

Activities on costs and benefits of adaptation options being undertaken in Ireland

UNFCCC Workshop, Madrid 20-22 April, 2010

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1. Policy context; The Department of the Environment, Heritage and Local Government (DEHLG) is currently developing a National Climate Change Adaptation Framework.

2. Climate change impacts for Ireland: The EPA's Climate Change Research Programme (CCRP) advances climate change research and supports policy and planning decision making: Impacts and adaptation is a key thematic area.

2. Adaptive capacity assessment: An institutional Adaptive Capacity Assessment is currently being undertaken, which aims to assess the strengths and gaps in Ireland's current approach to adaptation and to identify the actions needed to make progress on adaptation.

3. Vulnerability assessment: An assessment of national vulnerability to climate change based on existing analysis is proposed. The objective is to assess vulnerabilities of sectors, regions, locations as well as natural and managed systems.

4. National level costing of adaptation options: At present, there is a lack of information on the costs and opportunities of climate change adaptation at the national level. In 2011 it is proposed to assess and identify existing best practice guidelines, methods and approaches to calculate the costs and realize the benefits of adaptation options nationally.

5. Some sectoral activities:

a) *Flood risk management- (Lee Catchment Flood Risk Assessment and Management Study-Office of Public Works).*

Method: determination of future flood risk based on climate change, urban development and land use/management practices. The economic impacts of future flooding (fluvial and tidal) were considered using a Modelling and Decision Support Framework (MDSF) GIS tool, which estimated economic impacts of flooding to properties and infrastructure in the catchment. Flood maps identified locations within the catchment at economic, social and environmental risk. A range of potential options to reduce risks based on technical, economic (return on investment, risk to infrastructure and risk to agricultural land), social and environmental objectives were used as part of a multi-criteria analysis. The economic evaluation of flood risk management options was based on a benefit cost ratio; the economic benefit which a flood risk management option provides is compared to the costs of the option to form a benefit-cost ratio. The assessment was based on existing conditions, although an assessment of options for the harbour area was based on high emission scenario due to expected SLR. A factor in the technical assessment of all other options was sustainability and adaptability of the option to future flood risk. For example, adaptability to future flood risk will be incorporated through adequacy of foundations and provision for incremental increase of the defence height. *Lessons learned:* study focused on hard engineering options (flood defences) with limited use of soft options(flood forecasting and public awareness); limited emphasis on personal adaptation, limited assessment of benefits, costing information is limited with focus on current costings, monitoring programme will be put in place.

b) Adaptation to climate change: issues for enterprise (Forfas-new study in first phase). The purpose of the study is to develop an enterprise perspective on the opportunities and challenges that adaptation to climate change brings. Due for completion Sept 2010.