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Task Force on Reactive Nitrogen

Under the Working Group on Strategies and Review of the UNECE Convention on Long-range Transboundary Air Pollution

EB decision 2007, revised EB decision 2018/6

Co-chairs:
Tommy Dalgaard, Cláudia Marques dos Santos, Mark Sutton
Lead country: Denmark

10th TFTEI anual meeting, 17th October 2024

TFRN Status

https://unece.org/sites/default/files/2024-04/Agenda%20item%20%282%29%20Report%20TFRN.pdf

- **General status**
  - TFRN-18 meeting, 18-19 June 2024 Aarhus DK and hybrid, kindly sponsored by DK
- **The four TFRN expert panels**
  - EPMAN - Expert Panel on **Mitigating Agricultural Nitrogen**
    - **Ammonia Guidance Document update process**
  - EPNB - Expert Panel on Nitrogen **Budgets**
  - EPNF - Expert Panel on Nitrogen and **Food**
  - EPN-EECCA - Expert Panel on Nitrogen in **EECCA countries**
- **Revision of the "Guidance document on preventing and abating ammonia emissions from agricultural sources "**
- **Further TFRN activities and contributions, incl. collaboration with TFTEI and other bodies**

UNECE Task Force on Reactive Nitrogen

Summary of revision process

Inf. Doc. to the UNECE Convention on Long-range Transboundary Air Pollution.
62nd Meeting of the Working Group on Strategies and Review

Revision of the 'Guidance document on preventing and abating ammonia emissions from agricultural sources' (ECE/EB.AIR/120) (Ammonia Guidance Document).

Note submitted by the Co-chairs of the Task Force on Reactive Nitrogen (TFRN).

The present note has been prepared by members of the TFRN Expert Panel on Mitigation of Agricultural Nitrogen (EPMAN).

Summary: The 'Guidance document on preventing and abating ammonia emissions from agricultural sources' (ECE/EB.AIR/120), hereafter the 'Ammonia Guidance Document' was adopted in 2012 and has now been in use for 12 years. The Task Force on Reactive Nitrogen (TFRN) has revision of the guidance document as a priority task for the 2024-2026 Workplan of the Convention. This note updates on the current state of progress.

https://unece.org/sites/default/files/2024-05/Agenda%20item%20%282%29%20Revision%20status%20NH3%20Guidance%20Doc.pdf

Revision process

Revision process: Work started 1.5 years ago with creation of the core group of researchers and other actors potentially interested and finally involved in the revision process. Several on-line meetings have taken taking place with a hybrid one in November 2023 at Aarhus University (AU) supported by AU and the Land-CRAFT research centre. There is a group of c. 30 people from more than 12 countries coordinating the revision of the chapters. The revision process is coordinated by Alberto Sanz-Cobeña (UPM, Spain), Rasmus Einarsson (SLU, Sweden) and being done through the TFRN Expert Panel on Mitigation of Agricultural Nitrogen (EPMAN), as chaired by Shabtai Bittman (Canada) and Barbara Amon (Germany).

The Task Force anticipates that it would be most likely to expect adoption by the Executive Body in December 2026, unless there there is a second session of WGSR during autumn 2025

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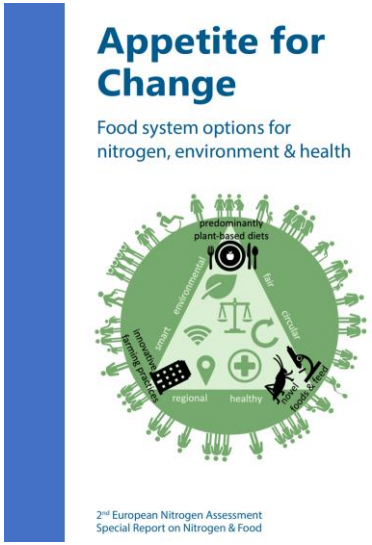
EPNB – Nitrogen Budgets

- Co-chairs Wilfried Winiwarter IIASA-AUS, and Markus Geupel, UBA-DE
- Guidance document (UN-ECE) as a framework exists (see www.clrtap-tfrn.org) incl. detailed instructions (annexes)
- Feedback from users of the “Guidance Document on National Nitrogen Budgets” collected and made available via the https://www.clrtap-tfrn.org/epnb webpage
- Update to current guidance document on National N budgets foreseen for end 2024 (according to workplan)

EPNF – Nitrogen and Food

- Co-chairs Adrian Leip, EC-JRC, and Susanna Kugelberg, UN-WHO, Copenhagen (+ Joao Leite and Jan Wollgast)
- New **Appetite for change**: food options for nitrogen, environment and health. **R**eport published https://www.clrtap-tfrn.org/content/appetite-change-food-system-options-nitrogen-environment-health-2nd-european-nitrogen)
- Special issue completed (*Managing Nutrients: The key to acheive sustainable food systems for healthy diets. Leip, Kugelberg and Bodirsky, eds.*)



EPN-EECCA at a second stage

- Linking Convention activities with other conventions at global-scale
- INMS partnership with GEF and UNEP
- Special link of this Expert panel to the East-Europe demonstration region funded by INMS
- Task 4.4.2 Expert consultancy on Preparing and facilitating a workshop and farm site visit on good agricultural practice in Georgia

2.1 Analysis of policy-relevant information and follow-up to the review of the Gothenburg Protocol, as amended

- *2.1.3 Provide technical support on options to inform preparations for possible future updating of annex IX to Gothenburg Protocol*
- *2.1.6 Continued cooperation with and monitoring of the work withing INMS on the International Nitrogen Assessment, including preparation of specific summary for Convention's policymakers*
- 2.1.7 Analyse implications of NH_3 as energy carrier as part of decarbonization strategies, including possible emissions of NH_3, N_2O and NO_x, and possible interactions with international N market prices
- *2.1.8 Examination of benefits and barriers to dietary change to reduce N air pollution, including co-benefits, possible scenarios and opportunities to overcome barriers*
- *2.1.9 Assessment of opportunities for mobilizing N recovery and reuse (white ammonia and white nitrogen) leading to extension of an existing database*
- *2.1.10 Assessment of risks associated with "alkaline air" and analysis of policy implications*
- *2.1.11 Assessment of technical and non-technical options for meeting Global Biodiversity Framework target 7, with special reference to N air pollution, including benefits of such action*

Ammonia (NH_3) as energy carrier

(work plan item 2.1.7, reported by Rasmus Einarsson, SE)

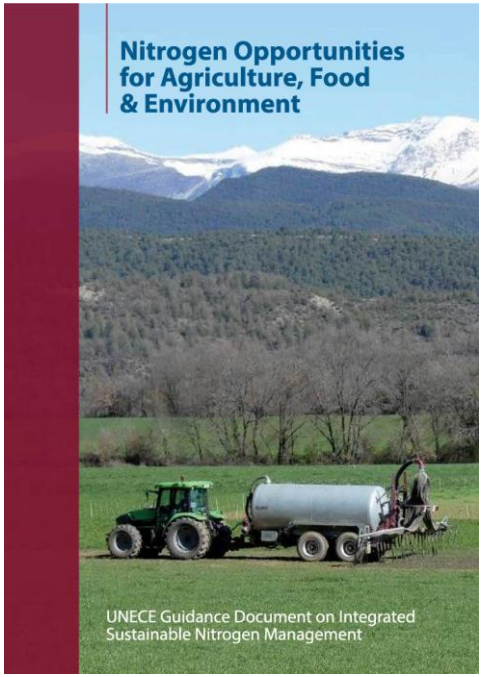
- Inf. doc being drafted by TFRN in cooperation with TFIAM and **TFTEI**.
- NH_3 is a carbon-free energy carrier. Considerable industry interest for use as liquid fuel in shipping, stationary combustion, etc.
- Net climate benefit is uncertain:
  - Unmitigated N_2O emissions can negate large part of climate benefit compared to fossil fuel.
  - NH_3 is merely an energy carrier which needs to be produced using other energy input. Unless this is low-emission energy (e.g., renewable electricity), there will be no net climate benefit of NH_3 fuel.
- Non-climate risks related to NH_3 slip and fuel-sourced NO_x.
- There are possible interactions with N fertilizer markets, which need further attention from a food security perspective.

Integrated N guidance document

https://unece.org/sites/default/files/2021-04/Advance%20version_ECE_EB.AIR_149.pdf

Working Group on Strategies and | ECE_EB.AIR_WG.5_2022_2-220105 | Nitrogen Opportunities for Agric

clrtap-tfrn.org/content/nitrogen-opportunities-agriculture-food-environment-unece-guidance-document-integrated-0



Nitrogen Opportunities for Agriculture, Food & Environment: UNECE Guidance Document on Integrated Sustainable Nitrogen Management

Submitted by Natalie on Mon, 21/11/2022 - 12:26

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Mark Sutton; Clare M. Howard; Kate E. Mason; Will Brownlie; Claudia Cordovil

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