

UNFCCC Model Database

Presentation to the joint SBI/SBSTA forum on the impact of the implementation of response measures

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Introduction

- **Background**

- Cambridge Econometrics (CE) is an economics consultancy specialising in economic and E3 modelling
- CE was asked to undertake a project for UNFCCC to classify and document models suitable for analysing response measures
- for more details, see:
http://unfccc.int/adaptation/adverse_effects_and_response_measures_art_48/items/5171.php

Overview of presentation

- Terms of reference
- What makes a model suitable for assessing the impact of response measures?
 - coverage of economic and social impacts
 - acknowledgement of unintended consequences
- Model database
 - overview of model database
 - why is it useful?
 - other databases

Terms of reference

- the focus of the project was to provide a database on modelling approaches to response measures
 - focus on mitigation
- climate models are not covered, with the exception of Integrated Assessment models
- modelling is not a one-stop shop - other approaches are important:
 - case studies
 - surveys
 - non-modelling quantitative approaches, e.g. cost benefit analysis

What makes a model suitable for assessing response measures?

- our focus when compiling the database was on models that can be used to assess the impacts of response measures in these four broad areas:
 - technological options
 - taxes and subsidies
 - energy efficiency
 - economic diversification
- interested in models which provide
 - energy and emissions impacts
 - socio-economic impacts
 - possibility for unintended consequences

What makes a model suitable for assessing response measures?

- energy-environment (direct impacts)
 - energy models
 - typically lots of technical detail
 - no economy interactions, or one way linkages only
- economic and social linkages (indirect impacts)
 - eg impact of a proposed carbon tax on low income households
 - requires either integrated energy-environment-economy (E3) models or Integrated Assessment models
- unintended consequences
 - eg demand and supply interactions; space and time considerations
 - model needs to provide framework for specific policy assessment in wider context

UNFCCC model database: overview of model database

- UNFCCC project brief was to provide a database of established modelling resources
- the database contains:
 - model name
 - organisation(s) contact details
 - brief description
 - summary of particular relevance
 - geographical detail and coverage
 - main area of application
 - examples of projects

UNFCCC model database: why is it useful?

- The database can be accessed on the UNFCCC website:
 - http://unfccc.int/adaptation/adverse_effects_and_response_measures_art_48/items/5171.php
- Why is it useful?
 - directory of models and modelling organisations
 - links to recent published research
 - contact details
 - allows **non-technical** users to compare models and modelling approaches
 - find model most suited for required analysis
 - classifies models between
 - energy technology models
 - integrated energy-environment-economy (E3) models
 - Integrated Assessment models

UNFCCC model database: other databases

- what other resources are there?
 - Impact Assessment Tools database
 - setup by the European Commission's Joint Research Centre (JRC)
 - contains an inventory of models suitable to policy impact analysis
 - for more details, see:
<http://iatools.jrc.ec.europa.eu/bin/view/IQTool/ModelInventory.html>
 - Energy Modelling Forum (EMF)
 - run through Stanford University
 - purpose is to test policy proposals consistently across a variety of models
 - for more details, see:
<http://emf.stanford.edu/>
- UNFCCC model database is thought to be comprehensive, but not exhaustive
 - there may be other or new models

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