

# Building consistency

Integrated assessment modeller Elmar Kriegler worked with experts in climate change impacts, adaptation and scenario analysis to develop a shared framework for socio-economic scenarios in climate change research.

## ■ What was the main objective of the work at the beginning of the project?

Climate change analysis uses scenarios to identify solutions but experts in mitigation and adaptation, by using different sets of assumptions, have mainly worked separately. Therefore there is a need for a new generation of scenarios that can be used for analysing mitigation, adaptation and residual climate impacts within a common framework. The impetus for this paper was to develop such a common framework. Our main goal at the beginning was to structure the scenario approach so that the interface between the two research communities — the integrated assessment modellers and the impact and adaptation experts — could be really established. We introduced for the first time the idea of shared socio-economic pathways — a narrative, combined with quantitative projections of key socio-economic conditions, describing a ‘reference’ global development path that does not include climate policy — as the interface between the two communities. In doing

so, we tried to move from a sequential approach — starting with emissions scenarios, moving on to climate models that produce climate change scenarios that are later used for impact analysis — to an integrated one. At the core of such an approach there are pathways spanning the range of socio-economic challenges to mitigation and adaptation. The idea is that integrated assessment modellers as well as adaptation experts can build on the same set of assumptions.

## ■ How did you go about finding suitable collaborators?

It was actually a very spontaneous process. We all met in Washington in February 2010 for a workshop organized by the National Academy of Sciences. Some of us knew each other already but a larger team formed during the discussion at the workshop, with new people joining in. Also, we were forced to stay an extra day in the hotel by heavy snowfall that hit Washington, and this facilitated additional fruitful conversations.

## ■ Did you encounter any difficulties in working with a team of experts with different research backgrounds?

The interdisciplinary work we did was very rewarding but also quite challenging. The main difficulties were related to different perspectives and different languages. Some of us have a top-down approach to the scenarios, seeing things really from a global perspective. Others have a bottom-up perspective, based on the diversity of research in regional contexts. This produced some tension, but also fostered the recognition that both approaches are needed. We also needed to clarify some concepts as different disciplines define them in different ways.

## ■ What was the highlight of working on this interdisciplinary project?

One highlight is certainly the fact that we managed to integrate the two different perspectives, global and regional, into one framework. Another highlight is that a rough version of the paper informed the discussion during the IPCC workshop held in Berlin in November 2010 to facilitate a new scenario framework.

## ■ Any surprises?

When we started this work we had a common objective but we didn't have a very clear idea of the final outcome as we knew this process would evolve with time. We were surprised by the fact that while the discussion about how scenarios are used by the different communities and particularly for policy analysis evolved, it became overly complex, something we had to address to make sure we could finalize the work.

## ■ Did you learn any lessons about interdisciplinary collaboration from this project that would benefit others trying to do similar work?

You really need to have a common understanding of the research objective across the different fields of knowledge, and agree on the need for an interdisciplinary approach to develop the work. Also, it is fundamental to have mutual respect for the different disciplines and curiosity about what they can bring to the project. Finally, it helps a lot developing a shared language.

## ■ Any final thoughts?

Climate change projections cannot be looked at in isolation. Socio-economic scenarios are as important for climate change mitigation, impacts and adaptation analysis. Consistent scenarios can be used in parallel by experts studying different climate change dimensions to then produce an integrated picture. There is now enough critical mass supporting the need for new scenarios in climate change analysis. We hope that the scenario-building effort currently underway will elicit contributions from a growing number of researchers from different communities so that, in the long run, the integration of shared socio-economic assumptions into global models as well as regional studies will be achieved.

## INTERVIEW BY MONICA CONESTABILE

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