



## CONSULTATION ON EC4MACS MODELLING METHODOLOGY

Please fill in one questionnaire for each model, and provide your comments in the respective boxes.

Please return the questionnaire to the EC4MACS coordinator Hans Benzinger ([benzing@iiasa.ac.at](mailto:benzing@iiasa.ac.at)) before June 15, 2009.

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Model	<i>PRIMES</i>
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### ***1 Assessment of model design***

**To what extent does the structure of each model provide a scientifically credible representation of the reality?**

*Please fill in text here ...*

**What are the limitations of the model structure and the implied system boundaries and to what extent may these restrict the validity of the conclusions and policy**



One important issue is that computations of the policy scenario's produced by the PRIMES model do not seem to take into account the effect of various policy options on the level of economic activities and hence on levels of energy demand (Capros et al., 2008). Analyses with CGE models, such as WorldScan (CPB, 1999; Koutstaal and Veenendaal, 2008) demonstrate that climate policies are likely to induce significant relocation of production, both within Europe and between Europe and the rest of the world. Neglecting the effects of these changes on final energy demand will result in an overestimation of cost of climate policies. In the PRIMES runs the level of sectoral activities does not change with different policy scenario's which seems unlikely. Neither is it clear whether and if so, how feedbacks that could be studied through the GEM-E3 model are used in specific policy variant estimates.

*Reference:*

Capros et al., 2008. Model-based analysis of the 2008 EU policy package on climate change and renewables (June 2008)

CPB, 1999, WorldScan - the Core version, The Hague.

Paul Koutstaal and Paul Veenendaal, Economic consequences of 'Schoon en Zuinig' in 2020 (in Dutch), CPB Document 174, 2008

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## ***2 Representation of reality in the modules***

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To what extent does the structure of each model provide a scientifically credible representation of reality?

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*Please fill in text here ...*

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### **3 Treatment of uncertainties**

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Have the most policy-relevant uncertainties (related to variability of the system inexactness of input data and lack of knowledge) been adequately addressed?

*Please fill in text here ...*

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Is there an alternative formulation conceivable that could provide better policy-relevant insights into uncertainties?

*Please fill in text here ...*

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Do available model results represent uncertainties accurately? Are there other ways conceivable for attaining more robust conclusions?

*Please fill in text here ...*

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Is there a risk that the model gives policy advice that systematically underestimates or overestimates the need for policy measures to protect the environment? What are the major reasons for a bias, if any?

*Please fill in text here ...*

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## **4 Communication with stakeholders, policy-makers and public**

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How do the modelling teams verify the quality of input data that are used in model? Is the quality of the input data obtained from national sources and from other models sufficiently guaranteed? In what way do teams give feedback to providers of input to maximise the robustness of model results?

*Please fill in text here ...*

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In what way are users and stakeholders involved in the modelling process, and is this sufficient to ensure transparency and acceptability of the results for policy advice?

*Please fill in text here ...*

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Are the presentations of the results clear? If not, can the communication and dissemination of the results be improved?

*Please fill in text here ...*

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Is the model structure transparent? (e.g., are the assumptions clearly exposed and motivated, and is their influence on the model-results explained?)

*Please fill in text here ...*

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## **5 Other comments**

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*Please fill in text here ...*

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Thank you for providing this feedback to the EC4MACS team!

Please return this questionnaire to the EC4MACS coordinator Hans Benzinger ([benzing@iiasa.ac.at](mailto:benzing@iiasa.ac.at)) before June 15, 2009.

You will receive information on the EC4MACS review workshop that is planned for October 2009.