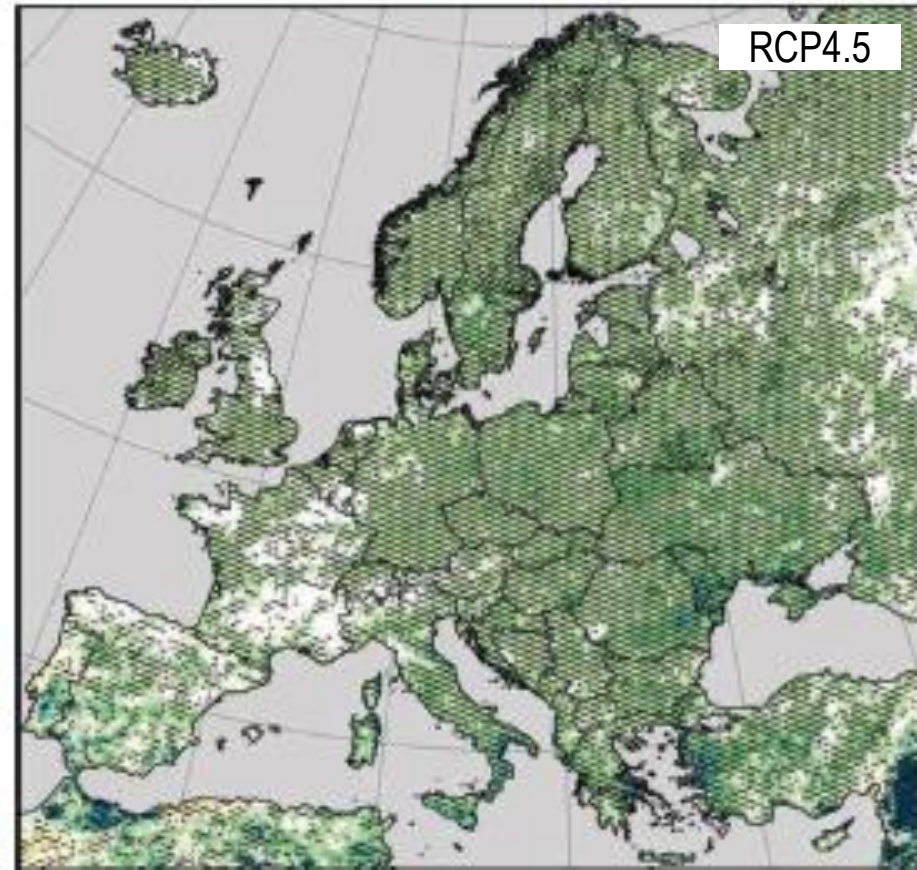
Seasonal changes in heavy precipitation (%), 2071-2100 compared to 1971-2000:



RCP4.5

“Winter”

December-January-February



RCP4.5

“Summer”

June-July-August

Seasonal changes in heavy precipitation in percent



//// Significant change  
/// Robust change



## 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**

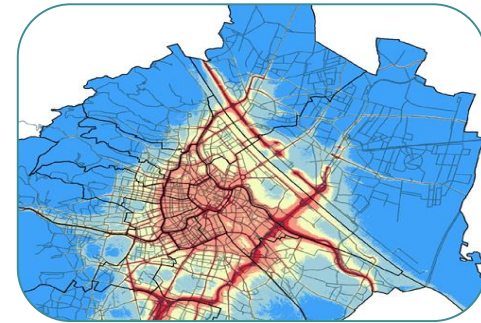
**Action 3. Promoting adaptation action by cities along the Covenant of Mayors initiative**



## 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**







Climate-ADAPT

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# European Climate Adaptation Platform

Search the website

Home | Adaptation information | EU Adaptation Policy | Countries, regions, cities | Tools | Links | Search the database | Newsletter



## 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: Agriculture and Forest ^  
Biodiversity  
Coastal areas v

Country: Albania ^  
Austria  
Belgium v

[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

Events

EU sector policies

EU information systems

# What can we find today in Climate-ADAPT?

Search results: 1486

- ▶ Publications and reports (459)
- ▶ Information portals (125)
- ▶ Guidance (106)
- ▶ Tools (44)
- ▶ Maps, graphs and datasets (101)
- ▶ Indicators (44)
- ▶ Research and knowledge projects (397)
- ▶ Adaptation options (65)
- ▶ Case studies (56)
- ▶ Organisations (89)



|                     |   |
|---------------------|---|
| Type of Data        | + |
| Adaptation sectors  | + |
| Climate Impacts     | + |
| Adaptation Elements | + |
| Countries           | + |
| Year                | + |

## CLIMATE-ADAPT database

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

Most abundant:

- Publications & reports
- Research & knowledge projects

Useful resources:

- Tools
- Adaptation options
- Case studies





## Marine and fisheries

EU policies and instruments include the [Integrated Maritime Policy \(and action plan\)](#) allowing for the [sustainable](#) development of sea-related activities. Its environmental pillar, the [Marine Strategy Framework Directive](#) aims to deliver a 'good environmental status' of the marine environment by 2020. The Common Fisheries Policy is being reformed to achieve sustainable fisheries. The [EU strategy on adaptation to climate change](#) includes a [Staff Working Document on marine issues](#) and a [staff working document on climate change adaptation in the Maritime and Fisheries Fund operational programmes](#) was also published.

[Read more](#)

## Search results

- ▶ Publications and reports (136)
- ▶ Information portals (46)
- ▶ Guidance (41)
- ▶ Tools (7)
- ▶ Indicators (6)
- ▶ Research and knowledge projects (94)
- ▶ Adaptation options (6)
- ▶ Case studies (2)
- ▶ Organisations (36)

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## Indicators

- » Ocean heat content
- » Phenology of marine species
- » Arctic and Baltic sea ice
- » Distribution of marine species
- » Ocean acidification
- » Sea surface temperature

## Resources

- » [Climate Change and Water, Coasts and Marine issues](#)
- » [IPCC Fifth Assessment Report, WGI Chapter 13: Sea Level change](#)
- » [IPCC Fifth Assessment Report, WGI Chapter 3: Observations: Ocean](#)
- » [IPCC Fifth Assessment Report, WGII Chapter 5: Coastal systems and low-lying area](#)
- » [IPCC Fifth Assessment Report, WGII Chapter 6: Ocean Systems](#)
- » [GMES Ocean Monitoring and forecasting \(MyOcean\)](#)
- » [UK Ocean Acidification Research](#)

## Multimedia

- » [NATURA 2000: Safeguarding Europe's biodiversity](#)

[→ EU adaptation policy and funding](#)[→ EU Adaptation Strategy](#)[→ EU sector policies](#)[→ EU funding of adaptation](#)

## Coastal areas

Sea level rise can cause flooding, coastal erosion and the loss of low-lying coastal systems. It will also increase the risk of storm surges and the likelihood of landward intrusion of saltwater in freshwater systems and will endanger coastal ecosystems and wetlands. Expected rises in water temperatures will, furthermore, contribute to a restructuring of coastal ecosystems with implications for ocean circulation, biogeochemical cycling and fishery yields. Ocean acidification will also affect coastal ecosystems.

[Read more](#)

## Search results

- ▶ Publications and reports (180)
- ▶ Information portals (53)
- ▶ Guidance (49)
- ▶ Tools (20)
- ▶ Maps, graphs and datasets (3)
- ▶ Indicators (4)
- ▶ Research and knowledge projects (111)
- ▶ Adaptation options (25)
- ▶ Case studies (40)
- ▶ Organisations (35)

[Share your information](#)

## Indicators

- » [Urban adaptation to climate change in Europe – indicators and maps](#)
- » [Greenland ice sheet](#)
- » [Sea-level rise](#)
- » [Storms](#)

## Resources

- » [IPCC Fifth Assessment Report, WGII Chapter 5: Coastal systems and low-lying area](#)
- » [Impacts of climate change in coastal systems in Europe. PESETA - Coastal Systems](#)
- » [Sea-Level Rise - ClimateCost Technical Briefing Note nr. 2](#)
- » [GMES Ocean Monitoring and forecasting \(MyOcean\)](#)
- » [OURCOAST, the European portal for Integrated Coastal Zone Management](#)
- » [Coastlearn](#)
- » [DEcision support SYstem for](#)

## Multimedia

- » [Melting Arctic: Environmental Atlas of Europe - Greenland](#)
- » [Floating cities: Environmental Atlas of Europe - Holland](#)





## European Structural and Investment Funds (ESIF):

- European Regional Development Fund (ERDF)
- Cohesion Fund (CF)
- European Social Fund (ESF)
- European Agricultural Fund for Rural Development (EAFRD)
- European Maritime and Fisheries Fund (EMFF)

## Climate mainstreaming (mitigation + adaptation) in the:

- Legal basis, guidance documents
- Programming (28 Partnership Agreements, ±535 Programmes)
- Implementation (tracking of climate related expenditure)

## Preliminary outcome (programming on-going):

- About € 110 billion climate related expenditure, ±24-25% of ESIF
- Contributes to: Europe 2020 Strategy, devoting at least 20% of MFF 2014-20 for climate objectives, climate mainstreaming into a range of EU policies





## Next steps:

- **Programming:** Finalise the remaining programmes. Maintain the current level of climate action and pursue additional climate action where relevant
- **Implementation:** Give attention to the early and speedy implementation of the programmes and the foreseen climate action
- **Monitoring:** Use the climate tracking methodology in Commission Implementing Regulation 215/2014 to support the timely implementation of the foreseen climate action
- **MFF 2014-2020:** Mid-Term Review end 2016. Opportunity for further focus on the contribution from climate action towards jobs, growth and competitiveness



## Where are we with the EMFF?

- MS are requested to make the best use of EMFF measures in support of climate change objectives.
- An Implementing Regulation defines the methodology for the calculation of support by attaching coefficients to each of the main measures supported by the EMFF; the coefficients reflect the climate change relevance of each of the measures (COM IR (EU) No 1232/2014)



# EMFF support to climate objectives: fisheries measures

EMFF can contribute to climate change mitigation by supporting energy efficiency in fisheries and aquaculture.

- In fisheries, the EMFF may support
  - Permanent cessation of fishing activities (Art.34)
  - Energy efficiency on-board fishing vessels (Art. 41)
    - Investments on board to reduce emissions
    - Investments in fishing gear
    - Energy efficiency audits and schemes
    - Studies on alternative propulsion systems and hull designs
    - Support to replacement of engines (provided engine power is reduced)

# EMFF support to climate objectives: other measures

- Investments in aquaculture increasing energy efficiency, renewable energy.
- Investments improving fishing ports and auction halls infrastructure or landing sites and shelters.
- Innovation
- Protection of the marine environment
- Sustainable use of marine and coastal resources
- Implementation of local development strategies
- Improving the knowledge of the state of the marine environment

# Example: EMFF support to fuel efficiency expected results by 2023

By 2023, it is expected that EMFF support to:

- Permanent cessation (of less fuel efficient fishing vessels)
- Investments to improve energy efficiency (in particular engine replacement).
- Switching to more selective fishing (often less fuel intensive)
- Other innovations (e.g. fish conservation techniques) which may also improve fuel efficiency.

Should result in a contribution to climate objectives by:

- Further improvements in fuel efficiency (ca 10% decrease in fuel consumption over 2008-2012)



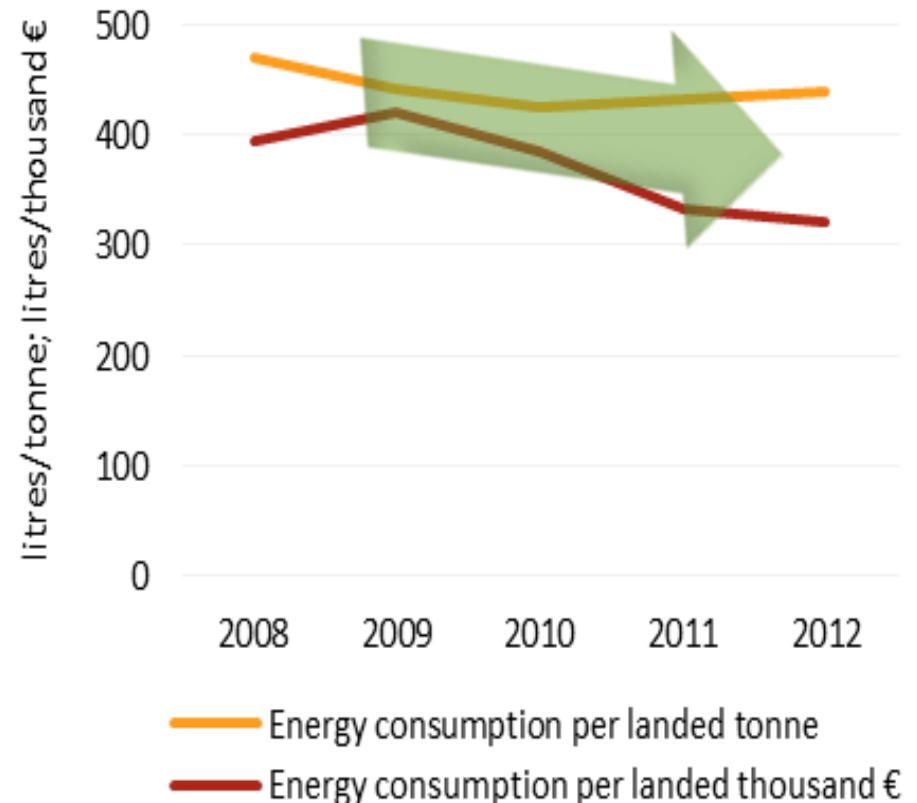
# EU overview: fuel efficiency

## Fuel efficiency "energy consumption/fish landed": current trends and targets 2023

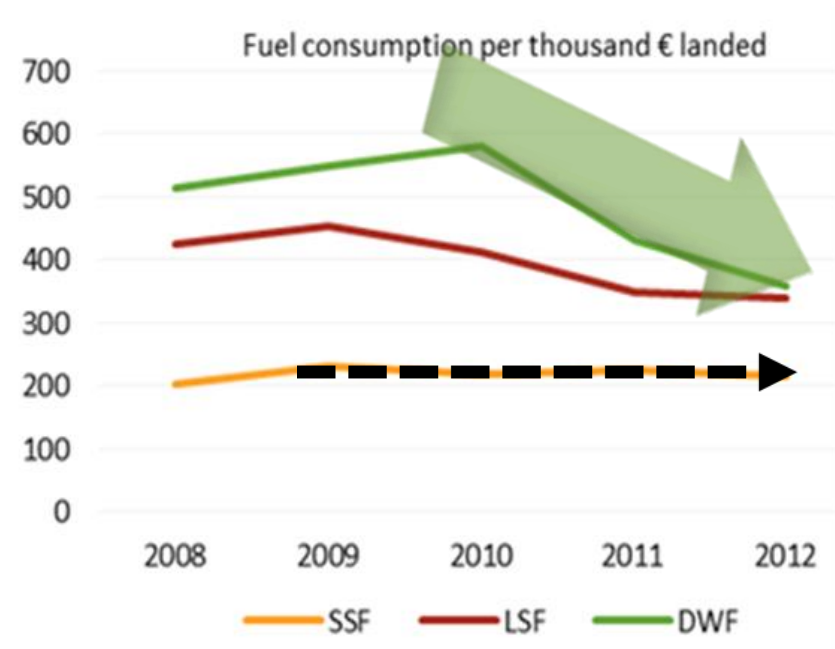
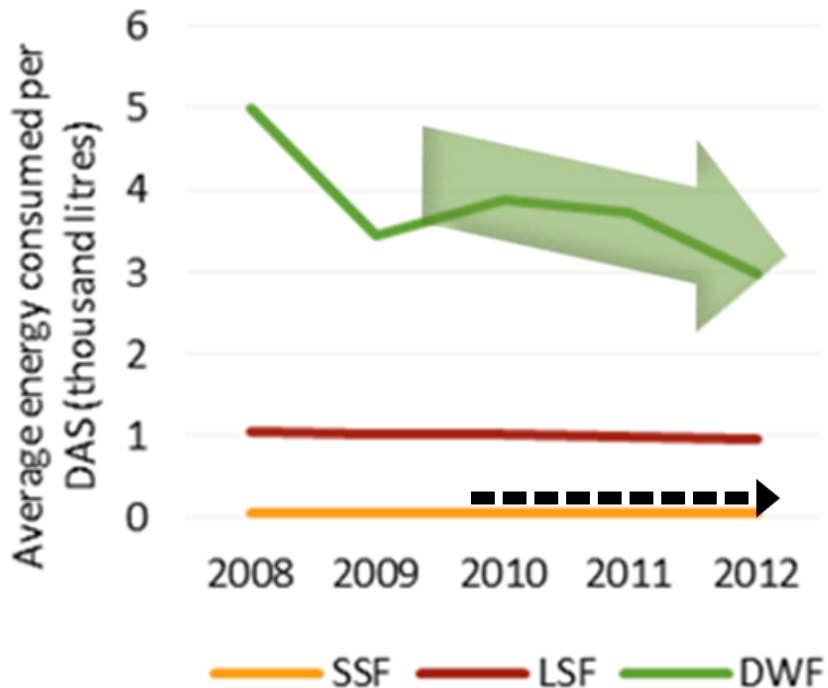
The EU fleet's fuel consumption has decreased. This is mainly due to changes in fishing practices and the introduction of energy-saving technologies (more environmentally friendly fishing gear etc.).



Energy consumption in millions of litres of fuel (based on a sample of national fleets)



# EU overview: fuel efficiency by fleet category (detailed information)



# Indicative amount of support to climate change objectives in EMFF OPs

16 OPs officially submitted so far

- 4 MS indicative amount above 20%
- 12 MS indicative amount below 20%
- Average 20.3%

Remaining OPs expected to maintain this average



Thank you for the attention



## Directorate-General for Climate Action ("DG CLIMA")

<http://ec.europa.eu/clima>

### **EU Strategy on Adaptation to Climate Change:**

[http://ec.europa.eu/clima/policies/adaptation/index\\_en.htm](http://ec.europa.eu/clima/policies/adaptation/index_en.htm)

[http://ec.europa.eu/clima/policies/adaptation/what/documentation\\_en.htm](http://ec.europa.eu/clima/policies/adaptation/what/documentation_en.htm)

### **European Climate Adaptation Platform:**

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

### **Fact sheets on climate mainstreaming:**

[http://ec.europa.eu/clima/publications/index\\_en.htm#Mainstreaming](http://ec.europa.eu/clima/publications/index_en.htm#Mainstreaming)

