

NITROGEN AND THE UNECE CONVENTION ON LONG-RANGE TRANBOUNDARY AIR POLLUTION

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Working Group on Strategies and
Review**



Integrating Nitrogen under CLRTAP

- Revision NO_x Protocol
- Gothenburg Protocol
- Preamble Gothenburg Protocol
- Saltsjöbaden 3
- EG on NH₃ → TF on Reactive Nitrogen

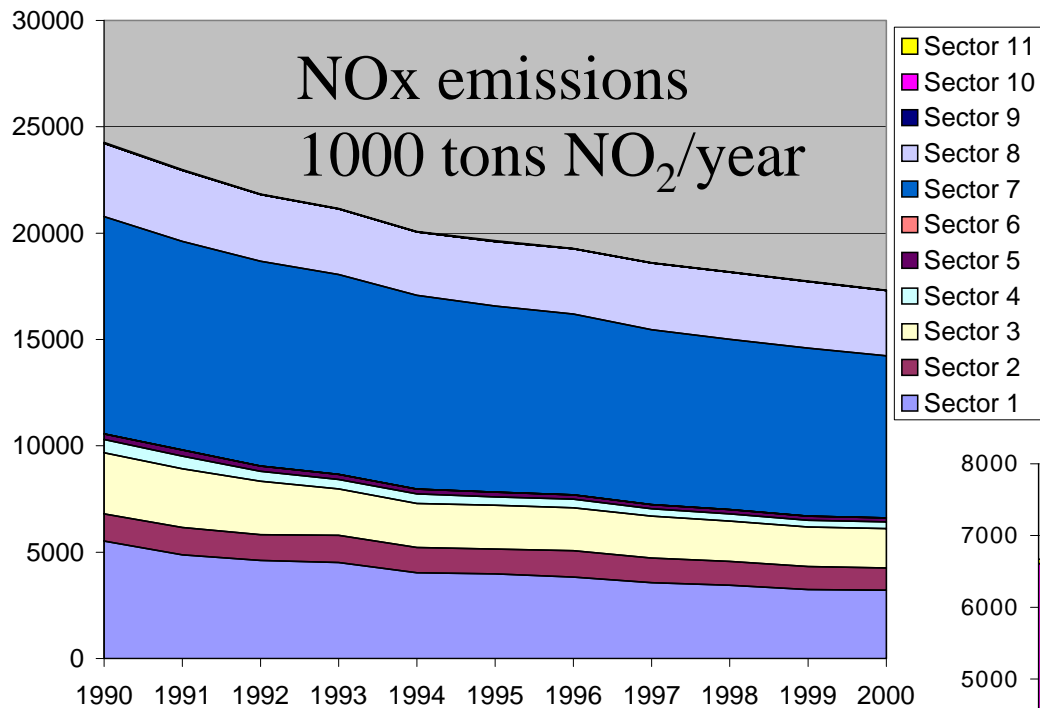
1999 Gothenburg Protocol

<p>Multi-pollutant Multi-effect Protocol</p>	<p>Acidification, Eutrophication and Ground-level Ozone</p> <p>23 Parties</p>	<p>Effects based using integrated assessment modelling.</p> <p>Specifies emission ceilings and controls for sulphur, <u>nitrogen oxides</u>, <u>ammonia</u> and volatile organic compounds (VOCs)</p>
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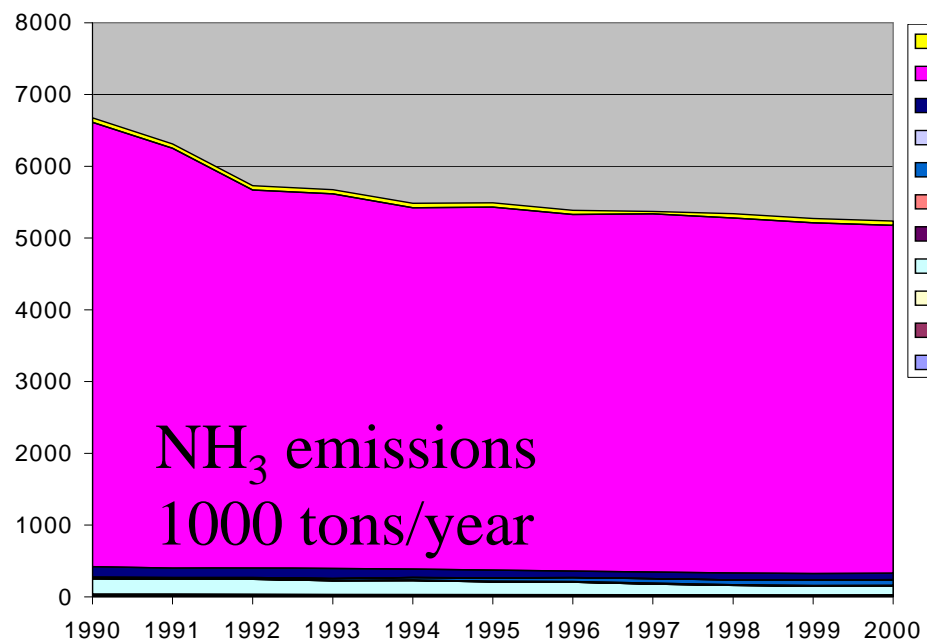
The preamble to the Protocol

- It is the first agreement under the Convention to deal specifically with reduced nitrogen
- Measures taken to reduce the emissions of nitrogen oxides and ammonia should involve consideration of the full biogeochemical nitrogen cycle

Sector allocation of emissions



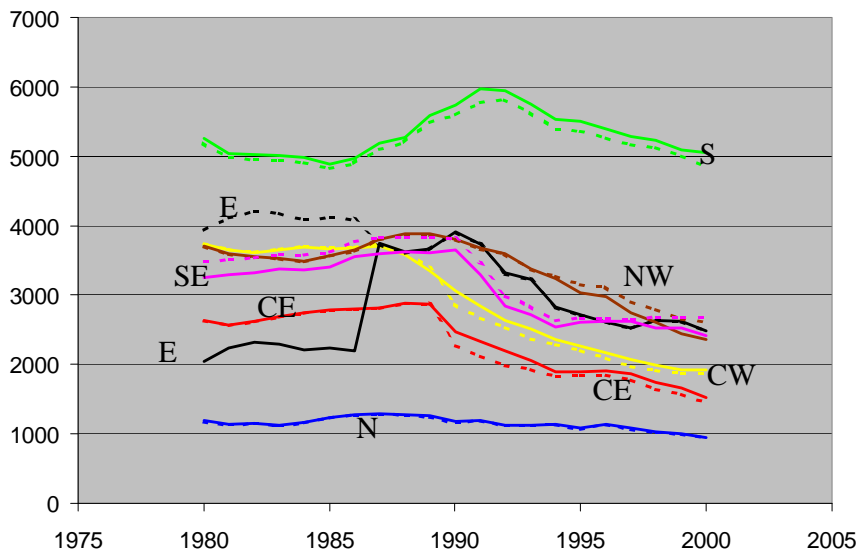
NO_x reductions mainly due to changes in combustion sectors (40%) and transport (25%)



Decreased NH₃ is due to activity changes and control measures in agricultural sector

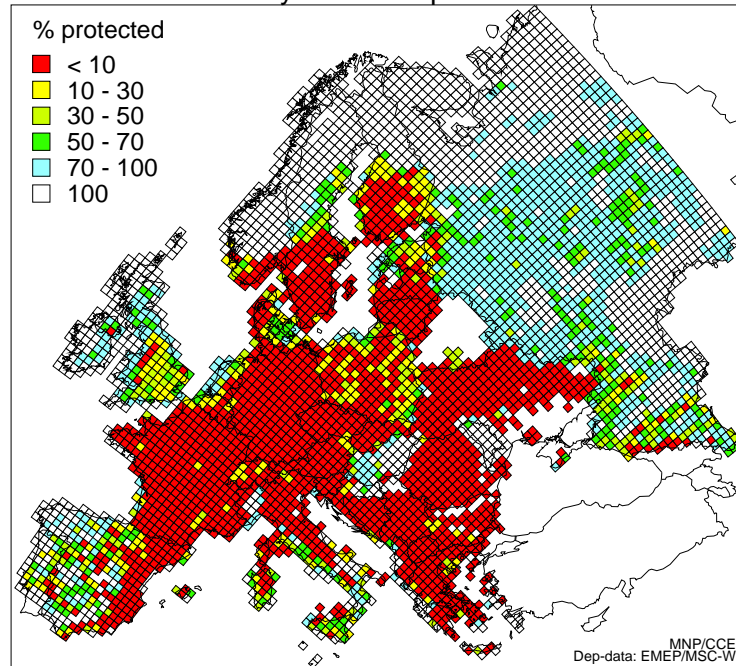
Nitrogen emissions 1980-2000

Regional differences in N emission changes are more pronounced than for sulphur emissions.

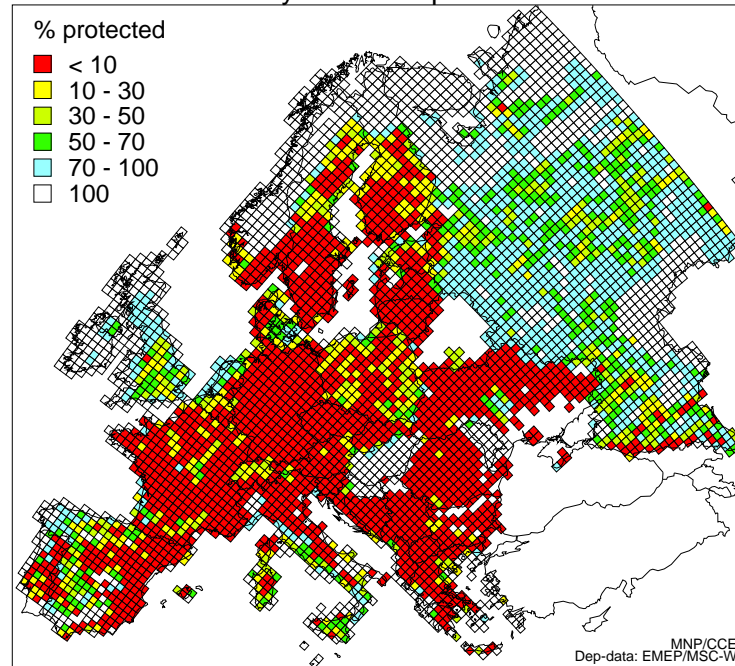


Countries	NO _x	NH ₃
CE = Czech Rep., Hungary, Poland and Slovak Rep.	-42%	-46%
CW = Austria, Switzerland and Germany	-49%	-23%
E = Estonia, Latvia, Lithuania and Russia (European part)*	+21%	-48%
N = Denmark, Finland, Iceland, Norway and Sweden	-21%	-10%
NW = Belgium, Luxemburg, the Netherlands, Ireland and United Kingdom	-36%	-13%
S = France, Greece, Italy, Portugal and Spain	-4%	+1%
SE = Albania, Armenia, Belarus, Bosnia-Herzegovina, Bulgaria, Croatia, Cyprus, Georgia, Kazakhstan, Republic of Moldova, Romania, Slovenia, The FYROM Macedonia, Turkey, Ukraine and Yugoslavia	-26%	-12%
TOTAL EUROPE (excluding ships)	-24%	-20%

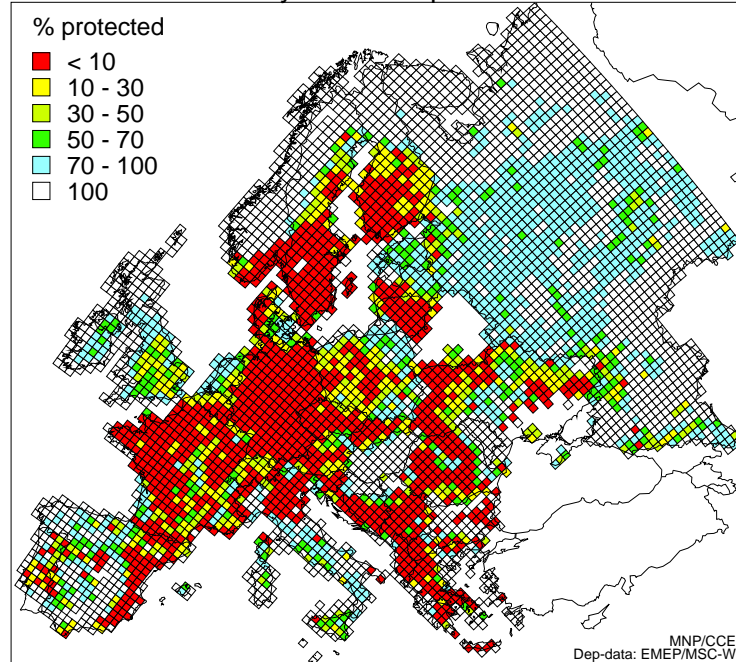
Nutrient N CLs: Ecosystem area protected 1980



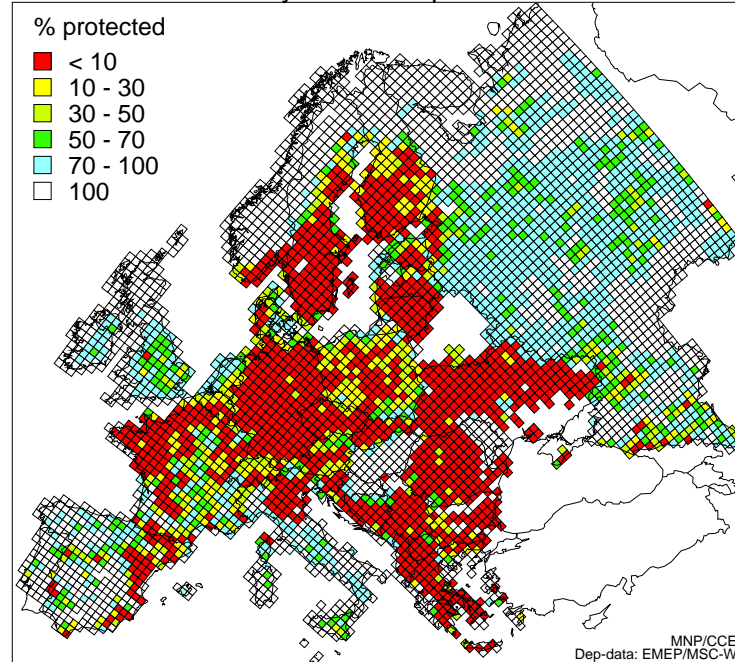
Nutrient N CLs: Ecosystem area protected 1990



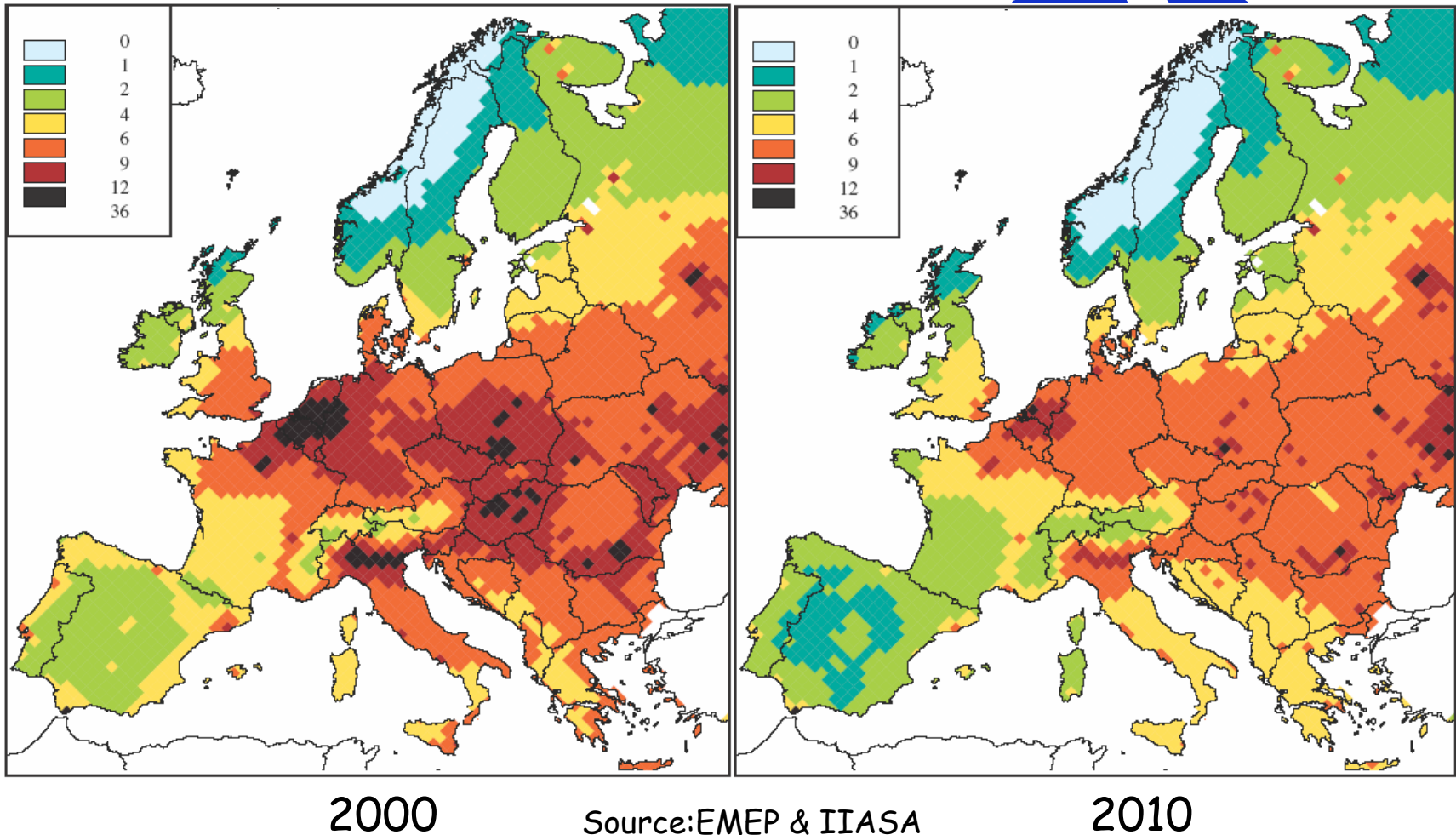
Nutrient N CLs: Ecosystem area protected 2000



Nutrient N CLs: Ecosystem area protected 2010



Loss of life expectancy (in months) Due to PM2.5 from anthropogenic sources



Task Force on Reactive Nitrogen

- Lead countries UK and NL
- Background paper and Terms of Reference
- WGSR (and WGE, EMEP-SB)

Recommendations Workshop IAM Nr to TF on Reactive Nitrogen

- Awareness raising of linkages policy processes
- Identification of timing and information requirements various policy processes
- Give practical advice on consistency effect based approaches
- Identify synergies and trade offs for policy measures

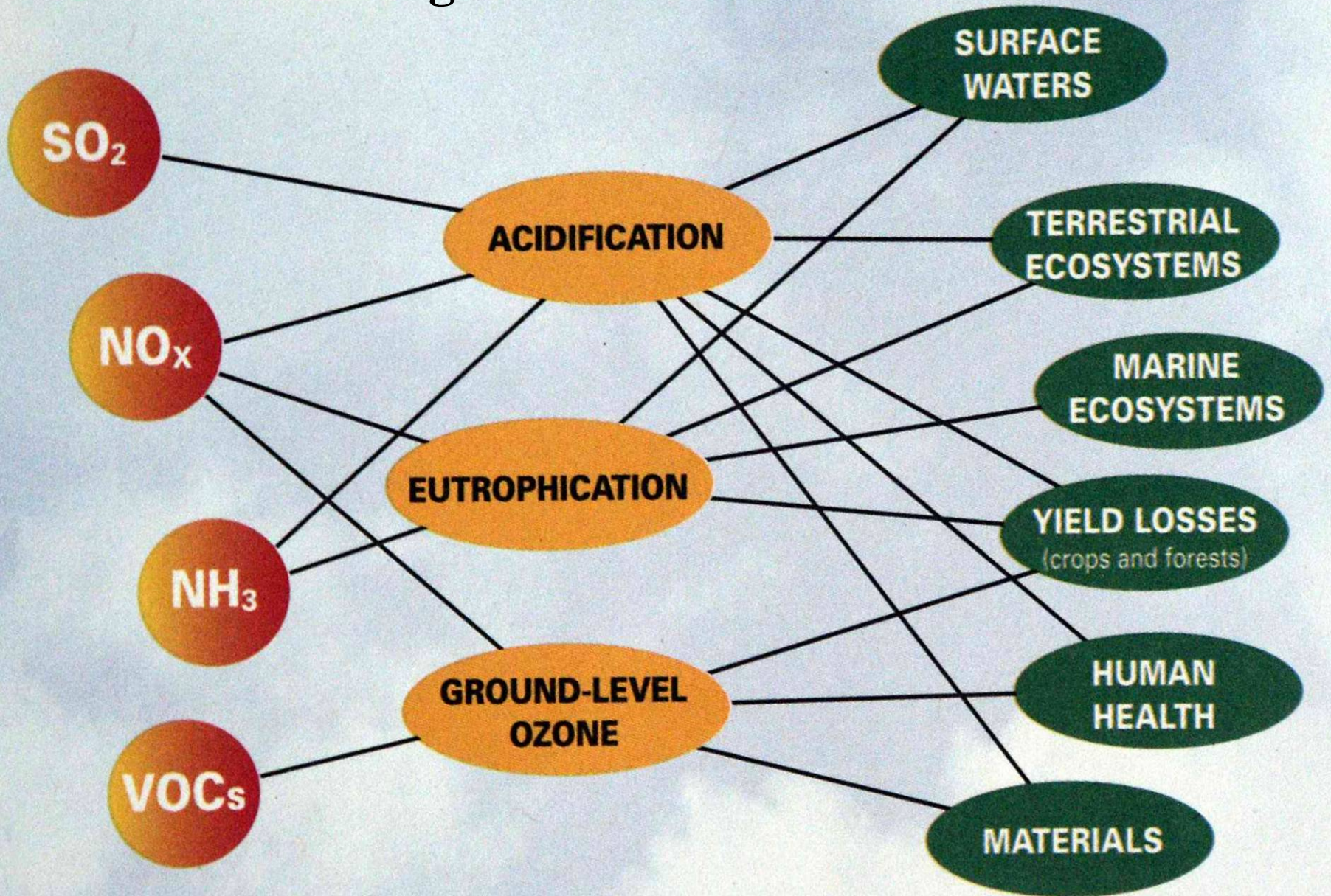
Short term (Gothenburg Protocol/IAM)

- N-cycle in GAINS, nitrate
- Impacts: surface water, groundwater, coastal waters
- Synergies and trade-offs

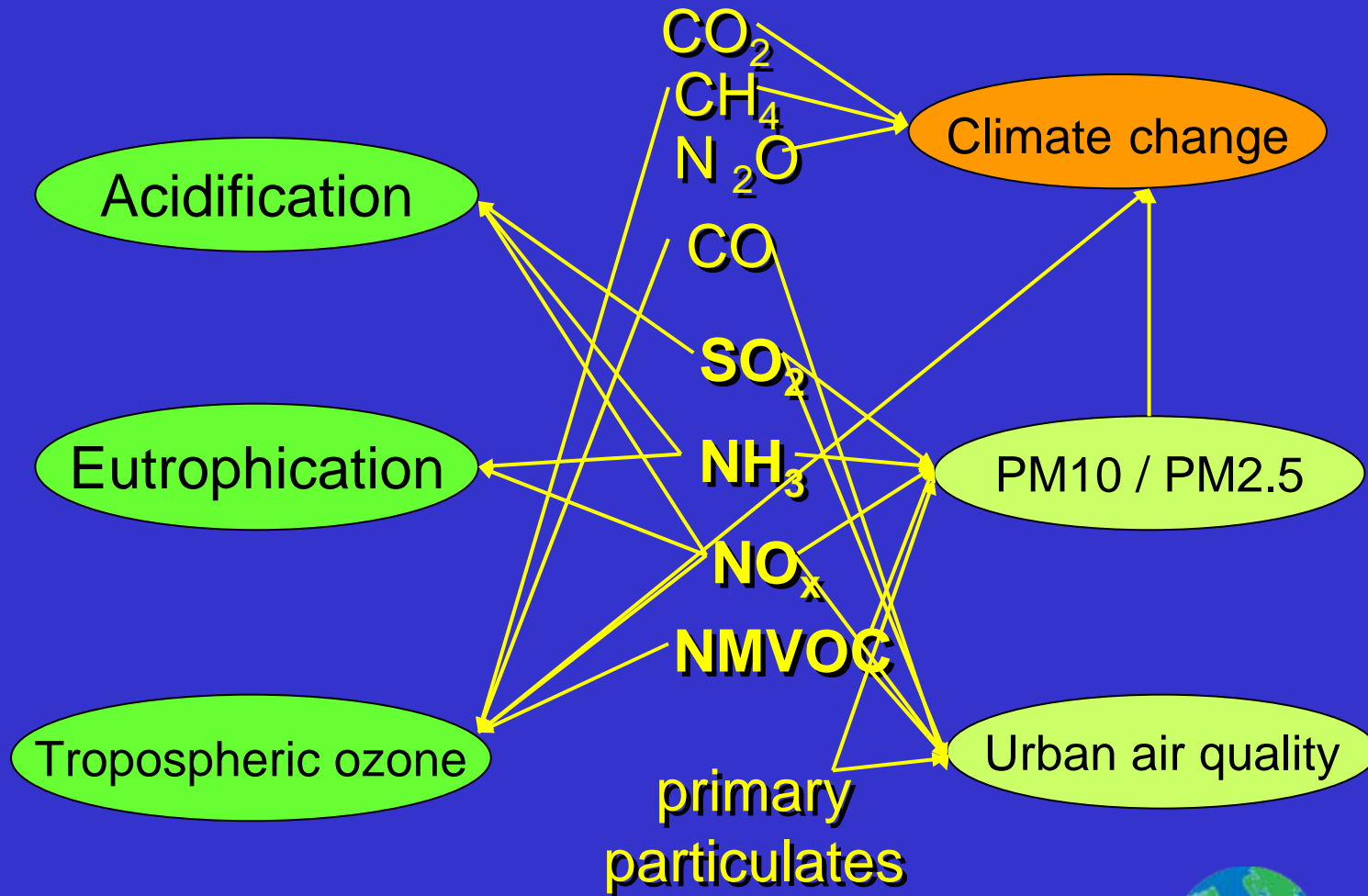
The Convention's Agenda

- Review Gothenburg Protocol 2005-2007
- EB25: Revision 2008-2009
 - Short term is 2008!

The Gothenburg Protocol



Multi-pollutant / multi-effects approach: an extended version for a future protocol



Objectives Task Force

- Integrated approach to managing Nr (LT)
- Influence strategies
 - Within CLRTAP
 - Outside e.g. UNFCCC, CBD, EU
- Tasks TF RN
- Continue work EG on NH3

NH₃ work: input review/revision

Gothenburg Protocol

- **Guidance Document** on Control Techniques for Preventing and Abating Emissions of Ammonia
- Framework Advisory **Code of Good Agricultural Practice** for Reducing Ammonia Emissions
- Quantify control options/techniques and resulting **ammonia emissions**
- **Annex IX, NH₃ control measures**

Organisational

- Reporting
- Cooperation bodies under CLRTAP
 - TF Integrated Assessment Modelling
 - TF Emission Inventories and Projections
 - TF Modelling and Mapping
- International links with Conventions and European initiatives
- Full report on managing Nr to WGSR in 2010 at the latest