



Towards a Framework for Adaptation to Climate Change

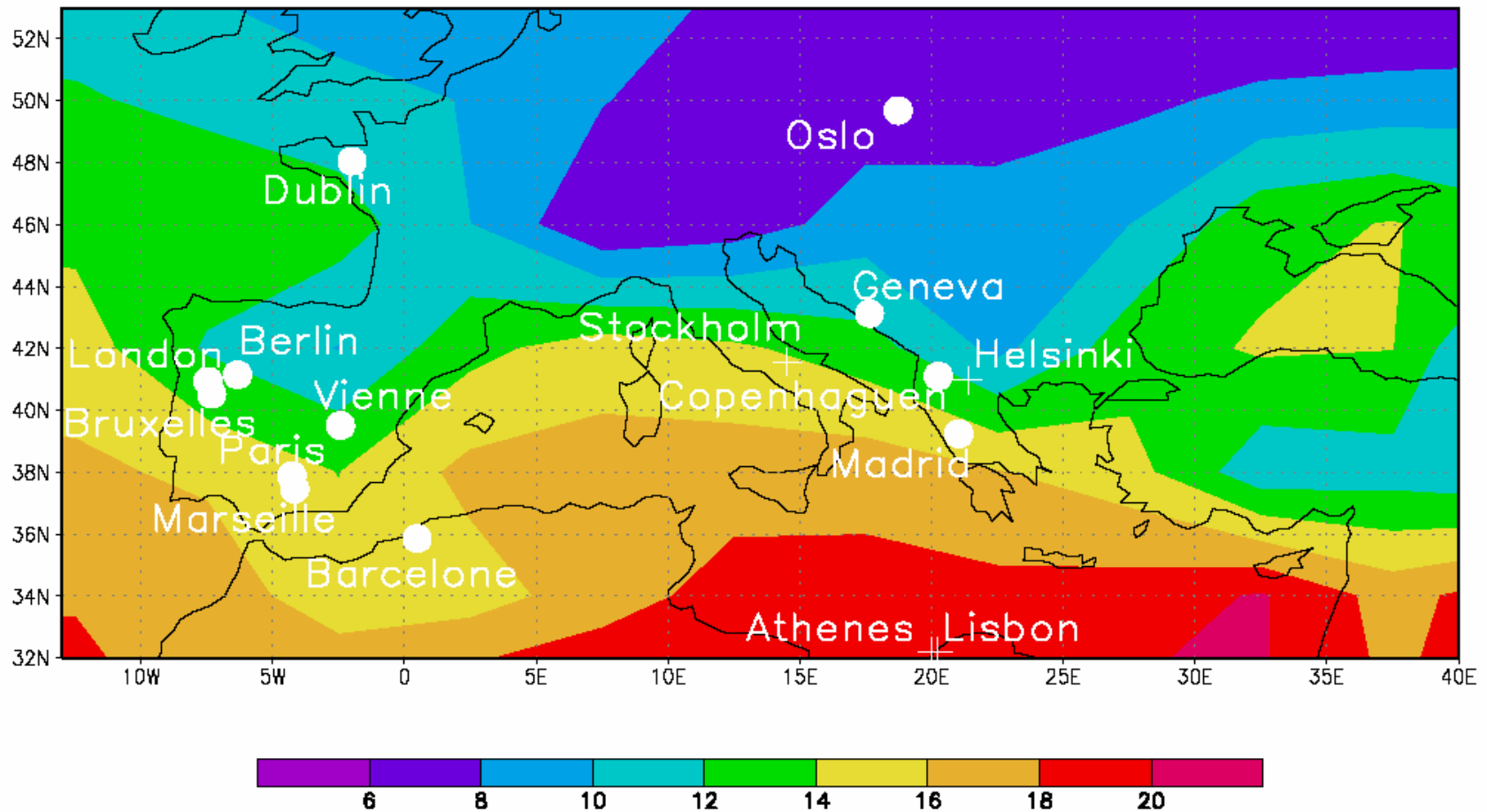
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WFD CIS activity on Climate Change and Water



ILLUSTRATING THE PROBLEM

Climate analogues in 2070, Hadley Centre Model, SRES A2



Hallegatte, Ambrosi, Hourcade (2007)

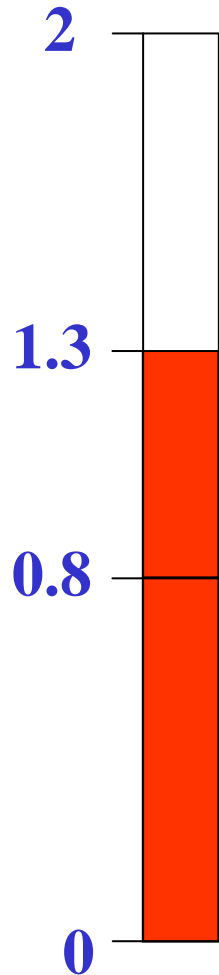


MITIGATION vs ADAPTATION

- **Mitigation** – taking actions to
 - reduce ghg emissions
 - enhance ghg sinks
- **Adaptation** – taking actions to
 - cope with CC impacts at present
 - anticipate changes in future
- **‘Climate proofing’** – taking explicit account of CC to ensure the sustainability of investments

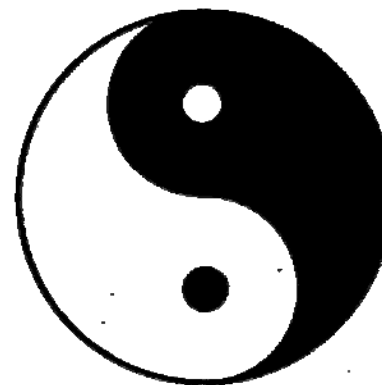


MITIGATION vs ADAPTATION



- ❖ Despite our mitigation efforts, climate change is happening
- ❖ EU goal: to maintain global warming at + 2°C (pre-industrial times)
- ❖ Efforts in mitigation and adaptation are complementary, but adaptation is no substitute for mitigation

ADAPTATION



MITIGATION



INITIATIVES LINKED TO MITIGATION

Since 1991 the EU is committed to reduce GHG emissions

- o **2001: ECCP I**
- o **2003 : ETS - Directive for GHG emission allowance trading**
- o **2005 : Kyoto protocol enters into force. ECCP II**
- o **2007 : Communication: "Limiting Global CC to 2°C"**
- o **2008 : Ambitious package of proposals to fight climate change and promote renewable energy in line with EU commitments (20 20 2020)**



OBJECTIVES OF ADAPTATION FRAMEWORK

Contributing to establish a European framework to

- **improve the resilience** of social and economical systems as well as ecosystems across Europe and in other parts of the world,
- **reduce their vulnerability** to the impacts of climate change
- ensure that crucial areas such as **food security**, human **health**, **ecosystem protection**, economic and social **cohesion** and **energy supply** are guaranteed



INITIATIVES LINKED TO ADAPTATION

EU + EXTERNAL

UN
Framework Conv.on
Climate Change
Article 4

Communications
Disaster
Prevention and Control
2008

Green Paper
Adaptation
June 2007

**ADAPTATION
FRAMEWORK**

White Paper
Adaptation
Autumn 2008

WATER- EU

Communication
Droughts & Water Scarcity
2007

Floods Directive
2007

And many others...



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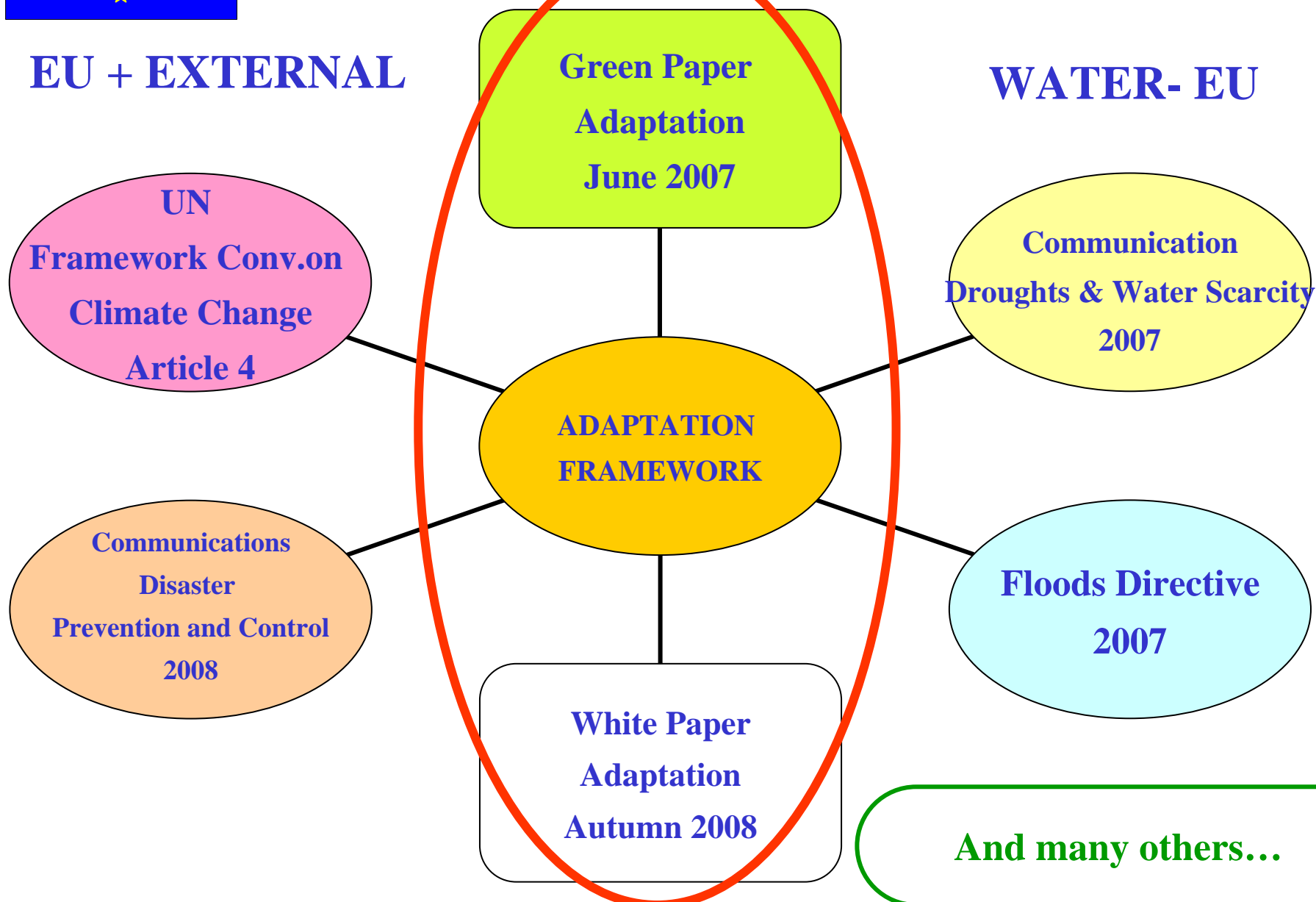
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INITIATIVES LINKED TO ADAPTATION

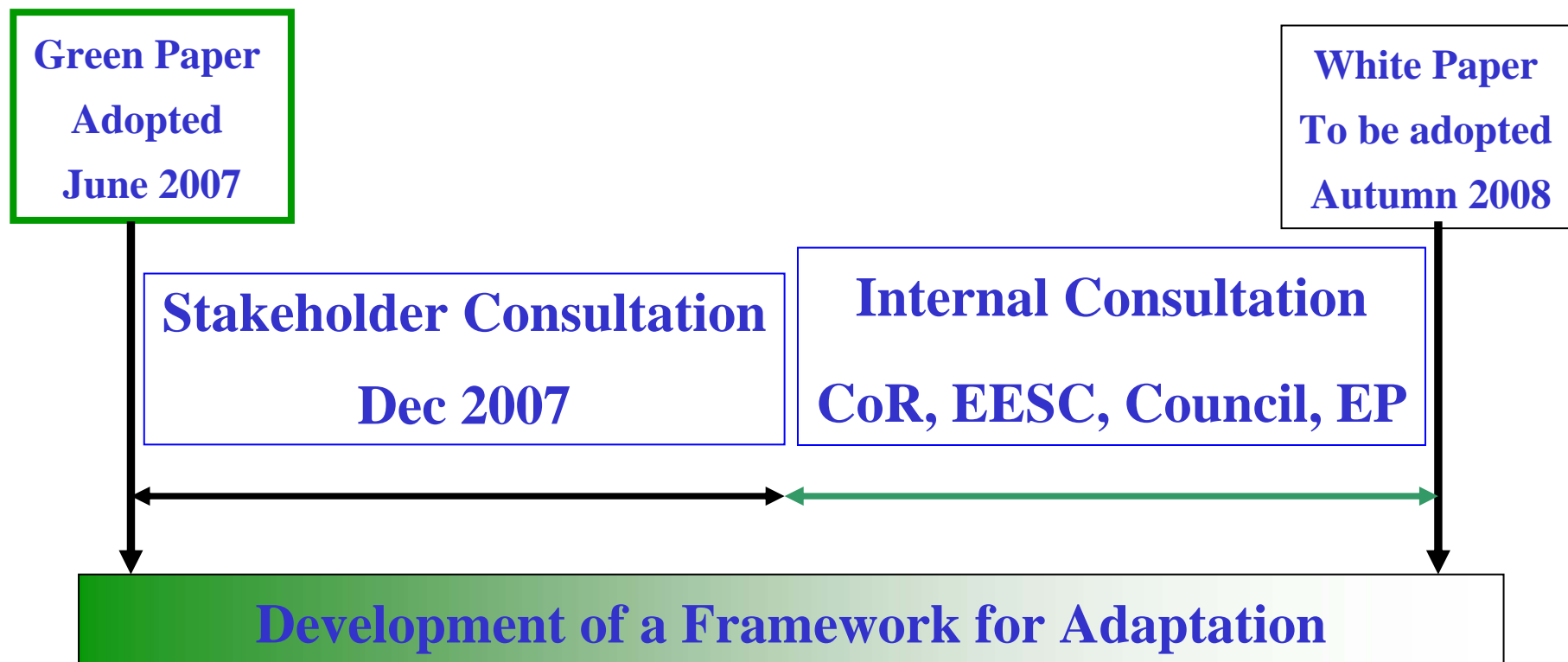
EU + EXTERNAL

WATER- EU





POLICY MAKING PROCESS





Green Paper on Adaptation to Climate Change

Based on four pillars

- **Early action** in the EU
- **Integrating adaptation** into EU external actions
- Reducing uncertainty by expanding climate **research**
- **Involving European society** in the preparation of comprehensive adaptation strategies



POLICY MAKING PROCESS

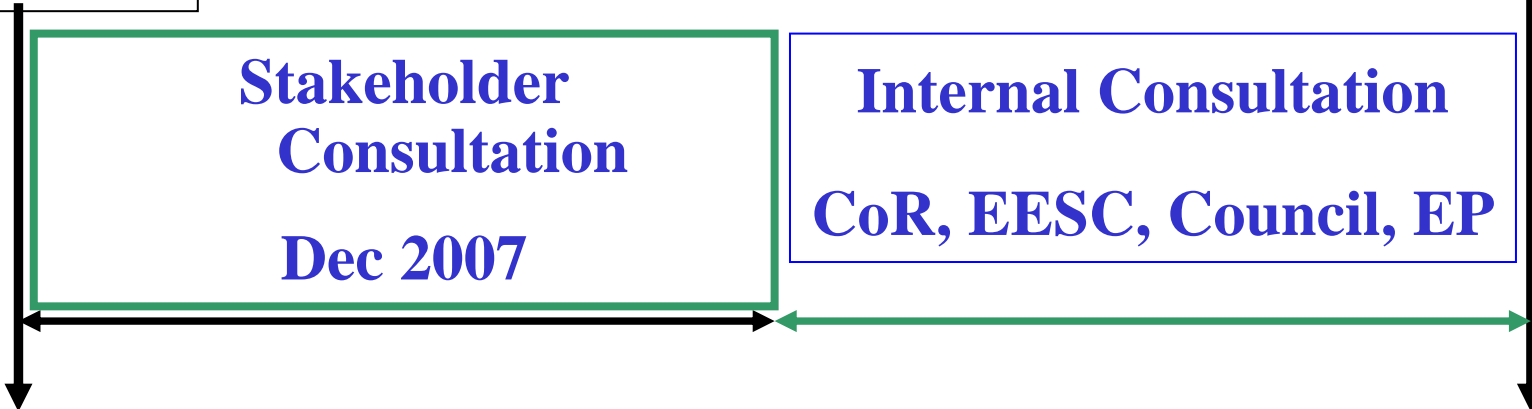
**Green Paper
Adopted
June 2007**

**White Paper
To be adopted
Autumn 2008**

**Stakeholder
Consultation
Dec 2007**

**Internal Consultation
CoR, EESC, Council, EP**

Development of a Framework for Adaptation





POLICY MAKING PROCESS

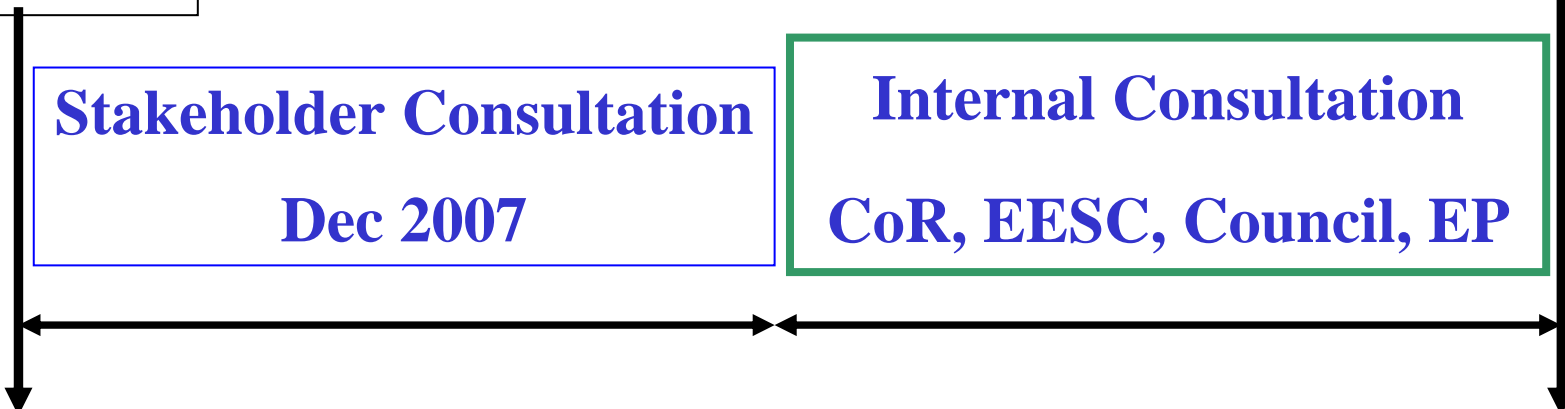
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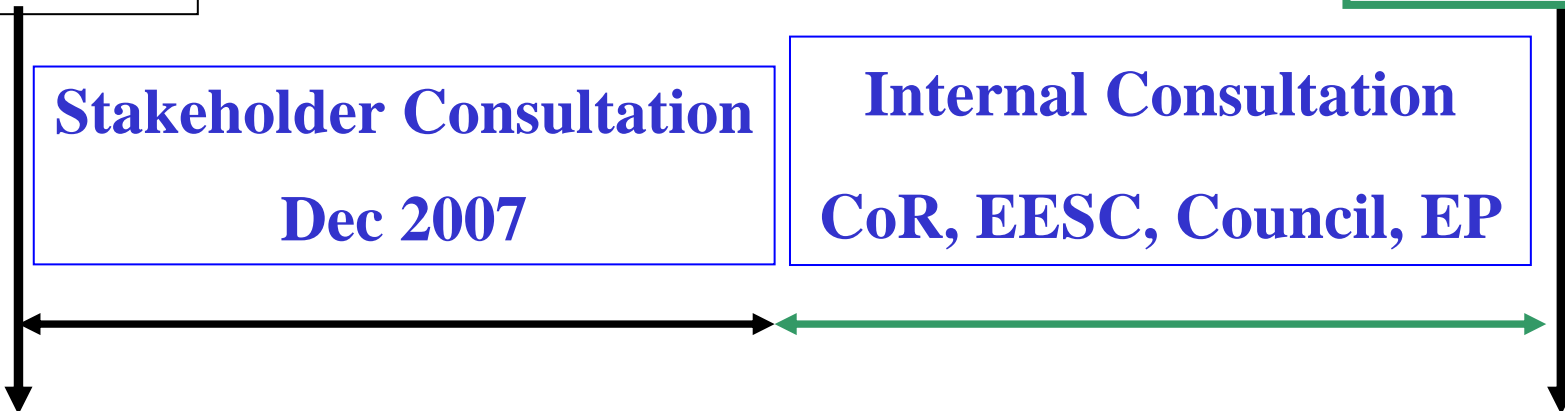
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Development of a Framework for Adaptation





Possible components of White Paper

- Areas of vulnerability and uncertainties
- Benefits of early action at EU level versus national/regional adaptation only
- Avoiding maladaptation
- Setting up a process
- Conceptual framework:
Steps and Principles
- Capacity building and knowledge gathering
- No regret measures



CIS activity on CC & Water

- The mandate
 - Make the best use of existing EU water legislation
 - Identify adaptation measures at different scales
 - Get the input from the scientific community
- Strategic Steering Group (SSG) on CC & Water was established in 2007 co-led by Germany and the European Commission



Activities of the SSG

- Nov. 2007 – Workshop in Bonn on RBMP & CC
- Nov. 2007 – presenting the outcome to WD in Lisbon, who requested a strategic debate to take place under Slovenian Presidency in June 2008
- Preparation of the discussion document for the debate on CC & Water based on:
 - Green Paper on Adaptation (June 2007)
 - Conclusions from the Bonn workshop (Nov. 2007)
 - Conclusions from the Berlin conference (Feb. 2007)

The endorsed policy paper is publicly available at:

http://circa.europa.eu/Public/irc/env/wfd/library?l=/framework_directive/climate_adaptation&vm=detailed&sb=Title.



Policy Paper

- General remarks
- EU water legislation
- Integration with other policies
- WFD and objective setting
- Adaptation in first RBMP
- Adaptation in 2nd and 3rd cycle
- Science – policy link



Policy Paper

- **General remarks**
 - Focus on the **resilience** of aquatic ecosystems
 - Limitations due to **uncertainties**
 - **Flexibility** needed to include new knowledge
 - Success depends on the **integration** of other **sectoral policies** (agriculture, energy, etc.)



Policy Paper

- **EU water legislation**

- Although CC is not included in WFD, the **cyclical approach** makes it well suited to handle CC
- CC can be included in **several steps** of the WFD implementation (characterisation, pressures and impacts, economic analysis, monitoring, etc)
- WFD contains several elements that **support resilience of aquatic ecosystems**
- **CC is not an important issue** for the 1st cycle of RBMP
- Need to co-ordinate the implementation of WFD with that of **Floods Directive** and **Marine Strategy Directive**.



Policy Paper

- **Integration with other policies**
 - Specific developments related to reducing the impacts of CC (e.g. hydropower development, biomass production) may impact on aquatic ecosystems
 - Requirements to protect the water environment might impact the potential of certain CC mitigation measures. A well-balanced approach is needed
 - Integrated approach should be adapted to regional differences
 - Improving the efficiency of water use is key for adaptation
 - RBMPs can be used to include sector-specific actions



Policy Paper

- **WFD and objective setting under CC**
 - Neither the **general requirement** to achieve good water status nor the **assessment principles** are affected by CC.
 - **Reference conditions** can be revised as a part of the river basin characterisation review. Monitoring of reference sites, or modelling or other methods for defining RC must underpin such decisions
 - Applying **exemptions** without justification in line with the Directive cannot be seen as a general strategy to cope with the consequences of CC
 - As **extreme events** may become more frequently, robust scientific evidence should determine on a case-by-case basis whether they can be considered as exceptional or that they cannot reasonably be foreseen (needs further discussion)



Policy Paper

- **Adaptation in the 1st cycle of RBMP**
 - CC should **at least be considered** in the 1st RBMPs (general awareness, public consultation, scenario analysis)
 - **‘Climate check’ of the Programme of Measures**
 - Win-win solutions (e.g. restoration of floodplains)
 - No-regret measures (e.g. limiting nutrient runoff)
 - Counter-productive or regret measures (e.g. miscalculated construction projects)



Policy Paper

- **Adaptation in 2nd and 3rd cycle**
 - Improving the **information basis**,
 - **Iterative** climate-checking of measures,
 - Considering **broader water management issues** related to CC (e.g. related to land use, or water demand/supply management),
 - Improving of **monitoring** to detect CC impacts
 - Exploring potential needs for adjustment of **reference conditions/type** changes of water bodies.



Policy Paper

- **Science – policy link**
 - More research needed on ecological impacts and how to manage uncertainties
 - Improved communication
 - Scenarios should focus on appropriate level



Follow-up

- SSG will continue collecting **best practices** and approaches for a climate check of the first Programmes of Measures.
 - Draft document with best practices will be presented to WD in November 2008.
- SSG will prepare a **guidance document** on incorporating CC in 2nd and 3rd cycles for end 2009. Scope will be broadened also to **floods, droughts and the marine environment**.



http://ec.europa.eu/environment/climat/adaptation/index_en.htm