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Subject: Meeting on SRES Scenarios, 1 October 1998
Date: Thu, 01 Oct 1998 21:57:23 +0200

Dear Colleagues,

A meeting was held today on SRES scenarios during the IPCC plenary session in Vienna. The meeting was organized by David Griggs, Fortunaat Joos, Richard Moss, and Rob Swart. Also present were a number of delegates including two Co-Chairs of IPCC, John Houghton from WGI and Bert Metz from WGIII. Attached is a document with issues discussed during this meeting.

The meeting was very productive in my view, even though it was quite brief. Two key issues were discussed that are listed in the attachment: (1) incomplete information concerning SRES emissions as reported on the website, and (2) consistency and plausibility of SRES scenarios and their emissions.

(1) Incomplete information

There appeared to be a general consensus that the range of CO2 emissions (especially energy-related ones) are in quite good agreement across the SRES scenarios once one adds the missing emissions categories to all model runs. They are also in a relatively good agreement with the ranges given in SAR.

The SRES ranges of CH4 and N2O emissions did not appear to be a problem in themselves, but they are considerably lower than the ranges given in SAR.

It was agreed to ask the SRES writing team to further harmonize the ranges for the base year and the period 1990 to 2000 across the scenarios for CO2, CH4 and N2O. At the same time, David Griggs will contact the colleagues from WGI to inquire whether the emissions ranges for these gases as given in SAR have changed in the mean time and will inform the SRES colleagues soon about the result. In particular, he will check whether the non-energy CO2, CH4 and N2O emissions ranges are still appropriate as best guess for the 1990 situation and about any new numbers about the ranges for more recent years. It was also suggested that the SRES writing team discuss the reasons for relatively low CH4 emissions in 1990 compared with the SAR range.

Most of the SRES models do not generate CFC and HFC emissions but these emissions are important for climate models. It was agreed that David Griggs will inquire with climate modelers whether they really need all species of these gases or whether it is sufficient to report their joint emissions. SRES team is to report whether these emissions could be added to most of the model runs and over which time-scale. Joergen Fenhann is in touch with a number of colleagues on this issue already and he is planning to make a specific proposal how to handle this question across SRES scenarios.

SRES sulfur emissions are considerably lower than the IS92 range. There are a number of reasons for this difference that were discussed at the meeting. It was decided that this exchange should continue in the future so that there is a better understanding of all issues involved. This is a new aspect of SRES scenarios that represents an important change since IS92a, a change that was also suggested by the 1994 IPCC review of emissions scenarios.

The concern raised by Hugh Pitcher (in the WGI scenario discussion group) about high productivity growth in A1 scenarios was briefly mentioned. This issue is to be settled within the SRES writing team, possibly by including the formulation of alternative scenario variants.

(2) Consistency and Plausibility

Most participants of the meeting expressed the need to have emissions trajectories that are somehow normalized for all SRES scenarios for 1990 and that have the same trends through 2000 and diverge only thereafter across different scenarios. This would meet the need of climate modelers

to work with the same starting points for all scenarios they model. One suggestion was that SRES team simply takes midpoints of emissions ranges in 1990 and renormalizes all SRES emissions. Another proposal is that climate modelers suggest their preferred values for 1990 to be used in renormalization. In any case, the method that is used would need to be well documented and cited in the relevant IPCC reports. This is necessary so as not to introduce an artificial impression that there is a full agreement on base-year emissions across SRES scenarios.

There were no specific suggestions how to harmonize short-term emissions through 2000. This issues is to be discussed within the SRES writing team and within the climate modeling community in order to collect emissions data for the last years that could be used for such harmonization.

The issue was discussed of generally lower CO2 and SO2 emissions across the range of SRES scenarios and in particular for B2 marker. This results in lower GHG forcing and lower "negative" SO2 forcing. The total forcing remains roughly the same as in IS92a but has fundamentally different implications especially at regional level.

Most of the climate models will be in the position to use just a few scenarios, in some case, may be just two. Possible ways of avoiding the impression that there is a "preferred" scenario were discussed and there was a consensus that somehow the message needs to be conveyed that the whole set of SRES scenarios is plausible and that there is really no single "central" case that can be compared with IS92a.

Climate models need gridded SO2 emissions while SRES models generate SO2 emissions for a number world regions. Mike Schlesinger and Steve Smith will attend the next SRES meeting and it was suggested that Mike would use his method to produce gridded SO2 emissions and that Steve would use the method proposed by Tom Wigley to do the same. This way there would be two alternative gridded emissions patterns for all SRES scenarios available to user groups.

In conclusion, it was agreed that it would be useful to organize an informal meeting where SRES colleagues could meet with potential user groups from TAR (especially from WGI and WGII). Next possibility to do so would be on the occasion of the WGI meeting in Paris, 30 November to 3 December. I am not quite sure that I got the dates right. The next communication will be more precise.

Regards, Naki

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