

Energy Scenarios Studies

A Contribution to Improved Transparency

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A high-resolution satellite image of the Earth's surface, showing a curved horizon. The image captures a portion of the Arctic region with white ice, and the surrounding green landmasses of Europe and Asia. The blue of the oceans is visible between the continents.

Knowledge for Tomorrow

Motivation & Aim

- Energy scenarios are increasingly becoming a recognised area of research
- The development and application of formal (mainly quantitative) energy scenarios is regarded as a suitable and helpful means of exploring possible future development pathways in the energy system
- Rich diversity of energy scenarios using different modelling approaches

World Energy Outlook, IEA

World and European Energy and Environment
Transition Outlook

Energy Revolution, Greenpeace

EU Energy Roadmap 2050

IPCC AR5

Lead study, BMU

Global Transportation Energy and Climate Roadmap

Shell energy scenarios to 2050

Politiksszenarien für den Klimaschutz, Fhg. ISI

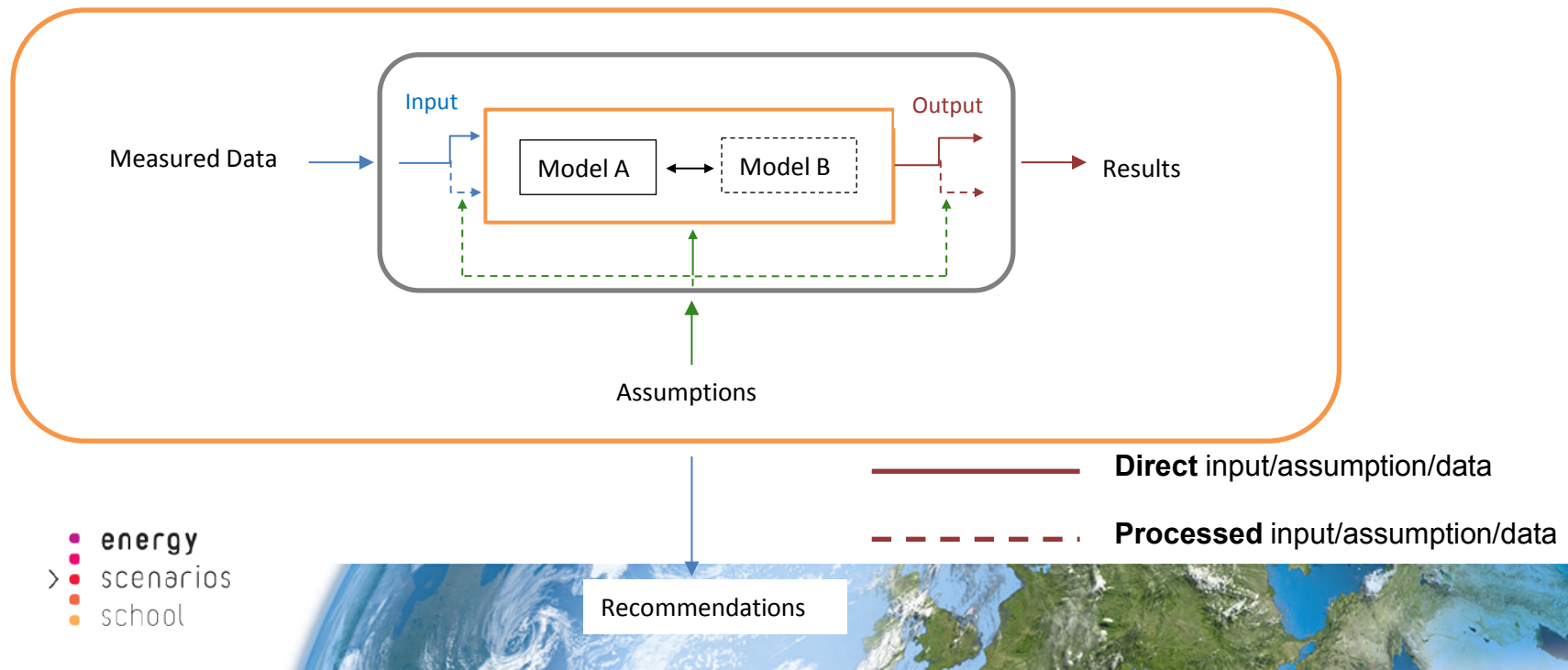


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Motivation & Aim

- For the user of energy scenarios, navigating through such studies becomes a complex task
- In addition to the specific technical skills that are required to fully assess and adequately interpret the methodology of such interdisciplinary studies, the issue of transparency becomes crucial



Proposal: Transparency checklist

- We therefore propose a guideline how to improve transparency in energy scenario studies:

Checklist for Scenario Analysis transparency

Criterion	Page number
General Information	
Author, Institution	
Funding	
Context	
Key term definitions	
Measured Data	
Sources and reliability	
Pre-Processing	
Assumptions	
Identification of uncertain factors	
Uncertainty assessment	
Storyline construction	
Assumptions for data modification	
Model	
Model documentation	
Model category	
Model specific properties	



Proposal: Transparency checklist

- This transparency criteria list could be implemented as a second “table of content” at the beginning of such studies
- It refers to the page nb. or section where a certain transparency criterion is fulfilled
- should enable both reader and modeller to answer questions such as:

What is model input, what output (endogenous/exogenous)?

What are implicit-, what are explicit assumptions?

Certainty of results? What are the main driver?

... ?



Proposal: Transparency checklist

- However, a balance between transparency and avoiding information overload is curial
- Transparency list should not be misunderstood as best practise advice or guideline what a energy scenario study should include
- ➔ this still is the obligation of good practise in science



Thank you for your attention

... and hopefully see you at the breakout group
“Transparency checklist for energy scenarios”

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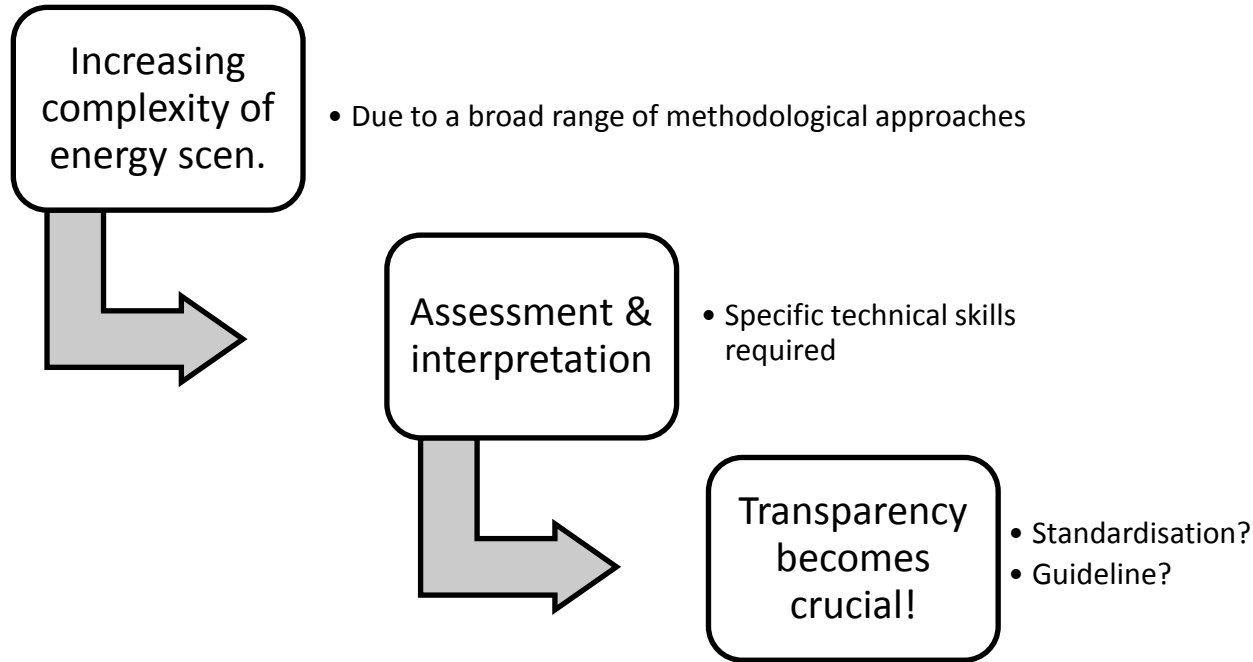
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Breakout group

Transparency checklist for energy scenarios



- Aim of break out group :
- How can we improve transparency in energy scenarios?
 - In-depth discussion of proposed checklist
 - Could this list be a suitable instrument?



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Model documentation	
Model category	
Model specific properties	
Model interaction	
Essential Equations	
Output data	
Model validation	
Results	
Research question - results - relationship	
Robustness	
Recommendations	
Results - recommendation - relationship	
Communication of uncertainties	

