Climate change mitigation and adaptation: challenges for the EU

Conference on
Climate Change, Environmental Degradation and Migration: addressing vulnerability and harnessing opportunities
Geneva, 19.02.08

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European Commission
### Projected Impacts of Climate Change

<table>
<thead>
<tr>
<th>Global temperature change (relative to pre-industrial)</th>
<th>0°C</th>
<th>1°C</th>
<th>2°C</th>
<th>3°C</th>
<th>4°C</th>
<th>5°C</th>
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<td><strong>Food</strong></td>
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<td>Falling crop yields in many areas, particularly</td>
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<td>developing regions</td>
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<td>Possible rising yields in some high latitude regions</td>
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<td>Falling yields in many developed regions</td>
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<td><strong>Water</strong></td>
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<td>Small mountain glaciers disappear – water availability in many areas, including Mediterranean and Southern Africa</td>
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<td>Significant decreases in water availability in many areas, including Mediterranean and Southern Africa</td>
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<td>Sea level rise threatens major cities</td>
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<td><strong>Ecosystems</strong></td>
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<td>Extensive Damage to Coral Reefs</td>
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<td>Rising number of species face extinction</td>
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<td><strong>Extreme Weather Events</strong></td>
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<td>Rising intensity of storms, forest fires, droughts, flooding and heat waves</td>
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<td><strong>Risk of Abrupt and Major Irreversible Changes</strong></td>
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<td>Increasing risk of dangerous feedbacks and abrupt, large-scale shifts in the climate system</td>
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*Stern Review (2006)*
Consequences of Ecosystem Change for Human Well-being

ECOSYSTEM SERVICES

Provisioning
- Food
- Fresh water
- Wood and fiber
- Fuel
- ...

Supporting
- Nutrient cycling
- Soil formation
- Primary production
- ...

Regulating
- Climate regulation
- Flood regulation
- Disease regulation
- Water purification
- ...

Cultural
- Aesthetic
- Spiritual
- Educational
- Recreational
- ...

CONSTITUENTS OF WELL-BEING

Security
- Personal safety
- Secure resource access
- Security from disasters

Basic material for good life
- Adequate livelihoods
- Sufficient nutritious food
- Shelter
- Access to goods

Freedom of choice and action
- Opportunity to be able to achieve what an individual values doing and being

Health
- Strength
- Feeling well
- Access to clean air and water

Good social relations
- Social cohesion
- Mutual respect
- Ability to help others

LIFE ON EARTH - BIODIVERSITY

ARROW’S COLOR
Potential for mediation by socioeconomic factors

- Low
- Medium
- High

ARROW’S WIDTH
Intensity of linkages between ecosystem services and human well-being

- Weak
- Medium
- Strong

Source: Millennium Ecosystem Assessment
Sustainable Development Strategy agreed by European Council, June 2006

Key challenges (overall objectives, targets & actions; seven altogether):

- Climate change and clean energy
- Sustainable transport
- Sustainable production and consumption
- Conservation and management of natural resources
- Public health
- Social inclusion, demography and migration
- Global poverty and sustainable development challenges
How to address these challenges?

• Invest more in sustainable urban development.
• Increase share of renewable energy; improve energy efficiency.
• Increase sustainable transport.
• Efficient resource use (waste, water).
• Job creation and training.
• Improve environmental protection.
• Protect our nature and biodiversity.
Steps to the EU Climate Action & Renewable energy package

• 10 January 2007: European Commission has put forward a fully integrated policy package covering both climate change and energy policies with two Communications:
  – “Limiting Global Climate Change to 2°C: The way ahead for the EU and the World for 2020 and beyond”
  – “An Energy Policy for Europe”
• 15 February 2007: Energy Council conclusions
• 20 February 2007: Environment Council conclusions
• 8/9 March 2007: EU Heads of State, Spring Council conclusions: reduction of at least 20% in greenhouse gases (GHG) by 2020; a 20% share of renewable energies in EU energy consumption by 2020.
• 23 January 2008: Major Legislative Package from Commission to achieve agreed emission reduction targets
EU climate action up to 2020: mitigating climate change

- EU independent commitment: Reduce EU-27 GHG emissions by at least 20% in 2020, compared to 1990
- Energy Package:
  - Energy efficiency: 20% improvement by 2020
  - Renewable energy: 20% mandatory objective by 2020
    - Differentiation of targets between countries
    - Flexibility in target setting within a country between sectors
  - Biofuels target of 10% by 2020
  - Sustainable power generation from fossil fuels: 12 large scale CCS demonstration plants by 2015; aiming at near-zero emissions by 2020
  - European Strategic Energy Technology Plan
  - More efficient internal energy market-options & regulatory powers:
    - Important for functioning EU ETS
    - Overcome hurdles for renewables
  - Nuclear: member states’ choice
- Climate Strategy:
  - EU ETS (Review, aviation)
  - Other policies (e.g. fuel quality)
  - Global carbon market (incl. CDM: Clean Development Mechanism)
The other side of the coin: adaptation to climate change

• What are the likely impacts?
• What can we do about it?

• Commission Green Paper 29.06.07 - *Adaptation to climate change in Europe - options for EU action on EU*, all EC policies need to respond to the challenge
In blue: areas flooded by sea level rise in the absence of dykes

1990 level
1990 level + 1 metre
1990 level + 8 metres
Precipitation: change in annual maximum 5-day amount
Climate change will affect our natural resources: e.g. biological diversity, habitats, ecosystems, glaciers, water, rivers, coasts, soils.
Sectors in all parts of Europe need to adapt: e.g. agriculture, industry, energy, health, transport, tourism, insurance.
Most sensitive regions in Europe

Coastal zones, low lying areas and deltas.
Densely populated floodplains.
South and Southeast Europe.
Mountain regions (in particular Alps).
Arctic region.
Islands.
How is environment incorporated into EC development cooperation

• By tackling problems at source (degradation and resource management).
• EC policy of environmental integration/climate proofing into development cooperation.
• Adaptation support for Less Developed Countries and Small Island Developing States, through *Global Climate Change Alliance* (GCCA). In future expect more adaptation measures in our partner countries.
• Commission is keen to see results of work of UN bodies (UNESCO and UNHCR) on environment and migration.
• Co-financed RTD projects – *EACH-FOR* a project to examine environmental problems have caused on migration in Europe (problem is lack of accurate data).
What type of EU adaptation measures? Some examples

**EU support instruments** – Solidarity fund, ERDF, ESF, Cohesion fund, Agricultural and Rural development fund, Fisheries fund, LIFE+
4th Report on Economic and Social Cohesion

- Published in May 2007.
- Public consultation just completed but results in the stage of analysis.
- For the first time, cohesion policy will become the largest item of EU budget during the current programming period 2007-13.
- Increasingly international external dimension to Cohesion Policy.
Some ideas put forward in the consultation by several stakeholders

- Cohesion Policy should be oriented towards the SDS as well as the renewed Lisbon Agenda.
- Wide consensus from MS and regions that climate change must be addressed by the Cohesion policy.
- However, national policies and other sectoral policies are seen as having a greater role and, in any event, an integrated approach is essential.
- Cohesion Policy is seen as more appropriate for co-financing mitigation than adaptation to climate change.
Some ideas put forward in the consultation by several stakeholders

• Energy efficiency and promotion of renewable energies are areas that can benefit most from the Cohesion Policy.
• Cohesion Policy can assist SMEs in coping with investments in energy efficiency infrastructures and related training and skill development.
• Need to develop new market niches for business operating in ecological services, environmental research.
• Cohesion policy can be used for the development of "climate change proofing" infrastructures.
• Need to achieve low carbon regional programmes (not just carbon neutral).
Some ideas put forward in the consultation by environmental stakeholders

• Use technical assistance to prepare “low carbon roadmaps” with technical (for European Regional Development Fund) and non-technical solutions (for European Social Fund).

• Extend so-called “Lisbon earmarking” to low carbon actions beyond sustainable energy and transport.

• Better dovetailing of all EC funds to address climate change mitigation and adaptation in the EU.

• Using the “Regions for Economic Change” initiative to create a network for sharing best practice and action in the EU with relevance for the rest of the world.
Some further reflections…

• Exporting an EU model of sustainable regional development: economic, social and territorial cohesion; environmental integration; partnership and participation; transparency.

• Using environmental impact assessment (EIA) and strategic environmental assessment (SEA) approaches to deliver improved environmental governance.
Thank you

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