Expert Panel on Nitrogen Budgets (EPNB-17)

Brussels, Oct 2, 2019

Bedford Hotel and Conference Centre, 9.30 a.m. – 1 p.m.

MINUTES

Chairs: Markus Geupel (MG), Wilfried Winiwarter (WW)

Participants: Jürg Heldstab, Ika Djukic (ID), Roy Wichink Kruit, Angelo Innamorati, Lars Stoumann Jensen, Cristina Martinez Salas, Clare Howard, Bettina Schäppi (BS), Till Spranger, Filip Moldan (FM), Salar Valinia, Karin Groenestein (KG), Boris Boincean, Lidiya Moklyachuk (LM), Natalia Kozlova, Inga Grinfelde (IG), Klaas van der Hoek, Claire McCamphill

1. Guidance document and annexes: Energy Annex (Bettina Schäppi, BS)

EPNB is in the process to complete the Annexes to the Guidance Document on National Nitrogen Budgets, which contain detailed instructions for country experts to systematically develop their nitrogen budgets in a harmonized way. The Annex on Energy and Fuels has been completed, after internal review changes have been made and the text has been made available on the EPNB web pages, with information sent out to the full EPNB distribution list.

BS presents the main approach taken and responds in detail to the questions. The pool "Energy and Fuels" consists of 4 subpools, one of which is energy conversion, which is connected with all other subpools. At the same time, these other subpools receive significant input from imports. In a simplified (Tier 1) version, the flow scheme can be fully separated so that each subpool receives external inputs only. Outflows mostly go to the atmosphere, with emission factors (considering abatement technology) being applied. Hence, fuel N does not play a role in the consideration. Combustion is a sink for "inactive N" as contained in fuels. For the approach to work, it is, however, essential to separate low temperature from high temperature processes. "Anaerobic digestion", a process that has considerable N flows into agriculture (digestate applied on soils) and to waste (digestate that cannot be used on soils) provides a specific difficulty, it is currently being treated under Energy but might as well be moved to Waste or Agriculture

There is currently a problem of "agriculture" not allowing for the uptake of the N flows from Anaerobic Digestion. KG will check (with other coauthors of Agriculture Annex), whether this might be just a misinterpretation, or if it will be useful to provide a one-pager as a "corrigendum" to the agriculture annex, which allows digestate and its N contained to be represented in the national budget.

EPNB unanimously recommends the annex to be endorsed by the TFRN for use by country experts. Nevertheless, improvements and updates will be possible, e.g. after informing the EP co-chairs by using the "review sheet" for suggestions. Both this new annex and the review sheet are available on the EPNB web page (http://www.clrtap-tfrn.org/epnb).

2. Further procedure: Waste Annex

There is only one Annex left to be produced. A draft of this “Waste” annex is available which was further elaborated when developing the German N budget. This may serve as a basis for the finalization of this text.

The EP co-chairs ask all participants to suggest experts who might be willing to take the responsibility of preparing such an Annex, and/or to suggest possible funding sources (e.g., national governments). The sooner that document can be produced, the better for allowing a full coherent set of instructions for national N budgets. As a backup solution, they suggest to build from the information available already and extend the respective section of the report on the German budget. It is expected that this could not happen before 2021, resulting in further delay. The co-chairs consider finding reviewers should be less of a problem and believe they have a candidate.

3. Final results German N budget (Markus Geupel, MG)

The first attempt to apply the annexes in practice has been made by Germany, here presented by MG. Final results are available, the report will be available officially in the web site in a few months. The report displays in considerable breadth and detail how nitrogen compounds are being transferred across the German economic and environmental pools. Discrepancies appear, however, that trigger further discussion still. One major difference to the guidance in the annexes is the inclusion of a sub-pool “biogas production” in the pool “Agriculture”, consistent with German national agricultural statistics. Such adaptations can potentially create difficulties in the comparability between countries that may choose to adopt the original guidance.

In order to allow EPNB-17 attendants to evaluate the results, and in order to possibly gain some help in identifying reasons for the differences observed, the electronic version of the report will be made available to EPNB-17 participants. This will also include the resulting Excel tables (unfortunately tagged in German language, but codes are consistent with the English report).

4. Other national applications (national experts): Austria (Ika Djukic, ID), Sweden (Filip Moldan, FM), Latvia (Inga Grinfelde, IG), Ukraine (Lidiya Moklyachuk, LM)

On a much smaller scale, activities are ongoing in other countries also. ID reports on different activities in Austria that at least raise awareness among the Federal Environment Agency and the Ministry on the topic of nitrogen. There still is a long way to go to an Austrian Nitrogen budget. FM uses support from the Swedish EPA – too small for a full N budget in one project – to move forward step by step, pool by pool. This seems to work slowly but steadily so far at least. IG informs about a joint activity between Estonia and Latvia, triggered by an interest of supporting national GHG inventories, that led to a first N budget having been established for Estonia and Latvia in the Interreg project GURINIMAS. The N budget (in English language) is available for download on an Estonian web page (https://www.envir.ee/en/news-goals-activities/protection-marine-environment/est-lat-project-gurinimas) since earlier this week. The methodology does not strictly apply the EPNB methodology (e.g., 12 pools) but is closely related. Finally, LM mentions Ukraine activities to apply the Energy annex by Oblast (district) in the Ukraine, and the problems occurring as statistics do not allow to differentiate processes (internal combustion engines vs. heaters).

In order to optimize overview to existing approaches and access to available information, WW will adjust the EPNB web page to allow a sub-page which includes such national examples once they become available.

5. General Discussion

Especially some participants experienced in the implementation on environmental laws on the European scale highlighted the need of policy relevant, aggregated results from national nitrogen budgets. These may be very helpful for future comparisons of policy recommendations across EU member states. Reporting of NNB already now is recommended under the EU-NEC directive. A lack of obligation was identified that allows only stepwise activities in the individual countries. As typically resources applied have been quite small, little progress can be observed.

6. Work plan 2020 - 2021

The upcoming workplan as an essential element was discussed in detail. The following text introduces the elements of the workplan including an overview of the discussions that led to their respective adoptions

- Completion of annexes
  see above – following the adoption of the "Energy" annex, only the "Waste" annex still has to be completed

- Review internal consistency of annexes, provide edits in texts
  Users have pointed out several weak points in the current versions of annexes. For Germany, scientific project leader Martin Bach provided an overview in a presentation at EPNB-16 (Berlin) – presentation slides are available. Likewise, information may come from other users. E.g., it was pointed out that flows leading to other pools typically do not indicate the respective subpools – an issue that unnecessarily complicates building of structures and relationships. Also, inconsistencies were observed with respect to nomenclature, codes or conversions. Converting such identified problems into a text revision is an arduous task that requires considerable effort.

- Reporting template & evaluation
  Using the standardized method based on the STAN Material Flow Analysis software allows also to provide a standardized output, e.g. in the form of an excel file. The CEIP already agreed they would be happy to store such national N budgets, like they routinely do for national emission inventories under UNECE. Starting from here, other ways of evaluation – e.g. a harmonized graphical display that provides important insights to policy makers, could be envisioned. EPNB will bring experiences and ideas together.

- Collect country feedback & provide country results on web page
  See above, "Other national experiences". The EPNB sub-page to be produced will also cover approaches not or only partly operating under the guidance provided by the Annexes.

- Providing support to "integrated N processes"
  N budgets are an excellent example of how information can be collected and further treated in a comprehensive manner, across species or pools. Hence, N budgets are excellent tools to trace the fate of N compounds and thus arrive at integrated views. This support has e.g. been provided to the EU-sponsored workshop in Brussels, Sept 30/Oct 1

- Extending beyond UNECE area
  Within the INMS project, National Nitrogen Budgets are to be further continued. This is an opportunity to share the EPNB approach with partners in different part of the globe, like the seven INMS demonstration areas in all parts of the world, and even beyond.

The EPNB stresses that all activities move on in small steps and lack of funding creates delays in progress. The encouragement and interest of institutions like national ministries and also EC representatives is highly appreciated and certainly will lead to extra efforts to also obtain the necessary funding, however without achieving that progress is quite difficult.

Not covered during the session:

In the interest of time, several agenda items had to be cancelled. Some of the presentation slides will be made available nevertheless (as pdf-files) on the EPNB web pages.

7. National N target Germany (Jürg Heldstab)
8. INMS: An international framework for national budgets (Wilfried Winiwarter)
9. Application at different scales: regional (Gabi Wechsung/Markus Geupel)
10. Application at different scales: urban nitrogen cycles – UNCNET (Wilfried Winiwarter)
11. AOB