

Minutes of the 1st Expert Panel on Nitrogen Budgets of the Task Force on Reactive Nitrogen

November 5 2008, Dourdan (France)

General

Introduction from Wilfried

(see list of participants at the end for full names and contact details)

Idea of this short meeting is not to have lengthy discussions; just trying to find out what work needs to be done in preparation of the next TFRN meeting (27/29 April - Garmisch, Germany)

Draft agenda was sent around before this meeting and contains the following point:

- * Status (available partial budgets / full country-specific balances)
- * Potential uses of N balances and budgets
- * Which areas require our attention?
- * Proposed activities until the TFRN meeting (April 2009)
- * Request from the TFRN: "N in human diets" to consider abatement strategies - can we provide expertise?
- * Contribution to the chapter on Integration / Budgets for ENA
- * Broadening the EP network - EP participation beyond ENA
- * AOB

The different items of the agenda are introduced by Wilfried via a powerpoint presentation (which will be available shortly from the TFRN site)

Looking at the status of different balances:

- OECD soil balance (note: Kevin Parris of OECD interested in this EP work)
 - National budgets, like e.g. German example
 - Who else is aware of information that can help in further developing the whole process of constructing such balances (Question for Kevin: how to guide national experts?)
- (Action: **All** - provide information to Wilfried)

Potential uses of N balances and budgets are:

- validation
 - information transfer - across disciplinary boundaries, differences in scale and scope (e.g. watersheds vs. administrative units)
 - looking at spatial and/or temporal patterns
 - combination of balance information (risk evaluation) with actual data to find out about possible 'gaps/losses' in/from the balance (note: data availability on the proper scale is a problem)
- different reports on spatial patterns are available as pdf's - Bruna will provide the link to Wilfried to be put on the website (**Action:** Bruna)

Remark Shabtai: Issue of improving the overall temporal quality of emissions by means of using higher resolution data. However higher resolution doesn't provide better data by definition, due to missing info (i.e. lot of guessing involved).

Q. Penny: what are we looking at with respect to the trends we are talking about?

A. Wilfried: temporal trends over years - but also within the year. Everything that can be used for improving our understanding about the overall system. Use of information that allows generalisation.

According to Penny these data are available already to a large extend - direct Wilfried/Penny discussion needed (**Action:** Wilfried & Penny)

Remark Till: use of balances for information transfer. In itself using balances for this is already very important for informing policy makers (e.g. policy options).

Remark Nick: using balances can point at missing information somewhere (kind of validation)

Remark Bruna: European balance is not something to replace the national balances, but it may be contributing to them by means of using same methodology / data. Harmonisation of methods/data

Additional ideas about the possible usage of balances are very much welcome - please send them to Wilfried (to be put on the website. **Action:** All)

Remark Klaas: when combining land/water balances with atmospheric balances you could get an idea about the relation between different policies and subsequent emission reductions

Remark Oene: what are the different relevant questions that are dealt with in the context of the balances/budgets? Questions related to the different stakeholders: a list is needed with these questions. Proposal is to send around a list with these questions to be edited/added by the different participants of this meeting (**Action:** Wilfried).

Q. Nick: Are we interested in the local scale stakeholder?

A. Wilfried: If it covers more than one pool simultaneously, it should be dealt with within the EPNB

Which areas should we be interested in?

Presentation Till on the German Balance example (presentation available via the TFRN website).

It is stated that we need balances/budgets on different hierarchical levels (depending on the questions to be answered). The German national budget is part of the UBA N Emission Abatement Strategy. In general it is important to have EQO (Environmental Quality Objectives) - without them a budget is 'useless'

Link to the UBA background document will be provided to Wilfried to be put on the website (**Action:** Till)

Q. Bruna: how about addressing pools in the N Balance?

A. Till: this balance does not include changes in pools (indirectly they are there by means of difference between input / output, although very uncertain)

where are the largest gaps and research needs?

- effects on environment and human health incl. climate change interactions
- closing N budgets, especially
 - * N₂ losses and N pool changes
 - * Atmospheric budget, especially NH₃ emissions
 - * Scale effects
 - * Assessment of global trade concerning N fluxes

Remark Wim: N₂ losses are normally taken as difference between input and leaching; if N₂ losses are uncertain, what does this tell us about the input and leaching terms?

Remark Horst: Closing the N budgets are important - when looking at total budgets for e.g. ammonia - problems occur when considering the atmospheric / terrestrial balances part. There is than a additional reason for looking at integrated balances.

Remark Klaas: A Dutch Balance is available (mainly based on input / output in the Netherlands)

Remark Hans: how about taking into account the different lifetimes of the species?

Proposed activities until the TFRN meeting (April 2009)

- Start out from ENA draft 'chapter 13' - what is the current standard
- Devise program to arrive at 'German standard' (not only for western European countries, but also countries with less data available)
- Develop EPNB strategy:
 - * Head for N-budget guidelines (possible way of distributing the information to e.g. policymakers by means of ENA draft 'chapter 13' - containing all the relevant insight)
 - * Goal of work: journal publication
- Maintain policy orientation (problem oriented)

Webpage is there - invitation for additional information (**Action:** All)

Wilfried will compile this information and make it visible to all (**Action:** Wilfried)

Broadening the EP network - EP participation beyond ENA

Different possibilities/options:

- * participation at next TFRN
- * scientific contact

* contact national environment agencies: involve National Experts! (**Action:** All - provide names of these National Experts)

AOB

A discussion on the definitions of the terms “budget” and “balance” was held after it turned out to be impossible to logically trace why some areas commonly refer to “nitrogen balances”, while others prefer the term “budget”. The work of the expert panel deals with nitrogen flows that ultimately need not be balanced, as accumulation in environmental pools may occur. Thus the expert panel proposes to the Task Force that its name should further on be “Expert Panel on Nitrogen Budgets”

List of participants

First Name	Last Name	Institute	Country	Email
Luisa	Samarelli	European Commission	Belgium	samarelli.luisa@ec.europa.eu
Veiko	Uri	University of Life Sciences	Estonia	veiko.uri@emu.ee
Theodore	Karyotis	Institute for Soil Mapping	Greece	karyotis@hellasnet.gr
Hans	Kros	Wageningen-UR, Alterra	Netherlands	hans.kros@wur.nl
Bruna	Grizzetti	JRC	Italy	bruna.grizzetti@jrc.it
Anne-Christine	Le Gall	Ineris	France	anne-christine.le-gall@ineris.fr
Wim	De Vries	Wageningen-UR, Alterra	Netherlands	wim.devries@wur.nl
Till	Spranger	UBA	Germany	till.spranger@uba.de
Penny	Johnes	University of Reading	United Kingdom	p.j.johnes@reading.ac.uk
Horst	Behrendt	IGB	Germany	behrendt@igb-berlin.de
Oene	Oenema	Wageningen-UR, Alterra	Netherlands	oene.oenema@wur.nl
Pirkko	Kortelainen	Finnish Environment Institute	Finland	pirkko.kortelainen@ymparisto.fi
Gilles	Billen	CNRS	France	gilles.billen@upmc.fr
Josette	Garnier	CNRS	France	josette.garnier@upmc.fr
Stefan	Reis	CEH	United Kingdom	srei@ceh.ac.uk
Mark	Sutton	CEH	United Kingdom	ms@ceh.ac.uk
Benjamin	Sanchez	CIEMAT	Spain	benjamin.gimeno@ciemat.es
Shabtai	Bittman	Agriculture + Agri-Food	Canada	bittmans@agr.gc.ca
Klaas	Van der Hoek	RIVM	Netherlands	klaas.van.der.hoek@rivm.nl
Hans	Van Jaarsveld	PBL/RIVM	Netherlands	hans.vanjaarsveld@pbl.nl
Nick	Hutchings	Aarhus University	Denmark	nick.hutchings@agrsci.dk
Adrian	Leip	JRC	Italy	adrian.leip@jrc.it
Lex	Bouwman	Neth. Env. Assess. Agency	Netherlands	lex.bouwman@pbl.nl
Klaus	Butterbach-Bahl	ForschungsZentrum Karlsruhe	Germany	klaus.butterbach-bahl@imk.fzh.de
Oyvind	Kaste	NIVA	Norway	oka@niva.no
Wilfried	Winiwarter	IIASA	Austria	winiwarter@iiasa.ac.at
Albert	Bleeker	Energy Research Centre	Netherlands	a.bleeker@ecm.nl