

## Response and actions of MNP on the findings of the scientific audit committee on air quality assessment models

August 15, 2006

MNP is highly appreciative of the efforts taken by the audit committee and thanks the members for their work, constructive suggestions and positive overall rating of the environmental assessments. MNP agrees with the findings of the committee and will undertake the following actions in response to the committee's recommendations.

**Finding audit committee:** The formation of an independent assessment agency in the Netherlands is good. It is, however, not fully clear who MNP works for. MNP should continue to reflect upon its independence and its position.

**Response MNP:**

1. While MNP considers (research) interests of stakeholders in formulating its work programme, it is commissioned by the Dutch Cabinet, which defines topics/themes to be addressed by MNP. MNP may address other topics that it feels to be important.

**Finding audit committee:** We endorse the MNP modelling strategy, which is a networking strategy. MNP could benefit from further collaboration [for model development] with international institutes.

**Response MNP:**

2. It is MNP's strategy to maintain and further develop its air quality models in collaboration with other institutes, i.e. in a network.
3. The RAINS-NL model was developed in collaboration with IIASA. The new GAINS.NL will follow suit.
4. MNP has entered into collaboration with TNO and RIVM for model development and maintenance related to the LOTOS-EUROS model.
5. Collaboration with KNMI is foreseen to both strengthen air quality modelling work and establish a connection with the TM5 community.
6. MNP is starting collaboration with a Dutch university to improve the OPS model and keep it up to date.
7. MNP has established contacts with EMEP/MSC-W for further comparison of the results of OPS and LOTOS-EUROS with the EMEP Unified model. (see new study, item no. 10)
8. MNP will investigate the pros and cons of implementing the EMEP Unified model at MNP and tailoring it to the Netherlands (EMEP.NL).
9. MNP has close access to European information on air quality through the Topic Centre on Air and Climate Change of the European Environment Agency located at MNP.
10. MNP will start a new study to address several findings of the committee: e.g. comparison of source-receptor matrices of ozone and PM10 calculated with the OPS, Lotos-Euros and EMEP models. The effects of the different source-receptor matrices on the results of the RAINS.NL model are investigated as an uncertainty analysis. Key to the study is to find out if the use of different source-receptor matrices will yield different policy-relevant conclusions. Conclusions will have consequences for both the contents and the design of the MNP air quality model instrumentation.

**Finding audit committee:** The role of MNP staff should be centred on a critical review of the models used to answer policy-relevant questions. Therefore, it is necessary that MNP allocates sufficient funding for independent evaluation of air quality models and for the maintenance of its own modelling expertise.

**Response MNP:**

11. It is of prime importance for MNP to be a recognised discussion partner among fellow scientists. In turn maintenance of this level of expertise calls for certain demands on MNP's tasks.
12. A new air quality modeller will be put into practice at MNP in September.
13. MNP has a commitment to keeping the air quality models fit-for-purpose.

**Finding audit committee:** To explore the suitability of OPS for simulations of future concentrations and deposition, we strongly recommend comparing OPS with models that deal with transport, mixing and chemistry in more detail.

**Response MNP:**

14. See new study (10).

**Finding audit committee:** For further applications of the RAINS-NL model, MNP should consider the use of source–receptor matrices derived from models that account for non-linear chemistry. However, before deciding on changing the source–receptor matrices used within RAINS-NL, MNP should carefully investigate the effect on the policy advice.

**Response MNP:**

15. See new study (10).

**Finding audit committee:** We welcome the initiative of employing the MNP uncertainty management guidelines to applications of the RAINS-NL model. However, further consideration is needed regarding communication with stakeholders.

**Response MNP:**

16. MNP has created a guide for uncertainty analysis and communication of uncertainties with stakeholders. This guide is a live document that is still growing. It is referred to for use in every assessment.
17. The first steps for routinely performing uncertainty analysis have been taken in the past year; this analysis will continue into the future. Explicitly mentioning causes of uncertainty will help the communication with stakeholders.
18. It must also be realised that this is an ongoing process in which MNP and its stakeholders have to learn to work with uncertain information and make decisions based on this information.

**Finding audit committee:** For the long term, MNP should consider a feasibility study to explore tools necessary for Dutch policy support in 2020.

**Response MNP:**

19. Broadening the air quality analysis by considering aspects of spatial planning, agriculture, climate change, economics and social developments will improve the usefulness of MNP's assessments.
20. Possible development of the EMEP model at MNP (see above).

**Finding audit committee:** For the short term, the focus should be on characterisation of assessment tools. It is important to have quality control of the tools.

**Response MNP:**

21. The logistics of producing air quality maps have recently been analysed. The web application resulting from this analysis will improve the quality control of that process.
22. A lengthy short list of improvements has been compiled on the basis of this process-oriented analysis and on an analysis of the recent GCN process. Resulting actions to improve the quality of air quality maps have already been started and will continue into 2007.

**Finding audit committee:** There is a need to follow the development of different policy agendas on a continuous basis (NEC review, climate policy, CAP reform, transport policy and renewable energy) and assess how these policies may affect the requirements for the modelling tools.

**Response MNP:**

23. MNP has frequent and extensive contacts with policy makers in Brussels, Copenhagen and Geneva.
24. MNP participates in EMEP taskforces, EU policy projects, UNECE groups (CLRTAP) and EEA meetings and projects.
25. There are plans to broaden the policy agendas in the direction of spatial planning, agriculture and climate change.

**Finding audit committee:** MNP should be fully aware that access to air quality monitoring data is essential for assessments and model validation.

**Response MNP:**

26. The recent finding of MNP that a decrease in observed PM<sub>10</sub> concentrations in the Netherlands is significant shows that MNP is fully aware of the significance of good observations and the access to them. MNP has taken the initiative of asking RIVM to investigate the reasons for the decrease in PM<sub>10</sub> concentrations in the light of the significance of PM<sub>10</sub> prognoses.
27. Models are again validated using these monitoring data.
28. MNP would like to actively participate in the VROM, IPO and RIVM steering committee on monitoring.