

Experiences from one large and one simple energy system model — improving on transparency, communication, and sensitivity analysis

Kristian Lindgren, Claes Andersson,
Maria Grahn, Fredrik Hedenus, Christian Azar
Department of Energy and Environment
Chalmers University of Technology
Göteborg, Sweden

Global Energy Transition (GET) model

- Model development has been driven by a number of policy relevant issues:
 - In which sector is bio energy most efficiently used?
 - How are costs distributed between regions under strong climate policies?
 - What role can carbon capture and storage play when meeting stringent CO₂ targets?
 - Will OPEC countries gain or lose on a climate policy?
 - What are the short and long term system effects of a biofuels directive for transport in OECD countries?

Global Energy Transition (GET) model

- Aim: Characterisation of energy systems development in a climate perspective
- Multi-regional global model
- Resource and climate constraints
- Exogenous demand for transport, heat, and electricity
- Energy system cost minimization (60 conversion technologies)
- Time span: 2000 - 2100

GETOnline

- Web-based model interface developed within GSD project (Claes Andersson & KL), www.chalmers.se/ee/getonline
- For controlling and running models from the GET family
- Current implementation based on the global GET 6.0 model
 - variables and equations: ~ 5,000
- Running time:
 - new parameter settings \approx 5 sec.
 - previously run settings \approx immediate retrieval.