IAMC Scientific Working Group on Data Protocols and Management

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Part I: Discussion of the Data
Request for IPCC AR5

Acknowledgements

- Leon Clarke
- Elmar Kriegler
- AR5 WGIII Chapter 6 Writing Team
- IPCC WGIII Co-Chairs and TSU
- IAMC Steering Committee
- … and many others
AR5 WG III Outline

I: Introduction
1. Introductory Chapter

II: Framing Issues
2. Integrated Risk and Uncertainty Assessment of Climate Change Response Policies
3. Social, Economic and Ethical Concepts and Methods
4. Sustainable Development and Equity
5. Drivers, Trends and Mitigation
6. Assessing Transformation Pathways
7. Energy Systems
8. Transport
9. Buildings
10. Industry
11. Agriculture, Forestry and Other Land Use (AFOLU)
12. Human Settlements, Infrastructure and Spatial Planning

III: Pathways for Mitigating Climate Change
13. International Cooperation: Agreements and Instruments
14. Regional Development and Cooperation
15. National and Sub-national Policies and Institutions
16. Cross-cutting Investment and Finance Issues
Chapters in AR5 using scenario data

- Chapter 6: Transformation Pathways
- Chapter 7: Energy Systems
- Chapter 8: Transport
- Chapter 9: Buildings
- Chapter 10: Industry
- Chapter 11: Agriculture, Forestry and Other Land-use
- Chapter 13: International Cooperation: Agreements and Instruments
- Chapter 16: Cross-cutting investment and financing issues

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AR5 WG III Timeline

- Report is well advanced – only one Lead Author Meeting ahead
- Only limited time left to include new material
Situation before the FOD

- Development of data template for AR5 database based on input from sectoral chapters and existing modeling comparison studies (March 2012)
- Open call for submissions of scenarios to modeling community via IAMC with IPCC endorsement (6 April 2012)
- Submissions by modeling teams until early June 2012 made it into the FOD
Status of AR5 database for FOD

**Summary** (June 2012)
- 417 submitted scenarios
- 21 model versions from 9 modeling teams
- 8 modeling comparison exercises (EMF22, ADAM, RECIPE, AME, EMF27, RoSE, AMPERE, LIMITS)

**Issues**
- Only partial coverage of scenarios from modeling comparison exercises
- Imbalance in model coverage
- Inconsistent scenario names and meta data from modeling comparisons
Toward an improved SOD database

- Reach out to community to get more scenario submissions
- Coordinated effort to transfer scenario data from completed and ongoing modeling comparison exercises
- CAs have volunteered to help with the data transfer
  - AME, EMF22 – Kate Calvin (PNNL)
  - AMPERE – Nils Johnson (IIASA), Nils Petermann (PIK)
  - LIMITS – Giacomo Marangoni (FEEM)
  - RoSE – Ioanna Mouratiadou (PIK)
  - EMF27 – TBD
AR5 WG III Timeline – Database

26 Apr 2012
15 Dec 2012
~June 2013
31 Jan 2013
3 Oct 2013

Jul 11
Dec 11
Mar 12
Jul 12
Nov 12
1 Feb 13
Jul 13
Oct 13
Apr 14

LAM1 Korea
ZOD
LAM2 New Zealand
FOD
LAM3 Spain
SOD
AR5 Submission Deadline
LAM4 Ethiopia
FD
AR5 Acceptance Deadline
Approval Plenary

Scenario Submission (FOD)
Scenario Submission (SOD) Submissions
Cut-off for new Database Finalization
Please submit your scenarios!

• To make it into the SOD, submissions until 15 December will be considered.
• Before submitting data, you need to register your model and provide meta data.
• Some automated quality checks (comparison with historical data) may lead to rejection of submissions.
• Further information: http://www.iamconsortium.org/ https://secure.iiasa.ac.at/web-apps/ene/AR5DB/
Terms of Reference in a Nutshell

AR5 Database Access

- During Process: (C)LAs of Chapter 6, liaisons of other chapters and CAs between chapters
- After Final Draft: Government Reviewers
- After Plenary: General Public

Coverage of Variables/Regions

- Variables ultimately used in AR5 will go public
- Regions used in AR5 will go public (World, 5 RCP regions, some specific regions)
Part II: Template and Database Development

Acknowledgements

- IIASA database team:
  - Peter Kolp, Dieter Schicker (database development)
  - David McCollum, Oscar van Vliet (support)
- Elmar Kriegler (template consolidation, meta data, documentation)
- EPRI: Steven Rose (funding)
- … and many others (e.g. for testing meta data, for providing feedback and suggestions to improve template and databases)
Development since last IAMC Meeting

**Data template** (~10 modeling comparisons)
- Consolidation of IAMC data template
- Development and implementation of mechanism for collecting meta data

**Scenario databases** (~9 web-databases)
- Stability and performance improved (new server, software improved)
- New features added (with support)

**Documentation**
- See [http://data.ene.iiasa.ac.at/database/](http://data.ene.iiasa.ac.at/database/)
Meta Data: Models and Scenarios (Examples)

Model
• Model name & version
• Time horizon
• Model type (e.g., general vs. partial equilibrium; recursive-dynamic vs. inter-temporal)
• Cost metrics: GDP & consumption losses/system cost
• ...

Scenario
• Part of a bigger exercise? (e.g., EMF27, AMPERE)
• Type: baseline/climate policy/diagnostic
• Climate Target (e.g., none/temperature/radiative forcing/emissions)
• Climate Policy: cap (and trade), price, regional policies
• Status: published (peer-reviewed/non-peer reviewed), preliminary
• ...
New Database Features

Additional Visualization
• Derived indicators (e.g., per GDP, per capita, per FE)
• Scatter plots (e.g., GDP per capita vs. FE per GDP)

Snapshot formats
• MS Access 2003 & 2007 (incl. meta data, comments)
• CSV (scenario data only)

Administration (via-interface)
• Export of snapshots
• Group and user management
Feedback…

… on the templates and databases is most welcome!

Send ideas, suggestions, complaints to the database administrator e-mail address: webapps.ene.admin@iiasa.ac.at
Thank you!