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Progress in the implementation of the 2014–2015 workplan

Report of the Task Force on Reactive Nitrogen

Summary

At its twenty-fifth session (Geneva, 10–13 December 2007), the Executive Body for the Convention on Long-range Transboundary Air Pollution established the Task Force on Reactive Nitrogen and mandated it to carry out the tasks specified for it in the Convention's annual workplan and to report thereon to the Working Group of Strategy (ECE/EB.AIR/91/Add.1, decision 2007/1, para. 2).

The present report by the co-Chairs of the Task Force presents the outcomes of the Task Force's tenth meeting, held in Lisbon on 29 and 30 April 2015. It also summarizes the work undertaken by the Task Force during the period 2014–2015, in accordance with the 2014–2015 workplan for the implementation of the Convention (ECE/EB.AIR.122/Add.2).

I. Introduction

1. This report, prepared in cooperation with the secretariat to the United Nations Economic Commission for Europe (ECE) Convention on Long-range Transboundary Air Pollution, presents the work of the Task Force on Reactive Nitrogen under the Convention during the period 2014–2015, in particular the outcomes of its tenth meeting. It summarizes the progress achieved by the Task Force in accordance with the tasks assigned to it in the 2014–2015 workplan for the implementation of the Convention (ECE/EB.AIR.122/Add.2).

2. During the reporting period, among others, the Task Force continued to build its collaborative links with the United Nations Environment Programme (UNEP), the Global Environment Facility (GEF) and the ECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention), together with the regional marine conventions. Cooperation was also developed with the following partners: the Agriculture Initiative of the Climate and Clean Air Coalition; the Baltic Marine Environment Protection Commission; the Convention on the Protection of the Black Sea against Pollution (Black Sea Convention); the Convention for the Protection of the Marine Environment of the North-East Atlantic; the Convention on Biological Diversity; the European Commission; the Food and Agriculture Organization of the United Nations; the Global Air Pollution Forum; the Global Partnership on Nutrient Management and the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities, both hosted by UNEP; the International Nitrogen Initiative; the Organization for Economic Cooperation and Development; and the World Health Organization.

3. In the case of UNEP and GEF, links were further strengthened by the organization of the project preparation grant partner meeting for the “Targeted Research for improving understanding of the Global Nitrogen Cycle towards the establishment of an International Nitrogen Management System” (INMS) project in the two days preceding the tenth Task Force meeting in Lisbon. This widened the participation of the Task Force meeting to those outside the ECE region, enabling the sharing of experience and best practice, and encouraged the further collaboration between the Task Force and INMS communities, including the development of the planned demonstration activities within the INMS project in Eastern Europe (funded) and Western Europe (unfunded).

II. Tenth meeting of the Task Force on Reactive Nitrogen

A. Background and organization of work

4. The tenth meeting of the Task Force on Reactive Nitrogen was held in Lisbon on 29 and 30 April 2015.¹

5. The tenth meeting and the associated meetings were attended by 62 participants from 33 countries. Meeting participants included representatives from two other subsidiary bodies under the Convention — the Centre for Integrated Assessment Modelling and the Task Force on Emissions Inventories and Projections — and representatives of the following governmental institutions of ECE member States: the Environment Agency Austria; the Department of Agriculture, Food and the Marine of Ireland; the Federal Environment Agency of Germany; the Federal Office for the Environment of Switzerland;

¹ The background documents and presentations made during the meeting and the reports presented are available on the Task Force website (<http://www.clrtap-tfrn.org/tfrn-10>).

the Ministry of Agriculture of Hungary; and the Ministry of Agriculture, Food and Environment of Spain.

6. The meeting was co-chaired by Mr. T. Dalgaard (Denmark), Ms. C. Marques dos Santos Cordovil (Portugal) and Mr. M. Sutton (United Kingdom of Great Britain and Northern Ireland). It was hosted by Portugal at the Portuguese Environment Ministry, with support from the University of Lisbon. Further support was provided by the Governments of Denmark, Germany and the United Kingdom, with accompanying support provided by the European Commission through the project “Effects of Climate Change on Air Pollution and Response Strategies for European Ecosystems” (ÉCLAIRE). The support included funds for the participation of experts from the Russian Federation and Ukraine, including the two co-Chairs of the Expert Panel on Nitrogen in countries of Eastern Europe, the Caucasus and Central Asia, together with the provision of simultaneous interpretation facilities. The delegates were able to contribute to the main Task Force meeting, as well as the associated meetings of the Expert Panel on the Mitigation of Agricultural Nitrogen, the Expert Panel on Nitrogen Budgets and the Expert Panel on Nitrogen and Food, operating under the Task Force.

B. Summary of the meeting

7. The tenth meeting was opened by a representative of the Portuguese Ministry of Environment and Spatial Planning and the Portuguese Task Force co-Chair. The co-Chairs from the United Kingdom and Denmark then provided a short report on the achievements to date and the planned future work, highlighting the recent adoption of the United Nations Economic Commission for Europe Framework Code for Good Agricultural Practice for Reducing Ammonia Emissions (ECE/EB.AIR/129) (Ammonia Framework Code) by the Executive Body for the Convention, and introducing the wider group of participants (including those from the adjoining INMS meeting) to the Task Force process.

8. It was recalled that the Task Force was established in 2007 under the co-leadership of the United Kingdom and the Netherlands, but in 2014 Denmark replaced the Netherlands and was now the lead country, with co-Chairs from Portugal and the United Kingdom. At its thirty-third session (Geneva, 8–11 December 2014), the Executive Body adopted decision 2014/3, reflecting changes in the leadership of the Task Force. As the United Kingdom was no longer funding the Task Force’s technical secretariat, the possibility of setting up a trust fund to support the work of the Task Force in future was discussed. The British co-Chair recalled the mandate of the Task Force, highlighting the key activities, such as: mitigation of agricultural nitrogen; development of regional nitrogen budgets; assessment of links between nitrogen and food choices; awareness-raising and knowledge building on nitrogen in countries of Eastern Europe, the Caucasus and Central Asia; catalytic activity on nitrogen for use by other bodies outside the Convention; and inputs to processes such as the European Nitrogen Assessment and the Our Nutrient World report and the INMS project. It was also noted that nitrogen could have both a cooling and warming effect on climate, while a focus on improving nitrogen use efficiency could maximize the benefits of nitrogen while reducing the adverse effects.

9. Furthermore, it was reported that, since the ninth Task Force meeting in March 2014, the Russian language version of the guidance document on preventing and abating ammonia emissions from agricultural sources (Ammonia Guidance Document) (ECE/EB.AIR/120) had been printed. The Executive Summary of the Expert Panel on Nitrogen and Food’s “Nitrogen on the Table” report² had been launched at the Science

² The foreword and executive summary of the report are available as an informal document (“ENA

Media Centre in London and the “Costs of Ammonia Abatement and the Climate Co-Benefits” study was nearing publication (see para. 18 below). Work had also continued on the development and finalization of annexes to the Guidance Document on National Nitrogen Budgets (ECE/EB.AIR/119). The proceedings of the Ammonia Workshop in Saint-Petersburg (29 February 2012), had also been published in both Russian and English.³

10. In addition, it was discussed that future work would include the launch of the full “Nitrogen on the Table” report. It was also planned for the Task Force to draft a briefing note on the relationship between mitigation of methane and ammonia emissions, prompted by recent questions during a meeting of the European Parliament on the revision of the National Emissions Ceilings Directive.⁴

11. It was noted that making the linkages between nitrogen pollution and food consumption provided good opportunities for public awareness-raising and public engagement. It was also considered important to raise the importance of nitrogen with high-level decision makers (Government ministers), for example, by highlighting the links between improving nitrogen management and green economy offering “win-wins” between jobs, economy and environment. In that context it was also discussed that developing a “Nitrogen Top Ten” could be a useful way to communicate the nitrogen issue and potential solutions.

12. Presentations were given on international activities, including reporting on the outcomes of the INMS meeting held just prior to the Task Force meeting. The following developments were specifically mentioned:

(a) The INMS proposal, and its role as a process of developing scientific support for policy development across the nitrogen cycle;

(b) The work of the European Union (EU) Nitrogen Expert Panel, including work on defining nitrogen use efficiency indicators;

(c) The links between the European Commission Intensive Rearing of Poultry and Pigs Best Available Techniques Reference Documents (BREFs) and the ECE Ammonia Guidance Document;

(d) The work of nitrogen monitoring in support of the Black Sea Convention;

(e) The progress made in revising the National Emissions Ceilings Directive.

13. Subsequently, information was provided to the Task Force on progress being made towards better nitrogen management in selected countries, including:

(a) A presentation by the Danish co-Chair on nitrogen management in Denmark, including the development of a national plan in response to the EU Nitrates Directive;⁵

(b) A presentation by the representative of Germany, on steps the country was taking to address nitrogen pollution;

Special Report on Nitrogen and Food: Overview”) on the website for the fifty-second session of the Working Group on Strategies and Review ([http://www.unece.org/index.php?id=33280#/#](http://www.unece.org/index.php?id=33280#/)).

³ Available as unofficial documents on the website for the fifty-second session of the Working Group on Strategies and Review ([http://www.unece.org/index.php?id=33280#/#](http://www.unece.org/index.php?id=33280#/)).

⁴ Directive 2001/81/EC of the European Parliament and of the Council of 23 October 2001 on national emission ceilings for certain atmospheric pollutants.

⁵ Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources.

(c) A presentation by the Air Convention secretariat on the challenges in Central Asia;

(d) A presentation by a Task Force member of a case study on rational nitrogen fertilizer plans in Turkey.

14. Finally, reports were provided from the Expert Panels on the work of the past year. Those reports were used to update the Task Force-related part of the draft 2016–2017 workplan for the Convention, which was subsequently submitted to the secretariat (see also chap. V below).

III. Progress in the implementation of the 2014–2015 workplan for the Convention

A. Dissemination of the guidance document on preventing and abating ammonia emissions from agricultural sources (workplan item 2.3.1)

15. A Russian language version of the Ammonia Guidance Document was printed under the title of “Options for Ammonia Mitigation: Guidance from the ECE Task Force on Reactive Nitrogen”. It was published in November 2014 by the United Kingdom Centre for Ecology and Hydrology on behalf of the Task Force. The document represents a key resource for the subregion of Eastern Europe, the Caucasus and Central Asia.

16. Recognizing that new technical developments continued in the field of ammonia abatement, the Expert Panel on the Mitigation of Agricultural Nitrogen suggested that proposed revisions be posted on the Task Force website, along with potential textual changes, marked in track changes, clearly indicating that any proposed changes were not part of the text adopted by the Executive Body. In due course, these updates could be submitted for consideration by the Executive Body for incorporation into a revised version of the Guidance Document.

B. Framework Code for Good Agricultural Practice for Reducing Ammonia (workplan item 2.3.3)

17. The Task Force submitted a draft revised Ammonia Framework Code⁶ to the Working Group on Strategies and Review at its fifty-second session (Geneva, 30 June–3 July 2014). The draft had been developed by the Expert Panel on Mitigation of Agricultural Nitrogen and used as the basis of a first stakeholder consultation in the summer of 2014.

18. A joint workshop for stakeholders was subsequently held by the Task Force and the European Commission to discuss potential barriers to the adoption of the Code. Funds were made available by the Directorate-General for Environment of the European Commission to organize the workshop, which was held in Edinburgh, United Kingdom, on 12 and 13 November 2014. Participants included representatives of national ministries, scientific experts and agricultural networks, such as the National Farmers Union and European Farmers and Agri-cooperatives. The funds made available by the European Commission for

⁶ The Ammonia Framework Code adopted by the Executive Body in 2014 was an update of a 2007 document (EB.AIR/WG.5/2001/7).

the workshop covered the participation costs of several experts (including those from Eastern Europe) as well as the development and delivery of an information brochure.

19. The feedback from the Edinburgh meeting was compiled and submitted to the Executive Body at its thirty-third session in as an informal document. The draft revised Framework Code was subsequently discussed and adopted by the Executive Body in December 2014. Its adoption facilitated referencing of the document in the ongoing revisions of the National Emissions Ceilings Directive. A printed version of the Ammonia Framework Code was also published, with support of the European Commission Directorate General for Environment and in cooperation with the Task Force, following the Edinburgh workshop.

20. The nature of the official Ammonia Framework Code places limitations on the style of presentation (such as colour, number of images, etc.), which then limits its readability. Therefore the Expert Panel had been working on producing more visual representations of the content and it is planned to host those chapters on the Task Force website.

21. The Framework Code is based on the most up-to-date, proven technologies for ammonia mitigation; however, as time progresses, techniques and equipment are improved and updated. The Expert Panel on Mitigation of Agricultural Nitrogen has long recognized the need for a mechanism to more regularly update the contents, to allow for a “living” Ammonia Framework Code, in a web setting. A discussion therefore took place in April 2015 between the Task Force and the ECE Convention secretariat regarding the possibilities for such a version of the Framework Code. It was suggested that the Task Force website be used to host such updates, and that a mechanism for that (such as annual agreements on updates at Task Force meetings) could be used. In the meanwhile the Task Force will also consult with the Executive Body on the possibility of revising the Framework Code again in future to bring it into line with technical developments.

22. The Task Force identified that a key challenge at this time is to support countries in applying the Ammonia Framework Code when developing their own national ammonia codes, as required by annex IX to the Gothenburg Protocol. Many Parties that ratified the original Protocol still needed to establish their own national codes.

23. The work of gathering information on national codes (as based on the Ammonia Framework Code) has begun, with a view to adding that to the Task Force website and for use by the Expert Panel in supporting the development of national codes by countries.

C. Guidance document on national nitrogen budgets (workplan items 2.3.2, 2.3.5, 2.3.9)

24. The Expert Panel on Nitrogen Budgets had been focusing on the development and review of the supporting annexes to the Guidance Document on National Nitrogen Budgets. Most of the annexes had entered a review phase over the summer, and it was planned that revised drafts of those annexes would be available in the autumn. It was also planned to submit a scientific paper on the methodological approach to national budgets. As that work enters the next phase, it is now important to consider the potential reporting implications for national nitrogen budgets, e.g., how the data will be uploaded and to where, including potential resource implications.

D. Nitrogen mitigation through behavioural change (workplan item 2.3.10)

25. The Expert Panel on Nitrogen and Food of the Task Force published the Executive Summary of its results on how behavioural change in relation to food choice can

complement nitrogen mitigation actions based on technical measures in the food chain, including the potential impact of several scenarios of dietary change. The Executive Summary of the “Nitrogen on the Table” report was launched at the Science Media Centre in April 2014 around the same time as the scientific paper on key messages⁷ was published. The full report was due to be published in autumn of 2015. A key finding is that a 50 per cent reduction of meat and dairy consumption in the EU would reduce ammonia and other nitrogen emissions by around 40 per cent, while releasing substantial agricultural land for other uses (e.g., cereal export or bioenergy production).

26. The first phase of work for the Expert Panel on Nitrogen and Food was drawing to a close with the publication of the full report on their recent work. In this second phase the Expert Panel co-Chair Mr. H. Westhoek was standing down and would be replaced by Mr. A. Leip, who with other panel members was working on an informal document for submission to the fifty-third session of the Working Group on Strategies and Review: “Task Force on Reactive Nitrogen: Proposed aims, structure and scope for the second phase of the Expert Panel on Nitrogen and Food”. In the longer term it was proposed that the Expert Panel would develop and submit a document to Parties of the Convention that identified technical and other options for reducing emissions from the agro-food chain in the implementation of their obligations under the Gothenburg Protocol, while relating those to the wider co-benefits for society.

E. International framework for nitrogen management (workplan item 2.3.7)

27. A proposal to GEF in partnership with UNEP and the International Nitrogen Initiative for an international framework for nitrogen management was approved by the GEF Council, and is currently in its project preparation grant phase. The project — “Targeted Research for improving understanding of the Global Nitrogen Cycle, towards the establishment of an International Nitrogen Management System (INMS)” — combines global analysis with regional demonstration activities, including financial support for regional demonstration actions in Eastern Europe, the Caucasus and Central Asia, which is expected to significantly strengthen ratification of the amended Gothenburg Protocol and its implementation in those countries. Following the project preparation grant phase, it is anticipated that the project will run between 2016 and 2019.

28. The project held its first partner meeting, in Lisbon on 27 and 28 April 2015, back to back with the Task Force meeting. It was attended by around 120 participants from 38 countries. Background information was provided on the project and presentations were made by representatives of various stakeholders, including intergovernmental organizations, businesses and non-governmental organizations and the science community.⁸

29. The shortlist of demonstration regions was agreed at the meeting, including one funded case in the ECE region, focusing on the Dniester River and part of the Danube, which would link very closely with the work of the Expert Panel on Nitrogen in countries of Eastern Europe, the Caucasus and Central Asia. A further demonstration area (unfunded) will focus on the European Atlantic coastline, with support from existing European Commission project funds. The case for a Central Asia (Fergana valley and Upper Syr Darya, including Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan) demonstration is an

⁷ Henk Westhoek and others, “Food choices, health and environment: Effects of cutting Europe's meat and dairy intake”, *Global Environmental Change*, vol. 26 (May 2014), pp. 196–205.

⁸ Information on the project, including presentations can be accessed at www.inms.international.

area of interest for preparatory studies to support future demonstrations, rather than a specifically funded demonstration at this time.

30. Further demonstration areas have been agreed in the INMS project beyond the ECE region in South Asia (Bangladesh, India, Nepal and Sri Lanka), East Asia (China, Japan, the Philippines and the Republic of Korea), the Lake Victoria catchment (Kenya, Tanzania and Uganda) and Latin America (Brazil, Paraguay and Uruguay).

31. During the project preparation grant phase, Parties and other donors have been submitting letters of commitment, regarding their contributing funds to support the development of the INMS process. GEF sees its investment (planned US\$ 6 million) as being catalytic to stimulating substantial further regional and global investment. The full proposal is expected to be submitted in autumn 2015.

IV. Policy relevant issues, findings and recommendations

32. During a recent meeting at the European Parliament on revision of the National Emissions Ceilings Directive, members of the European Parliament asked for clarification regarding the relationship between mitigation of methane and ammonia emissions. A Policy Brief on Methane and Ammonia Air Pollution was prepared by the Task Force in response.⁹ While some measures offer synergistic benefits, there is an ongoing need to optimize practices in order to minimize trade-offs between the two gases. These interactions highlight the opportunity to further develop synergies when including both ammonia and methane in the revised National Emissions Ceilings Directive.

V. Development of the 2016–2017 workplan

33. The Task Force agreed with the secretariat on its part of the draft 2016–2017 workplan for the Convention for submission to the fifty-third session of the Working Group on Strategies and Review. The future work will include activities related to updating the Ammonia Guidance Document and the Ammonia Framework Code (including cost-benefit analysis); finalizing the annexes to the Guidance Document on National Nitrogen Budgets; further work on nitrogen indicators; and linking technical information on the effects of human diets on nitrogen use and emissions and the associated synergies.

34. New areas of work include initiating the development of an ECE guidance document that describes a joined-up approach to nitrogen management in agriculture and illustrates its co-benefits.

⁹ Available from http://www.clrtap-tfrn.org/webfm_send/575.