

Copenhagen - Agenda week 17, 22-26 April 2013

Overall Agenda: The detailed program is found below.

		Copenhagen - Agenda week 17, 22-26 April 2013	
Mon 22 April		TFIAM = Task Force on Integrated Assessment Modelling chaired by: Head Rob Maas, RIVM, Netherlands National Institute for Public Health and the Environment, The Netherlands and Anna Engleryd, Swedish Environmental Protection Agency, Sweden.	
Tues 23 April	Morning	TFIAM	
Tues 23 April	Afternoon	TFIAM	EPN-EECCA = Expert panel meeting on Nitrogen for Eastern Europe, Caucasus and Central Asia countries (EECCA)
Weds 24 April		Open Greening Agriculture meeting. Organized by DCE -DANISH CENTRE FOR ENVIRONMENT AND ENERGY, Aarhus University, DCA -DANISH CENTRE FOR FOOD AND AGRICULTURE, Aarhus University, TFRN and TFIAM. See detailed program below	
Thurs 25 April	Morning	Greening Agriculture - Parallel working group sessions	EPMAN = Expert Panel on Mitigating Agricultural Nitrogen
Thurs 25 April	Afternoon	TFRN = Task Force on Reactive Nitrogen chaired by Prof. Mark Sutton, CEH, Edinburg, UK and Prof. Oene Oenema, WUR, Wageningen, The Netherlands	
Friday 26 April	Morning	TFRN -continued	
Friday 26 April	Afternoon	TFRN - Expert panel meeting on Nitrogen Budgets	

Participation: Non Task-Force members are more than welcome to join the Task Force meetings.

Cost: For Task-Force members for the whole week: To cover coffee during the day and lunch a fee of 23,- €/day will be applied.

For Non Task-Force members, a registration fee of 40,-€ for the Green Growth meeting will be applied to cover coffee and Lunch. Non Task-Force members are more than welcome to join the Task Force meetings.

Payments: The registration site is open later for payments.

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Detailed program

Monday 22 April - TFIAM (day 1)

	TFIAM (day 1)
9.30 – 10.00	Registration and Coffee
10.00 – 17.00	Task Force on Integrated Assessment Modelling chaired by: Head Rob Maas, RIVM, Netherlands National Institute for Public Health and the Environment, The Netherlands and Anna Engleryd, Swedish Environmental Protection Agency, Sweden.
I	Introduction 1. Opening and adoption of the agenda 2. Welcome 3. News on the Convention and the status of the revision of the 1999 Gothenburg Protocol Presentation by the chair http://www.unece.org/index.php?id=28153 http://gains.iiasa.ac.at/index.php http://gains.iiasa.ac.at/index.php/tfiam/past-tfiam-meetings
II	Recent development of the GAINS model 4. Recent changes in the GAINS model Presentation by Markus Amann, CIAM 5. Modelling exceedances of air quality limit values and local measures Presentation by Gregor Kiesewetter, CIAM 6. Modelling of health impacts Presentation by Marie-Eve Heroux, WHO (via Skype) 7. Modelling of ozone impacts to crops and forests Presentation by Gina Mills, ICP Vegetation
12.30 – 13.30	Lunch
III	Recent policy applications of the GAINS model 8. Optimized policy scenarios for EU28 Presentation by Markus Amann, CIAM http://gains.iiasa.ac.at/index.php/publications/policy-reports/gothenburg-protocol-revision http://gains.iiasa.ac.at/index.php/news-gains-europe http://gains.iiasa.ac.at/index.php/publications/policy-reports/thematic-strategy-on-air-pollution-review https://circabc.europa.eu/w/browse/8d05ab13-5d24-4cbc-b234-7064bb683565 9. Costs and benefits of Air Pollution control Presentation by Mike Holland, NEBEI https://circabc.europa.eu/w/browse/8d05ab13-5d24-4cbc-b234-

	7064bb683565
15.00 – 15.20	Coffee break
IV	<p>Other work related to GAINS</p> <p>10. Benefits of Air Pollution control for Biodiversity</p> <p>Presentation by Rob Maas, RIVM</p> <p>11. Progress in Global Assessments by TF HTAP & TFIAM</p> <p>Presentation by Frank Dentener, JRC (via Skype) http://www.htap.org/3</p> <p>12. Status of the background documents to the revised Gothenburg Protocol Presentation by Rob Maas, RIVM</p>

Tuesday 23 April - TFIAM (day 2)

TFIAM (day 2)	
9.30 – 10.00	Coffee
10.00 – 17.00	<p>Task Force on Integrated Assessment Modelling chaired by: Head Rob Maas, RIVM, Netherlands National Institute for Public Health and the Environment, The Netherlands and Anna Engleryd, Swedish Environmental Protection Agency, Sweden.</p>
V	<p>13. Human Well-being and the Macro-economic Effects of Investing in Cleaner Air in India Presentation by Markus Amann, IIASA</p>
VI	<p>European modelling experiences</p> <p>14. The use of modelling tools for policy impact assessment: Experience from the LIAISE Network of Excellence Presentation by Stefan Reis, CEH</p> <p>15. Assessment of European air quality in 2050 in the context of climate change Presentation by Simone Schucht, INERIS</p>
12.30 – 13.30	Lunch
VII	<p>National modelling experiences</p> <p>16. Air pollution and black carbon assessment of the Finnish climate strategy update Presentation by Mikko Savolahti</p> <p>17. Air quality impacts of energy scenarios for London and the UK Presentation by Helen Apsimon</p> <p>18. Progress in integrated assessment modelling in Belarus Presentation by Sergey Kakareka</p> <p>19. Progress in integrated assessment modelling in Russia Presentation by Julia Ignateva</p>
15.00 – 15.20	Coffee break
VIII	<p>Further work</p> <p>20. TFIAM work plan for 2013/2014</p>
IX	Other business
X	Chair's report

Tuesday 23 April - TFRN - EPN-EECCA

	TFRN - EPN-EECCA
	TFRN = Task Force on Reactive Nitrogen
14.00-16.00	Expert panel meeting on Nitrogen for Eastern Europe, Caucasus and Central Asia countries (EECCA)

Tuesday 23 April - Social Dinner

	Social Dinner
19.00 -	<p>The Danish Environmental Protection Agency is host for a Social Dinner.</p> <p>Location: IDA, Kalvebod Brygge 31-33, 1780 København K. 500 meter from the Copenhagen Central Station</p> <p>MAP</p>

Wednesday 24 April – Workshop Greening Agriculture (day 1) One-and-a-half-day Program

Open for all with interest in Agriculture and Nitrogen

The meeting on Greening agriculture and nitrogen should set the stage for further initiatives and actions. Hence, the expected outcomes are:

- (i) increased understanding of the issue on how to make a more 'green agriculture and nitrogen consumption';
- (ii) inspiration to contribute to further activities;
- (iii) informed discussions, on the basis of selected case-studies;
- (iv) outline and draft for work plan and joint research proposal (Thursday)

Wednesday 24 April (day 1)

	Greening Agriculture
9.00-9.10	Welcome by Director Hanne Bach, DCE – Danish Centre for Environment and Energy, Aarhus University
9.10 – 9.25	Introduction to the topic: Setting the scene, Head Rob Maas, RIVM, Netherlands National Institute for Public Health and the Environment, E-mail: rob.maas@rivm.nl
9.25 - 9.45	Greening Growth = decoupling growth & fossil needs – Sonja Kruitwagen, Netherlands Environmental Assessment Agency, PBL, The Netherlands, E-Mail: sonja.kruitwagen@pbl.nl
9.45 – 10.05	Greening and biodiversity – Segregation and integration in a European perspective, Rasmus Ejrnæs, Aarhus University, Denmark E-mail: rej@dmu.dk
10.05-10.40	Coffee break
10.40 – 11.00	External costs of nitrogen for health and environment: reviewing findings from European research, Michael Skov Andersen, EEA, E-mail: Mikael Skov Andersen
11.00 – 11.20	Green Growth, institutions and behavior – Professor Arild Vatn,

	Department of International Environment and Development Studies, Norwegian University of Life Sciences, E-mail: arild.vatn@umb.no
11.20 – 11.40	<p>Consumer demands. Sustainability Director Jan D. Johannesen, ARLA foods, DK, jdj@arlafoods.com</p> <p>Arla Foods is a global dairy company and a co-operative owned by dairy farmers. ARLA have production facilities in 12 countries and sales offices in a further 30, with a total of more than 18,000 employees and ranks among the 5 largest dairies in the world. Arla has a CSR policy which strives to work in a responsible manner throughout its entire value chain, from the work at the farms, through to operations and distribution.</p>
11.40 – 12.00	<p>Where are the fertilizer industry --- Director Christian Pallière , Agriculture and Environment, Fertilizer Europe Email: christian@fertilizerseurope.com,</p> <p>Fertilizers Europe's purpose and aims are among other the following: To study and attempt to solve any problems connected with the production, use and application of fertilizers which may have an impact on health, safety or the environment, and to improve products in this respect.</p>
12.00 – 12.20	Questions/rounding up
12.20-13.20	Lunch
	Solutions
13.20 – 13.40	Sustainable growth in agriculture legislation - from a governmental point of view : Director Karsten Biering Nielsen, The Danish AgriFish Agency, Denmark, E-mail: kabini@naturerhverv.dk
13.40 - 14.00	Greening taxation, Director, Dr. Andrew Kelly, Dublin University and AP EnvEcon, Ireland, E-mail: Andrew Kelly
14.00 – 14.20	Ecosystem service: Green waste – Excess biomass and nutrients in an agricultural perspective, Senior Researcher Marianne Thomsen, Aarhus University, E-mail: mth@dmu.dk
14.20 – 14.40	Green growth: Transition towards a bio-economy Prof.dr. Johan Sanders, Wageningen University, The Netherlands, E-mail: Johan.Sanders@wur.nl
14.40 – 14.50	Questions / rounding up
14.50 - 15.20	Coffee break
	Science and Technology
15.20 – 15.40	Pig production – today and tomorrow. How much can we increase the productivity and decrease the environmental impact, Chief Consultant Per Tybirk, VSP, Landbrug Fødevarer, Denmark E-mail: pet@lf.dk
15.40 – 16.00	Cattle raising – today and tomorrow. How much can we increase the productivity and decrease the environmental impact – also with focus on genomic selection for GHG emissions , Senior Researcher Peter Lund, Aarhus University, Denmark, E-mail: peter.lund@agrsci.dk
16.00 – 16.20	<p>Buildings of tomorrow, Director Hans Jørgen Pedersen, MTHøjgaard Denmark, E-mail: hjp@mth.dk,</p> <p>MT Højgaard was in 2012 awarded a prize for developing a unique technology for air purification and air exchange in livestock housing units. The prize-winning environmental technology is the result of MT Højgaard's focus on product development for the livestock housing market. MT Højgaard's has set</p>

	<p>ourselves the task – in all immodesty – of building the best livestock housing unit with much lower energy usage and far less obnoxious emissions.</p> <p>Environmental prize</p>
16.20 – 16.40	<p>Equipment/manure application of today and tomorrow, Director Morten Toft, Biocover A/S, Denmark, E-mail: mt@biocover.dk</p> <p>Biocover A/S has won several prizes for its innovative solution for liquid manure application. The latest Award is the Danish CSR ENVIRONMENT award for its innovative and robust solution which reduce a specific problem – the ammonia emission - in the agricultural sector.</p> <p>CSR fonden</p>
16.40 – 17.00	<p>Food Production and Bioenergy, Land allocation, land use with less environmental impact, Prof. Jørgen Olesen, Aarhus University, Denmark E-mail: jorgene.olesen@agrsc.dk</p>
17.00 - 18.00	<p>Panel discussion</p>
18.00 – 18.15	<p>Closing remarks, plan for tomorrow</p>

Re working group sessions

Four parallel working group sessions are organized Tuesday morning. Each group has a chair and rapporteur. The purpose of the working group sessions is to identify, discuss and propose ‘options for future work’:

Each working groups comes up with a one-page summary of main findings and suggestions

Thursday 25 April - Workshop Green Growth and Nitrogen (day 2 – only morning)

Parallel working group sessions	
8.00 – 8.30	Coffee
8.30 – 10.00	<p>Four parallel working group sessions are organized. Each group has a chair and rapporteur. The purpose of the working group sessions is to identify, discuss and propose ‘options for future work’:</p> <p>Regional aspects in Greening Agriculture</p> <ul style="list-style-type: none"> • how can green growth contribute to decoupling, to increasing prosperity and decreasing emissions; • what can be done in or via TFRN and TFIAM? • what is the best organization <p>Each working groups comes up with a one-page summary of main findings and suggestions</p>
10.00 – 10.30	Coffee break
10.30 – 11.30	Plenary discussion
11.30 – 11.45	Conclusion
11.45 – 12.00	Closing of Greening Agriculture Workshop
12.00 – 13.00	Lunch

Thursday 25 April - TFRN

EPMAN	
8.30-10.00	<p>EPMAN – Expert Panel on Mitigating Agricultural Nitrogen – Chaired by Dr. Shabtai Bittman, Agriculture and AgriFood Canada and Dr. Martin Dedina,</p>

	Research Institute of Agricultural Engineering, Czech Republic.
10.00 – 10.30	Coffee break
10.30 – 12.00	EPMAN continued

Thursday 25 April - TFRN (day 1 – only afternoon)

TFRN	
13.00-13.30	<p>TFRN – Task Force on Reactive Nitrogen - Chaired by Prof. Mark Sutton, CEH, Edinburg, UK and Prof. Oene Oenema, WUR, Wageningen, The Netherlands.</p> <p>Session 1: Welcome Welcome from hosts</p> <p>Update from the UNECE Secretariat – Franziska Ilg</p>
13.30-15.00	<p>Session 2: Reports from Task Force and Expert Panels</p> <ul style="list-style-type: none"> • Update on WGSR-51: <ul style="list-style-type: none"> ○ Update from Mark Sutton • Report from EPMAN <ul style="list-style-type: none"> ○ Update from Shabtai Bittman and Martin Dedina • Report from EPNB <ul style="list-style-type: none"> ○ Update from Wilfried Winiwarter • Report from EPNF <ul style="list-style-type: none"> ○ Update tbc • Report on Nitrogen in EECCA-countries <ul style="list-style-type: none"> ○ Update from Natalia Kozlova • Short update on activities related to Nitrogen and Climate <ul style="list-style-type: none"> ○ Update from Mark Sutton
15.00-15.30	Coffee break
15.30-17.00	<p>Session 3: International Cooperation and coordination activities and workshops</p> <ul style="list-style-type: none"> ○ UNECE secretariat ○ Joint meeting of TFIAM & TFRN and Green Growth Workshop ○ International Nitrogen Initiative & Global Partnership on Nutrient Management ○ Fifth International Nitrogen Conference: N2013 ○ UNEP Published Report: Our Nutrient World ○ UNEP planned report on N2O emissions

Friday 26 April - TFRN (day 2 – only morning)

TFRN	
9.00-10.15	<p>Session 4: Country Reports on integrated N emission abatement research & policy, including progress of Gothenburg Protocol</p> <ul style="list-style-type: none"> • Denmark (to be confirmed) • Germany (to be confirmed) • Spain (to be confirmed) • Italy (to be confirmed) • UK (to be confirmed) • Switzerland (to be confirmed)
10.15-10.45	Coffee break

11.45-12.15	Session 5: Work plan, agreement of actions and minutes, close <ul style="list-style-type: none"> • Discussion of Work plans and invitations to participate in the Expert Panels and TFRN • Minuting of outcomes
12.15 – 13.15	Lunch

Friday 26 April - TFRN -EPNB

	TFRN - EPNB
	TFRN = Task Force on Reactive Nitrogen
13.00-17.00	Expert panel meeting on Nitrogen Budgets, including coffee

Questions to be discussed

1. Economic instruments for green growth

GDP-growth and development of greenhouse gas emissions can be decoupled with an ambitious climate and energy policy. Some air pollutants such as sulfur and black carbon will then also be reduced as a co-benefit. This is however not the case with nutrients. Decoupling GDP-growth from the growing demand for nutrients requires additional policies. Especially the OECD advocates green taxation as an important instrument for green growth. Relevant questions for the workshop are:

- To what extent economic instruments can be effective as an incentive for a more efficient use of nutrients?
- To what extent will the carbon tax influence the price (and use) of fertilizers and pesticides?
- What other financial incentives are feasible to reduce food waste or reduce nutrient losses at the farm level?
- How high should a “meat tax” be to have substantial effects?
- What modelling framework is needed to quantify the effects of economic instruments?
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2. Transitions of food systems

A comprehensive scheme and definition of ‘food systems’ is shown in the figure below. Main societal goals of food systems are (i) food security, (ii) environmental quality and (iii) sustainable livelihoods. Nitrogen is a key issue here as humans consume on average 2 to 6 kg of N per capita per year, while the nitrogen cost of food production is between 5 and 10 kg per kg. Hence, nitrogen use per capita ranges between 10 and 60 kg per capita per year, depending on diet and the efficiency of the food production – processing and consumption chain. As retention is on average not more than 1 kg per capita per year, most of the N used for food production is in the end spoiled.

Relevant questions include:

- How do our food systems chains and what are the influencing factors?
- What are the main tradeoffs?
- What options are available for increasing nitrogen use efficiency
- What are the possible innovations?
- What is relevant for TFRN and TFIAM?
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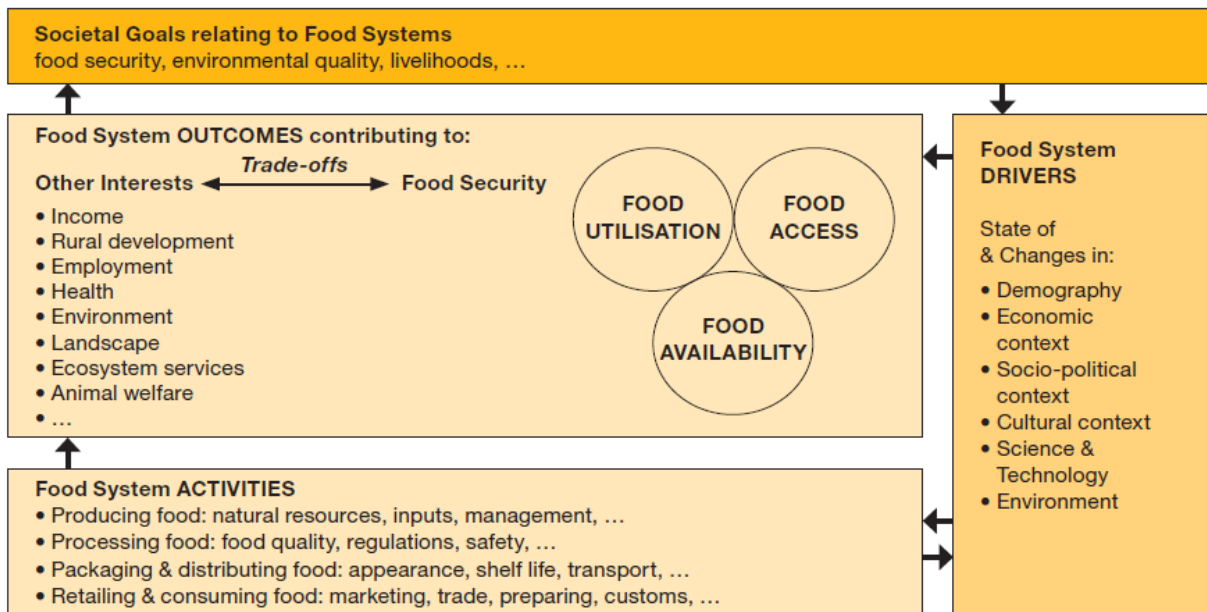


Figure 2.1. Key Food System Drivers, Activities, Outcomes and Feedbacks. [Derived from Ericksen, P.J. and Ingram, J.S.I. (2005) *IHDP Annual Report 2004-5*, pp. 45-46; and from Ericksen, P.J. (2008) *Conceptualizing food systems for global environmental change research. Global Environmental Change* 18, 234-245.]

3. Greening agriculture

The purpose and appreciation of agriculture has broadened considerably during the last decades, from food production only to food production in an environmental sound way, combined with landscape maintenance, and providing green and blue services, social care and agrotourist services. The recently introduced greening of agriculture is another branch on the tree.

In the OECD report (<http://www.oecd.org/tad/sustainableagriculture/48268377.pdf>) 'The Greening of Agriculture' four green challenges of agriculture have been identified (i) New Science and Generic Technologies with Green Potential, (ii) Farming Systems Innovations, (iii) Integrated National Green Regimes, and (iv) Cross-cutting mode. i.e., market or policy-driven mechanisms for driving innovation in pursuit of a green agenda. Also, the European Commission has come with proposals for greening of the Common Agricultural Policy for the 2014–2020 period, although the effects seem modest (<http://www.pbl.nl/sites/default/files/cms/publicaties/pbl2012-greening-the-cap-500136007.pdf>).

Without doubt, agriculture has become more productive and more efficient in for example land and water use during the last decades. However, the picture for nitrogen use efficiency and nitrogen losses is complex. The questions now is

- how 'green growth of agriculture' may contribute to increasing nitrogen use efficiency and decreasing nitrogen losses?
- Which innovations are needed?
- Which research is needed?
- What are possible tradeoffs?
- What is relevant for TFRN and TFIAM?

4. Transitions towards a bio-based economy

In 2012 ideas to move towards a biobased economy got a new incentive within the European Union (see Biobased economy Copenhagen workshop March 2012 and the "Communication on Innovating for Sustainable Growth: A Bioeconomy for Europe" (EC, 2012).

Table 1: The bioeconomy in the European Union³

Sector	Annual turnover (billion €)	Employment (thousands)	Data source
Food	965	4400	CIAA
Agriculture	381	12000	COPA-COGECA, Eurostat
Paper/Pulp	375	1800	CEPI
Forestry/Wood ind.	269	3000	CEI-BOIS
Fisheries and Aquaculture	32	500	EC***
Bio-based industries			
<i>Bio-chemicals and plastics</i>	50 (estimation*)	150 (estimation*)	USDA, Arthur D Little, Festel, McKinsey, CEFIC
<i>Enzymes</i>	0.8 (estimation*)	5 (estimation*)	Amfep, Novozymes, Danisco/Genencor, DSM
<i>Biofuels</i>	6**	150	EBB, eBio
Total	2078	22005	

*Estimation for Europe for 2009; **Estimation based on a production of 2.2 million tonnes bioethanol and 7.7 million tonnes of biodiesel at average market price in Europe; ***EC, Facts and figures on the CFP, Basic Statistics Data, ISSN 1830-9119, 2010 Edition

Questions related to this strategy are:

- a. will the biobased economy contribute to sustainable development?
- b. To what extent can it contribute to a reduction of the carbon footprint?
- c. Will it require more land and compete with nature and food production?
- d. Will it require more fertilizers or pesticides?
- e. Will it require synthetic biological materials of genetically modified organisms?