Innovative methods to communicate IAM scenario information

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SENSES
The Climate Change Scenario Toolkit

Topic
- Climate projections
- Climate impact projections
- Mitigation scenarios

Scenarios

Users
- Policy
- Business & Finance (Risk & Opportunity)
SENNES
The Climate Change Scenario Toolkit

**Topic**
- Climate projections
- Climate impact projections
- Mitigation scenarios

**Scenarios**

**Toolkit**
- User-centered visualization tools
- Manuals on co-production techniques
Visualization

Central element to all aspects of SENSES

• More accessible & compelling than written text
• Complex, multivariate content
• Interactive options
  – „Overview first, details on demand“
  – Input / Output

Thursday Session on Visualization
Co-Production

Two approaches

→ Direct involvement in scenario development design, evaluation, iteration with the developers

→ Co-production of knowledge with existing scenario information up to now this approach neglected
Co-Production
Identification of user needs

Preparation / Evaluation
Where do my stakeholders stand?
What can I work with?
What can they work with?

Measures
• survey / semistructured interviews
• stakeholdermap
• infomaterial for stakeholders

Workshop Elements
• Opener - Get everyone to the point and excited
• Free / visionary elements
• Semi-structured co-production (clarify scope / parameters)
• Not to forget: Interaction & networking of stakeholders
Overview

• Capacity building
• Scenario access/ navigation
• Key frontiers
CAPACITY BUILDING
Capacity Building

• Contextualization
  What do scenarios mean?
  How does this relate to my questions?
  → Consequent perspective switch

• Making the implicit explicit
  Understanding, transparency

• Entry points
  (Simple, central information, e.g. „who are the major emitters (by sector, by country)“)
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Capacity Building

Primer
www.climatescenarios.org/primer

Model typology
Transparency

Executive summaries
• Overview co-production
• Overview scenario studies
Capacity Building

Exemplification
 „Climate scenarios demystified“ CICERO Centre (focus on investors)

Image courtesy: https://www.cicero.oslo.no/en
SCENARIO ACCESS / NAGIVATION
Scenario Access / Navigation
Orientation / Typology

• Keywords
  Labels for topics

• Indicators
  Values from scenarios
  (direct, or computed)

• Factsheets
  Consequent perspective switch
  Guiding question
  Insights

Facilitating quick access for stakeholders via guiding indicators to relevant studies. Study factsheets allow more detailed information about studies of interest.
Bridge between the worlds
Ex post analysis/ evaluation

• Link to SDGs
• Food & Energy price
• Transition speed, implementability, disruption, ..
• Flows and stocks
• Indicators for synergies and trade-offs
• Frequency of hazardous climatic events

Special care & transparency required!
Scenario Access / Navigation
IAM hierarchy

Portfolio of scenario exploration tools along 3 levels

- **Infographics**
  tailor made, specific insights

- **Scenario portal**
  wide range of scenarios along pre-defined criteria
  groups of scenarios for specific insights (e.g. 1.5°, NDCs)
  particular perspectives

- **Data Explorer**
  IIASA-IAMC web database
  → *Presentation on Thursday!*
**Scenario Access / Navigation**

Portals – upcoming

Groups of scenarios for specific insights (e.g. 1.5°, NDCs)

Particular perspectives

- Space always an issue
- Dashboard functionality desirable
- Inspiration by decision theater

Image courtesy: https://dt.asu.edu/
Focus on sustainable output

• Webinars
• Video Abstracts (assign budget already in proposals (esp EU calls))
• Educational games
KEY FRONTIERS
Key frontiers

- Implications of socio-economic uncertainty
  SSPs – cut out example
  • Comparing worlds
  • How to use scenarios

- Lifestyle, cooperation, in-/ equality (gender, income groups)
Key frontiers
Linkage short- and long-term

• Link of short term measures to long term outcome
• Evaluation of the outcome by the NDCs – Talanoa Dialog
• Understanding of delay, lock-in mechanisms
• Short term entry points

• In General: Link between policies / decision pathways and their implications
Key frontiers

Connecting scales

• Local implications of global socio-economic change
• Connecting national with global

• Multiscale scenarios
• Generation of climate change scenarios more integrative than ever

• Coupled information of IAM output with impact more tangible (acute & chronic physical risk)

• Challenge: Impact results very generic and not stakeholder perspective.
Thanks for your attention!

QUESTIONS?
STAKEHOLDER SPECIFIC NEEDS
Stakeholder specific needs - POLICY

- Mitigation policies central, but also business opportunities & stable finance system of great interest
- Views on the data that reveal “Trade-offs”
- Trade-offs between individual mitigation pathways, ideally mitigation measures
- Actor specificity (winners & losers, major emitters, ..)
- Burden sharing
Stakeholder specific needs - BUSINESS

• “Risk and opportunity”
• Transition & physical risk
• Flows of certain new low-carbon technologies

• Research gap for downscaled information → timescale, technological detail, geographical
e.g. evolution of key subsectors like aviation, shipping, power sector, or automation
Stakeholder specific needs - FINANCE

TCFD process: climate-related financial disclosures based on scenario analysis

• Also “risk & opportunity”, but more risk
• Identification of concentration of carbon related assets
  → Understand their exposure to climate related risk
• Upheavals by mitigation measures
  – increased pricing of GHG emissions
  – market losses
  – increased costs by production and technology

• 1.5°C SR -> shock scenario