IPCC Expert Meeting on Scenarios
(18-20 May 2015 – IIASA)

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8th Annual IAMC meeting, Potsdam, 16-18 November 2015
Steering Committee

- Ottmar Edenhofer (Potsdam Institute for Climate Impact Research/PIK),
- Jan Minx (IPCC WGIII TSU),
- Keywan Riahi (IIASA),
- Vicente Barros (University of Buenos Aires),
- Mercedes Bustamante (University of Brasilia)
- Timothy Carter (Finnish Environment Institute),
- Renate Christ (IPCC), Ismail El Gizouli (Higher Council for Environment and Natural Resources, Sudan),
- Chris Field (Carnegie Institution for Science),
- Elmar Kriegler (Potsdam Institute for Climate Impact Research/PIK),
- Jean-Francois Lamarque (University Corporation for Atmospheric Research),
- Katherine Mach (IPCC WG II TSU),
- Michael Mastrandrea (IPCC WG II TSU),
- Ritu Mathur (The Energy and Resources Institute),
- Ramon Pichs-Madruga (Centro de Investigaciones de la Economia Mundial, Cuba),
- Brian O’Neill (National Center for Atmospheric Research),
- Gian-Kasper Plattner (University of Bern),
- Dahe Qin (China Meteorological Administration),
- Youba Sokona (The South Center),
- Thomas Stocker (University of Bern) and
- Tianjun Zhou (Institute of Atmospheric Physics, Chinese Academy of Sciences).
Background of the IPCC meeting

• AR5 completed
• Significant Progress from the “Parallel Scenario Process”
  – RCPs available for a while
  – SSPs (socio-economics & scenarios) ready and under community review
  – Design of next generation of climate projections (ScenarioMIP+) on the table
  – The RCP/SSP toolkit is becoming operational for integrated IAM/IAV assessments
Main Meeting Objectives

• Take stock of AR5 experience and review the progress of the scenario framework activities.
• Launch of SSPs and receive feedback
• Share information about ongoing activities and future plans
• Identify scenario user needs, possible gaps and priority research activities
• Discuss possible role of scenarios in future IPCC reports/assessments
• Discuss the role of the IPCC in supporting the community scenario process
• How to structure the scenario process to advance integrated community research?
Community science organizations critical for a comprehensive assessment

- **C4MIP** (SRES +)
  - Well organized, long tradition

- **WGII**
  - Impacts
  - Vulnerability
  - Adaptation
  - SRES and non-SRES studies (highly diverse)

- **WGIII**
  - Mitigation
  - Some community efforts
  - More loosely organized
  - EMF22 (non-CO2)
  - SRES and non-SRES
Community science organizations critical for a comprehensive assessment

AR5

WGII Impacts Vulnerability Adaptation

WGIIII Mitigation

Inter-comparison Projects
- EMF 27 (Technology)
- AMPERE (Delay & Policy)
- LIMITS (Burden sharing)
- AME (Asian focus)
- ROSE (Uncertainty)

ISI-MIP
AgMIP

WGII

Physical Science

RCPs

CMIP5

EMF 27
AMPERE
LIMITS
AME
ROSE

Community science organizations critical for a comprehensive assessment

AR5
Scenarios important for integration across research communities (AR5 Synthesis Report)

WGII: SRES++
   some SSPs (ISI-MIP)
Expert judgement

WGIII: ~1200 scenarios
   SRES+

WGI: RCPs/CMIP5
Launch of global SSPs and in-depth discussion of possible extensions and ongoing/future activities

Global SSP assessment

[Graph depicting CO2 emissions over time for different SSPs (SSP1, SSP2, SSP3, SSP4, SSP5) with RCPs and IAM range.]

Forcing level (W/m²)

- SSP1
  - 0.01 (0.01-0.03)
  - 0.09 (0.01-0.09)
- SSP4
  - 0.09 (0.01-0.09)
  - 1 (0.01-1.00)
- SSP2
  - 0.27 (0.01-0.27)
  - 0.62 (0.23-1.00)
- SSP3
  - 0.15 (0.08-0.15)
  - 1.88 (0.50-1.88)
- SSP5
  - 2.6 (0.46-0.68)
  - 3.4 (0.46-3.47)

Lowest scenarios missing?
Key Recommendations for the IPCC

- Prepare ahead of AR6:
  - IPCC Special Report on Scenarios OR on interaction between Adaptation, Mitigation and Sustainable Development
  - Community-based Scenario Assessment
- Assure integrative role of scenarios
  - Scenarios in AR6 **scoping process** and Synthesis Report
  - **Joint WG chapters** on scenarios
  - Establish “**Author Scenario Group**” to coordinate throughout the writing process of the AR6 cycle
- IPCC Expert **Meetings, Workshops and co-sponsored meetings** to facilitate community-wide exchanges
- Support **developing country researchers** to participate
- Pursue synergies with other organizations and assessment bodies (IPBES, UNEP/GEO, etc..)
Key Recommendations for the community

• Further develop the SSPs as a toolkit:
  – Closing the loop
  – Integration of SD (broadening the scope)
  – Bridging spatial scales (local to global)
  – Bridging temporal scales (policy)
  – Pattern scaling

• Represent uncertainty and cover a wide range of climate outcomes

• Continued flexibility and openness of the scenario process needs to be ensured

• Best practices guidance note for users of scenarios

• Communication strategy
Thank you!
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