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Call for National Scenarios In support of the IPCC’s Sixth Assessment Report

(This version: May 15 2020, contact Ch4ScenarioCall@centre-cired.fr)

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1. Overview

The present call is for research institutions and modelling teams to make data of **NATIONAL AND REGIONAL (e.g., EU, Asia, etc.) EMISSION SCENARIOS** available for the assessment of the Intergovernmental Panel on Climate Change’s (IPCC) Sixth Assessment Report (AR6), working group III (mitigation) (WGIII). The request is made by the Centre International de Recherche sur l’Environnement (CIRED), the International Institute for Applied Systems Analysis (IIASA) and the University of Cape Town (UCT) through a co-operation with the Co-chairs of IPCC WGIII.

The present call is coordinated by the Chapter 4 team of the AR6 WGIII, and led by Volker Krey (IIASA), Franck Lecocq (CIRED), and Harald Winkler (UCT). Chapter 4 is titled “mitigation and development pathways in the near- to mid-term”, and it is the main chapter in the AR6 WGIII report where the literature on mitigation and development scenarios at national and regional scale is assessed.

This call is one of four calls for scenarios in support of the AR6 WGIII. The other three calls relate to global scenarios, building-sector specific scenarios, and transport-sector specific scenarios respectively (for additional information, see <https://data.ene.iiasa.ac.at/ar6-scenario-submission/#/about>).

Those who submit scenarios retain full rights on their own use and sharing of their scenario data. In addition, they give selected authors of the AR6 the right to use their data for the sole purpose of the assessment. The data will remain strictly confidential until the report is published. Those who submit scenarios transfer a non-exclusive right to the UCT, CIRED and IIASA to publish their submitted scenario data in the AR6 of IPCC Working Group III (Mitigation), once it is approved. The publication of the database will allow free use of all scenario data contained in the database, but not its reproduction in whole or in part by third parties.

The remainder of this note describes the background to the call, the scope of the data requested, eligibility for submission, mechanisms for submission and terms of agreement.

2. Background

As part of the IPCC's upcoming AR6, an updated assessment of quantitative model-based emissions scenarios is being conducted. To facilitate the assessment, **modelling teams are invited to submit their available emissions scenarios to a database** hosted by the International Institute for Applied Systems Analysis (IIASA), on behalf of IIASA, CIRED and UCT. The database is being established for the sole purpose of informing the AR6. The collection of scenario data is conducted on the basis of a cooperation agreement with Working Group III of the IPCC (see attached support letter).

As the intention is to make the widest possible selection of the emissions scenario literature accessible to a quantitative assessment of the AR6, please distribute this note to all parties you are aware of that have been working on national level model-based emissions scenarios (see detailed scope below).

It is important to note that the AR6 will take all available literature on emissions scenarios fully into account independently of whether underlying emissions scenarios are submitted to the AR6 scenario database. However, submitting scenarios will provide added value to the assessment as these scenarios can then be considered for a quantitative comparative analysis of emissions scenario properties in the AR6. At the same time, submission to the database does not guarantee that a particular scenario will be included in the comparison. This decision rests with the AR6 authors and will be based on the needs of the assessment.

3. What to submit?

We are actively seeking quantitative, economy-wide scenarios at national and regional (e.g., EU, Asia-Pacific) level that:

- explore the outcome of policy and socio-economic developments, including scenarios without climate policy, as well as scenarios extrapolating current policy or NDC implementations, or
- explore the outcome of the implementation of policies that aim at limiting GHG emissions or that explore the policy options to fulfill given GHG emissions.

We are particularly encouraging submission of pairs of limiting scenarios and baselines that are generated with the same model version and same set of input parameter assumptions. We ask the teams to be particularly careful in documenting which scenario goes with which baseline, as Chapter 4 intends to analyze "variations to baseline".

Scenarios may introduce different policy packages and/or different objectives. Again please be careful in documenting which baseline each variant relates to, so that groups of related scenarios can be clearly identified.

Scenarios should be quantified by a formal model such as, for example, a dynamic systems model, energy-economy model, partial or general equilibrium model or integrated assessment model.

The template covers a range of approximately 250 physical and economic variables. The set of variables is designed to accommodate a wide range of underlying models, from computable general equilibrium to bottom-up models. **We do not expect all models to be able to fill in all the variables.** For example, technico-economic models with have detailed information about the energy sector, but will provide a limited range of economic variables. Conversely, top-down models may have a detailed description of economic variables but more limited vision of each sector.

The variables are ranked by priority. Tier 1 variables (about 40) define a core set of priority information. Tier 2 variables are important for enabling more specific analyses.

The scenario can either be a full trajectory, with data points for several dates. Or it can be a one-off projection. In the latter case, the modeling team must both enter BASE YEAR and PROJECTION YEAR data.

The call is looking for economy-wide scenarios. Scenarios produced with energy system models (e.g. TIMES/MARKAL) should also be included. For scenarios produced by models that are specific to other sectors, please refer to the sectoral calls for scenarios.

4. Eligibility for submission

There are several criteria for inclusion of scenarios in the database:

1. The scenario needs to be developed by a formal model (see above).
2. A minimum set of model and scenario meta information needs to be submitted (see below).
3. The scenario needs to be part of a publication in a way that makes it eligible for the AR6. This means it has to be published in a peer-reviewed journal article which has been accepted by **19 January 2021**. Or alternatively, it has to be published in a report by **19 January 2021** that has been determined by IPCC to be eligible grey literature. Such determination is made on a case- by-case basis. Literature submission cut-off deadline (19 September 2020) also applies.
4. Scenario authors have accepted the terms of use of the database and have not withdrawn their scenario prior to the date of the finalization of the database on **19 January 2021**.

5. Submission of preliminary data

Given that new emissions scenario studies may still be underway, researchers are encouraged to register their models and submit preliminary data from these ongoing studies with the expectation that these data will be updated when the studies are complete and the associated journal articles have been submitted (and a second time when they are accepted). It is important though that preliminary data considered for submission have already reached a high level of maturity after substantial analysis. Researchers are asked to refrain from submitting preliminary scenarios, if they believe there will be substantial future changes to these data that would fundamentally alter the nature of the results.

By submitting preliminary data to this database, researchers are giving their explicit approval to use these data in preliminary drafts of AR6 of Working Group III of the IPCC, which will be subject to confidential outside peer review. By marking the data as preliminary when submitting it, researchers are also explicitly asserting that the preliminary data will be updated or replaced with final data when the studies are complete and published. Preliminary data submitted to the database will only be directly accessed by selected authors and review editors of AR6 of Working Group III of the IPCC and will remain confidential unless explicit approval of scenario authors is obtained. Only scenarios that fulfill the eligibility criteria above, are published in time and are submitted in their final published form will be considered for the assessment of the scenario database for the final draft of AR6.

6. Timeline for scenario submission, updating, and database publication

The following dates apply:

- **19 September 2020: Literature submission deadline.** To be included in the AR6 second order draft of IPCC Working Group III, preliminary scenario data must have been updated based on a paper that was submitted to an academic journal by 19 September 2020 or a report that was published by 19 September 2020 and was determined to be eligible grey literature. This corresponds to the same literature submission deadline used by WGIII of the IPCC.
- **10 January 2021: The database closes for submission of new scenario data.** Teams who hope to have additional scenarios published by 5 April 2021 have to submit the associated preliminary scenario data by this January deadline to allow the author teams to have an overview of available scenarios for the preparation of the final order draft. Teams are also encouraged to update any preliminary scenario information, since the scenario set available by this time will be used in the writing of the Final Order Draft of the Chapters and the Second Order Draft of the Summary for Policy Makers in early 2021.
- **5 April 2021: The database closes and Literature Acceptance Deadline.** Preliminary scenario data must have been finalized and updated based on an accepted paper or a published eligible report.

Scenario data not fulfilling this requirement will be removed. No further updates are possible, submitted scenario data can no longer be withdrawn.

- **11 September 2021: Database publication** following the publication of the AR6 of IPCC Working Group III when approved by the IPCC plenary.

All people who have registered models will be notified of any changes in the timeline.

7. Terms of submission

1. Scenario authors retain full rights on their own sharing and use of their scenario data. Those rights will not be affected by submission, use and publication of their data in the AR6 scenario database.

2. By submitting to the AR6 scenario database, scenario authors transfer to selected authors of the AR6 the right to use their data for the sole purpose of the AR6 assessment. AR6 authors remain under the obligation to keep submitted preliminary and unpublished data strictly confidential. Use or disclosure of the data outside the AR6 assessment will require separate and explicit approval from scenario authors.

3. Scenario authors retain the right to withdraw their scenario data after submission at any time before 5 April 2021, when the database will be closed for further changes.

4. Upon closing the database on 5 April 2021, scenario authors automatically transfer a non-exclusive right to the UCT, CIRED and IIASA as cooperation partners of the IPCC to publish their submitted scenario data as part of the AR6 scenario database at the time the AR6 of IPCC Working Group III is published. The publication of the database will allow free use of scenario data contained in the database, but not its reproduction in whole or in part by third parties.

8. How to submit?

Scenario submission requires:

- A contact email address of the owner of the submitted scenario data
- Registration of the underlying model version including model meta information at the database and registration of authorized users for scenario submission.
- Submission of scenario data in the common scenario reporting template

Please refer to <https://data.ene.iiasa.ac.at/ar6-scenario-submission/#/about> for details on the registration process.

For any additional information, please contact us at the address below.

9. Contact details

Ch4ScenarioCall@centre-ciired.fr

Thank you very much for your consideration of this request for emissions scenario data. The authors of the AR6 will greatly appreciate your willingness to share your emissions pathway scenario data with them.

On behalf of the authors of chapter 4 of the AR6 of Working Group III of the IPCC, CIRED, UCT and IIASA

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