Progress on INMS A2.2 International Nitrogen Assessment

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In cooperation with

Convention on Biological Diversity

GPA Global Programme of Action for the Protection of the Marine Environment from Land-based Activities

GPNM Global Partnership on Nutrient Management

INI

Clean Air 40 YEARS

Task Force on Reactive Nitrogen

ozone secretariat

SACEP

UKRI GCRF South Asian Nitrogen Hub

What will INMS deliver?

A platform for better cooperation across science and policy helping to overcome the barriers.

Guidance on joining up mitigation and adaptation options and strategies, linked to circular and green economy thinking.

A global assessment of the threats and benefits of human alteration of the nitrogen cycle and the opportunities for improvement.

A forward look of what may happen if the problem is ignored.

Other Products Guidance Documents, Special Reports, Databases, Event engagement & mobilization etc.

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	Task
8 June 2020 INMS Briefing of Member States for the International Nitrogen Assessment (INA)	**Inform & Invite Member States advice on INA**
9 June 2020 Identifying what is needed from the Interconvention Nitrogen Coordination Mechanism (INCOM) with input from UN Conventions & Programmes	**Invite Member States advice on needs for INCOM** **Establish Task Team on Terms of Reference (ToRs) for INCOM**

Outline of the International Nitrogen Assessment

- State-of-the-Science and Policy in major published volume (Cambridge University Press for 2022, 600 pp)
- Builds on experience from regional nitrogen assessments (Europe, India, US, California etc)
- Title

The International Nitrogen Assessment:
From multiple challenges to joined-up solutions

The International Nitrogen Assessment:
Evidence and actions for sustainable development

Contents of the International Nitrogen Assessment

Foreword Executive Director UN Environment to be invited

Summary for Policy Makers (c. 1 page bullet points, plus c. 15 pages inc. figures)

Technical Summary (c. 15-20 pages inc figures)

(+ Potentially other summaries: for business; resources for schools)

1. Introduction: From pollution problems to nitrogen opportunity
(sets the scene also in relation to the 4th Nitrogen Revolution)

Contents of the International Nitrogen Assessment

Part A: The global nitrogen challenge: problem definition

2. Nitrogen, environment and sustainable development

(Overview of current status of environmental challenges and relationships across the SDGs)

3. Nitrogen and food security

(Reflection on how nitrogen to feed the world, relation to the four nitrogen revolutions, key regional differences)

4. Nitrogen in current national and international policies

(Current status of national policies and examination of the potential for lessons between different regions and countries)

5. Towards a holistic response to the global nitrogen challenge

(Working across policies and regions, options and rationale, building on ideas from UNEA resolution 4/14, Colombo Declaration, INCOM etc., inc. scenarios definition).

Contents of the International Nitrogen Assessment

Part B: Foundations for Assessing the Nitrogen Cycle

6. Approaches and challenges to assess nitrogen impacts

(Concepts, nitrogen cascade, DPSIR approach (Driver, Pressure, State, Impact, Response); Impacts matrix & relations; Regional differentiation)

7. Performance indicators for the global nitrogen cycle

(Nitrogen budgets approaches, nitrogen use efficiency definitions, scales and examples to illustrate)

8. Approaches and challenges to assess N pressures & distribution

(Quantifying key pressures and states, across systems, measurement, monitoring, inventories and relationship to global models)

9. Approaches and challenges to value nitrogen benefits and threats

(Methodology for Cost-Benefit Valuation for nitogen)

Contents of the International Nitrogen Assessment

Part C: Global integrated assessment across the nitrogen cycle

10. Assessment of global and continental scale total nitrogen budgets
11. WATER: Flows on impacts of nitrogen on freshwater, coastal & marine systems
12. AIR: Emissions and air quality impacts of nitrogen on human health & crops
13. GREENHOUSE: Impacts of anthropogenic nitrogen use on global warming potential and radiative balance, and role of nitrogen for stratospheric ozone depletion
14. ECOSYSTEMS: Inputs of nitrogen to terrestrial and aquatic ecosystems and the impacts on biodiversity.
15. SOILS: Inputs, outputs and impacts of nitrogen for agricultural land and relationships with non-agricultural land
16. Costs and benefits of nitrogen at global and regional scales

Contents of the International Nitrogen Assessment

Part D: Nitrogen challenges and opportunities for key world regions

17. Approach, Synthesis and Lessons and from the Regional Nitrogen Assessments

Assessment of flows, impacts and solutions for:

18. East Asia (focus on East China Sea in continental context)

19. South Asia (all 8 countries of South Asia)

20. Africa (focus on Lake Victoria Basin)

21. Latin America (focus on La Plata Basin)

22. West Europe (focus on coastal seaboard, in EU context)

23. East Europe (focus on Dniester and Lower Danube in EECCA context)

24. North America (focus on transboundary Nooksak in NA context)

Contents of the Internation_al Nitrogen Assessment

Part E: Grasping the future challenge

25. Key actions for better nitrogen management

(Measures, 'packages of measures' & Nitrogen Top 10)

26. Addressing the barriers to better nitrogen management

27. Synthesis of possible futures for the global nitrogen cycle

28. Goals and Pathways: How to Halve Nitrogen Waste by 2030?

29. Evaluation of policy options and instruments for better nitrogen management

30. Nitrogen and public communication