

Workshop

“The economics of climate change adaptation measures under WFD, MSFD and ICZM ”

11-13 April 2016

ECRAN ..

Presentation of the EU most recent
developments related to the
adaptation measures



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Structure of the presentation

- EU Directives and policies
- WFD and climate changes
- FD and climate changes
- EC guidance document 24
- Blueprint
- Climate adapt
- UNECE guidance
- EU Adaptation Strategy



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EU Directives and Policies

- WFD and its daughter directives
- Flood Directive
- EU Policy Water Scarcity and Droughts
- EC's White Paper on Adaptation
- EU CIS Guidance No. 24



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WFD and Climate changes

WFD - establishes a legal framework to protect and restore the water environment and to ensure the long-term sustainable use of water.

Climate change is not explicitly included in the WFD text!

However, the WFD provide a valuable framework for adaptation.

Climate change should be considered in the different steps of the WFD implementation and RBM planning and implementation process, such as:

- River basin characterization
- Pressures and impacts assessment
- Economic analysis
- Monitoring
- Preparation of the programmes of measures
- Establishment of the environmental objectives

River Basin Management Plans should consider climate changes effects!!



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Climate change in the WFD implementation (1)

Pressures and impacts assessment

Pressures assessment, in different scenarios considering climate projections, taking account of the direct and indirect influences of climate change due to human activities adapting to climate change

Monitoring and status assessment

Set up an investigative monitoring programme for climate change and for monitoring climate change "hot spots", and try to combine them as much as possible with the results from the operational monitoring programme.

Looking for opportunities in the monitoring programme to improve our understanding of climate change trends

Establishment of the environmental objectives

Objective setting in line with the WFD.

Economic analysis of water use

Assess economic value of the water use, per economic sectors, taking into account future projections trends, with consideration of the climate change when taking account of long term forecasts of supply and demand of water use.



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Climate change in the WFD implementation (2)

Preparation of the Programme of Measures

- Perform climate check , taking into account of likely or possible future changes in climate when planning measures today, especially when these measures have a long lifetime and are cost-intensive, and assess whether these measures are still effective under the likely or possible future climate changes.
- Integrating the impacts of climate change when identifying measures
- Proposing appropriate adaptation of actions where necessary
- Select measures that are robust and flexible to the climate change uncertainty

Design measures on the basis of the pressures assessment including climate projections, and with cross sectoral benefits

Apply WFD Article 4.7 to adaptation measures that are modifying the physical characteristics of water bodies (e.g. reservoirs, water abstractions, dykes) and deteriorate water status.



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Climate change in the WFD implementation (3)

Environment and Climate
Regional Accession Network **ECRAN**

Which measures in the Programme of Measures are exposed to climate change?

- Climate issues may be relatively significant for measures related to:
 - protected areas
 - abstractions
 - physical modifications to river and marine morphology.
- Point-source discharges and diffuse land use pressures such as agriculture, forestry and untreated wastewater systems.



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Other legal initiatives complementing the WFD

Environment and Climate
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Adapting water resources management to climate change impacts requires:

- change in management practices and land use
- technology developments
- protection of current water resources
- recovery of declined ecosystems.

Call for an integrated and strategic planning approach to include adaptation measures in water resources management, both in the short and in the long term, considering interlinkages with FD, scarcity and droughts, MSFD.

Successful adaptation strategies have to include climate proof measures in water-related sectors, in particular those that are important as users and consumers of water resources, such as agriculture, electricity, navigation and tourism.

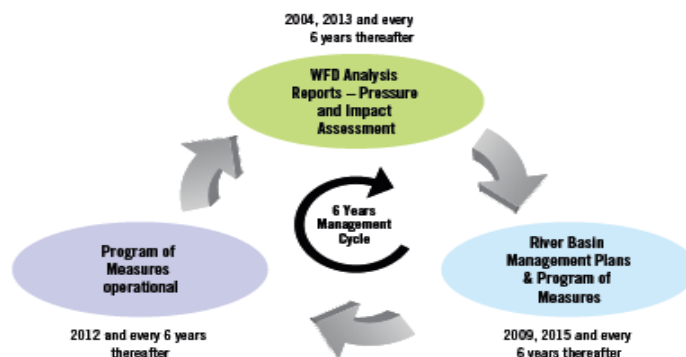


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WFD, RBMP and climate changes



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Flood Directive and Climate changes

The EU Floods Directive 2007/60/EC (EFD)⁵ establishes a legal framework for the assessment and management of flood risks, aiming at reducing the adverse consequences of floods to human health, the environment, cultural heritage and economic activity.

Climate change is explicitly included in the Floods Directive!

The preliminary flood risk assessment should include an assessment of the impacts of climate change on the occurrence of floods

For the implementation of the Floods Directive, coordination with the implementation of the WFD is required in order to ensure that differing and conflicting interests can be properly balanced and maximum synergies are gained.

The directive requires the elaboration of the Flood Risk Management Plan for those areas where potential significant flood risk has been assessed. The Management Plan should provide adequate and coordinated measures to reduce this flood risk, taking into account the possible impact of climate change.

The core elements of the flood risk management cycle are the preliminary flood risk assessment flood hazard and risk maps and flood risk management plans.

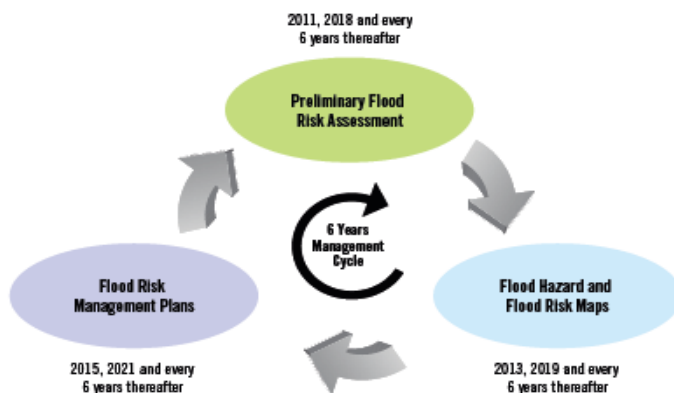


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FD, FRMP and climate changes



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MSFD and climate changes (1)

MSFD aim: to achieve good environmental status of the EU's marine waters by 2021, and to protect the resource base upon which marine-related economic and social activities depend.

The Marine Strategy identifies climate change as **one of the main pressures on the marine environment**.

The protection of the marine environment should be flexible enough to allow for an adaptation to changing pressures and impacts, which may be caused by climate change.



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MSFD and climate changes (2)

The Marine Strategy provides a broad framework for effective adaptation policies.

EC Green Paper on Maritime Policy (2007) makes clear statements as to the challenges that will have to be addressed.

- It emphasizes that adaptation strategies, to mitigate the effects of climate change on coastal regions, including the organization of sea defense, will be required to manage risks for coastal and offshore infrastructure resulting from sea level rise and increased flooding.



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Integrated coastal zone management (ICZM) and climate changes

Coastal zones are among the most vulnerable areas to climate change and natural hazards.

Risks include flooding, erosion, sea level rise, extreme weather events.

Integrated coastal management aims for the coordinated application of the different policies affecting the coastal zone and related to activities such as nature protection, aquaculture, fisheries, agriculture, industry, off shore wind energy, shipping, tourism, development of infrastructure and mitigation and adaptation to climate change.

It will contribute to sustainable development of coastal zones by the application of the 'ecosystem based approach'.

Integrated coastal management covers the full cycle of information collection, planning, decision- making, management and monitoring of implementation.



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EU CIS Guidance document No. 24 Environment and Climate Regional Accession Network ECRAN RIVER BASIN MANAGEMENT IN A CHANGING CLIMATE (2009)

The EU CIS Guidance document shows ways on how to integrate climate change into the 2nd and 3rd River Basin Management (RBM) cycles of the WFD with a special focus on floods and droughts, and on how to ensure that the River Basin Management Plans (RBMP's) are climate-proofed.

Main topics

- Climate modeling, projections, scenarios, potential impacts and uncertainty
- Getting started: how to build adaptive capacity for management under climate change
- Water Framework Directive and adaptation
- Flood risk management and adaptation
- Drought management and water scarcity and adaptation



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Blueprint to Safeguard Europe's Environment and Climate Regional Accession Network ECRAN Water Resources (2012)

The overall objective of the Blueprint is to improve EU water policy in order to ensure good quality water, in adequate quantities, for all authorized uses.

It will ensure a sustainable balance between water demand and supply, taking into account the needs of both people and the natural ecosystems they depend on.

The Blueprint's policy recommendations will be based on the results of four ongoing assessments:

1. analysis of the WFD's river basin management plans (RBMP);
2. review of the 2007 policy on water scarcity and drought;
3. the water's vulnerability to climate change and man-made pressures; and
4. outcome of the fitness check of EU freshwater policy.



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EU White Paper (2009)

The EU White Paper “Adapting to climate change: Towards an European framework for action” calls for a **more strategic approach to climate change adaptation across different sectors and levels of governance:**

- to promote strategies which increase resilience to climate change e.g. by improving the management of water resources and ecosystems
- to deliver adaptation actions for flood risk, water scarcity and drought management and river basin management through catchment-based approaches.



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CLIMATE-ADAPT

The European Climate Adaptation Platform (<http://climate-adapt.eea.europa.eu>) provides:

- information on expected climate change
- the current and future vulnerability of regions and sectors
- national and transnational adaptation strategies
- adaptation case studies and
- potential adaptation options and tools that support adaptation planning.



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UNECE Guidance on Water and Adaptation to Climate Change (2009)

The UNECE Guidance aims to support decision makers from the local to the transboundary and international level by offering advice on the challenges caused by climate change to water management and water-related activities and for developing adaptation strategies.



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EU Adaptation Strategy (2013)

The strategy sets out a framework and mechanisms for preparing the EU for current and future climate impacts.

Main objectives

- promoting action by Member States;
- promoting better-informed decision-making; and
- promoting adaptation in key vulnerable sectors.

On a national level: MS have adopted National Adaptation Strategies.

The overall aim is to enhance the EU's preparedness for and the capacity to respond to the impacts of climate change.

Main objectives

- promoting action by Member States (MS);
- promoting better-informed decision-making; and
- promoting adaptation in key vulnerable sectors.

At least 20% of the EU's budget for the years 2014-2020 should be spent on climate change mitigation and adaptation.



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Summary of adaptation issues due to climate changes

Increased competition for water resources during the summer months

Irrigation is likely to increase for some agricultural practices

Irrigation both increases competition for available resources as well as increasing the pollution risk

Projected reductions in soil moisture will also have implications for agricultural practices

Reductions in groundwater levels are expected with significant implications for groundwater supplies

Pressures on groundwater dependent habitats and species are likely to increase

Increased flooding are likely to cause significant damage to property and infrastructure



For coastal areas, sea level rise is likely to impose adaptation measures.

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Thank you!



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