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World societies are experiencing large social, economic and environmental transformations. These transformations are usually described under the heading of 'global change', to emphasize the increasing interactions between them.

The objective of the GLOBAL IQ project is three-fold:

- to provide significant advances in the estimation of socio-economic impacts of global challenges – at Global, European and regional scale;
- to identify optimal adaptation strategies;
- to evaluate total costs and the optimal mix of adaptation and mitigation against global changes.

A primary objective of the project is to estimate socio-economic impacts arising from global changes by using economic models. The consortium is endowed with a large set of state-of-the-art, internationally renown, modeling tools, that will be further expanded and enriched. Key areas of research will be: agriculture, forestry, land use, energy, EU competitiveness, labor, international trade.

The socio-economic impact of these challenges on key sectors/areas will be examined with the enhanced set of models. Theoretical innovations concerning discounting, risk and ambiguity will be developed and tested numerically with models.

Starting date: 01/08/2011

Duration: 36 months



WP 1 - Understanding global changes

This workpackage is intended to provide a strong conceptual basis to the more dedicated studies of global changes that will be done in the other workpackages. It will also provide an updated review of the state-of-the-art in global change analysis.

Dialogue on drivers and modelling developments

Feedback on drivers

WP 2 - Non market impacts and behavioral analysis of key sectors

WP2 is devoted to behavioural issues split into different sector dedicated tasks. At first, it aims at monetary valuation of non-market effects, due to climate change and related to ancillary effect of mitigating policies. Health effects are also analyzed at large scale under population dynamics. Then, residential energy demand, properties of production functions and preferences for adoption of saving and renewable microgeneration technologies are analyzed using some of the results in an empirical micro-simulation model to examine tax incidence. Last, trade policy and climate policy is targeted.

WP 3 - Models to estimate socio-economic impacts of global changes

WP 4 - Scenarios of socio-economic impacts of global changes

WP 5 - Autonomous and planned adaptation: total impacts of global change

Global change such as technological progress, climate change and demographic and labor market developments clearly pervade all of the above-mentioned sectors and will need to be addressed with an appropriate set of models.

While WP1 and WP2 will define the global changes and corresponding storylines to be analyzed, WP3 seeks to adapt the models in a way that allows them to replicate the storylines and estimate the impacts in a harmonized way.

WP4 and WP5 build on this work to run the scenarios and eventually estimate the cost of adapting to these global changes. Since the global changes themselves will be difficult to project and are furthermore contingent on choices made today, WP6 will support the modeling work under WP3-4-5 by exploring new ways to incorporate uncertainty into decision-making and trying to translate this into the large-scale models.

WP 6 - Discounting, risk and uncertainty in modelling impacts

The debate that followed the publication of the Stern review has shown that uncertainty and discounting issues are worth a specific study when dealing with large-scale, long-term global changes. This is the objective of WP6. New theoretical insights will be developed and they will be tested, deriving further theoretical insights, using some of the models that are part of this study.