

Introduction to main issues in mitigation assessment

Juan Zak, UNEP Centre

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What is mitigation of climate change?

- **To mitigate**
is to make less severe certain effect or condition
- **Mitigation within the climate change context**
human intervention to reduce the anticipated velocity of man-induced climate change by intentionally
 - decreasing emissions of GHGs and/or
 - enhancing their sinks

Why climate change mitigation?

- All parties shall formulate and implement national (and, where appropriate, regional programmes) containing measures to mitigate climate change
- Mitigation measures shall address anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol

Article 4 , UN Framework Convention on Climate Change

How to mitigate climate change?

- Energy efficiency
- Fuel switching to less carbon-intensive and carbon-free fuels
- Enhancement of sinks or reservoirs of GHG
- Use of new low-emission technologies

Second Assessment Report, Intergovernmental Panel on Climate Change

Development and mitigation

- **Human development** is the process of enlarging the range of opportunities for education, medical care, income and employment of persons*.
- **Mitigation is tightly related to human development:** the sources and sinks of GHG emissions are directly tied to key economic sectors, particularly the energy, industry, transport, agriculture, forestry and waste management sectors

* United Nations Development Programme (UNDP)

Equity and mitigation

- **Equity**
access to opportunities of human development in comparable conditions
- **The Convention on Climate Change notes that**
 - the largest share of historical and current global emissions of greenhouse gases has originated in developed countries
 - per capita emissions in developing countries are still relatively low
 - the share of global emissions originating in developing countries will grow to meet their social and development needs

Sustainability and mitigation

- **Sustainability**
meeting the needs of the present without compromising the ability of future generations to meet their own needs
- Objective of the **Convention on Climate Change**
stabilise the GHG concentrations in the atmosphere within a time-frame sufficient to enable economic development to proceed in a sustainable manner
- One of the principles for the **Parties to the Convention**
is to protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities

The mitigation process*

- **Formulation of mitigation programmes**
 - National Communications, as per Decision 10, COP2
 - specific projects
- **Implementation of practical actions**
 - mechanisms in debate or in pilot phase
 - to date very few mitigation projects have attained effective reductions in GHG emissions

* applicable to Parties not included in Annexes I and II

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- **Evaluation of national social & economic development - I**
 - Base year statistics
 - ✓ GDP structure
 - ✓ social conditions
 - ✓ energy balance
 - ✓ aggregate GHG inventory
 - ✓ major land use activities
 - ✓ population

* The guidelines have been developed by the UNEP Centre as part of the UNEP/GEF project “The Economics of Greenhouse Gas Limitations”. The guidelines will be delivered to the participants.

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- **Evaluation of national social & economic development - II**
 - Evaluation of main trends
 - ✓ economic and social development
 - ✓ resultant GHG emissions
 - Overview of other climate change studies
 - ✓ impact
 - ✓ adaptation
 - ✓ inventories
 - ✓ mitigation

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- **Baseline scenario projection**
 - 10-15 year projection for CO₂ emissions from energy consumption and land use activities
 - 30-40 year evaluation of main development trends
- **Mitigation scenario projection**
 - Identification of mitigation options in the most important future sources and sinks
 - Assessment of reduction potential and cost of identified mitigation options
 - Integration of GHG reductions and costs across measures and sectors (marginal cost curves)

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- **Macroeconomic assessment**
 - Qualitative description of main macroeconomic impacts of mitigation options
 - Assessment of key macroeconomic parameters

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- **Implementation issues**
 - Assessment of main requirements
 - ✓ financial support
 - ✓ technologies
 - ✓ institutional capacity building
 - ✓ regulation policies
 - ✓ further improvements of the national decision framework

Analytical structure of the country studies

