

**NecoV symposium
Antwerpen · 25 April 2016**

The Nitrogen Problem in Germany



Dr. Elisabeth Schmid

German Advisory Council on the Environment (SRU) · Berlin

- Interdisciplinary, scientific and independent
- Seven professors from different disciplines nominated by Cabinet
- Judgements on environmental issues
- Early warning function
- Ideas for sustainable transitions
- Inform stakeholders and the broader public





Stickstoff: Lösungsstrategien für ein drängendes Umweltproblem

Sondergutachten

Hausdruck

Januar 2015



NITROGEN: Strategies for resolving an urgent environmental problem

Summary
January 2015

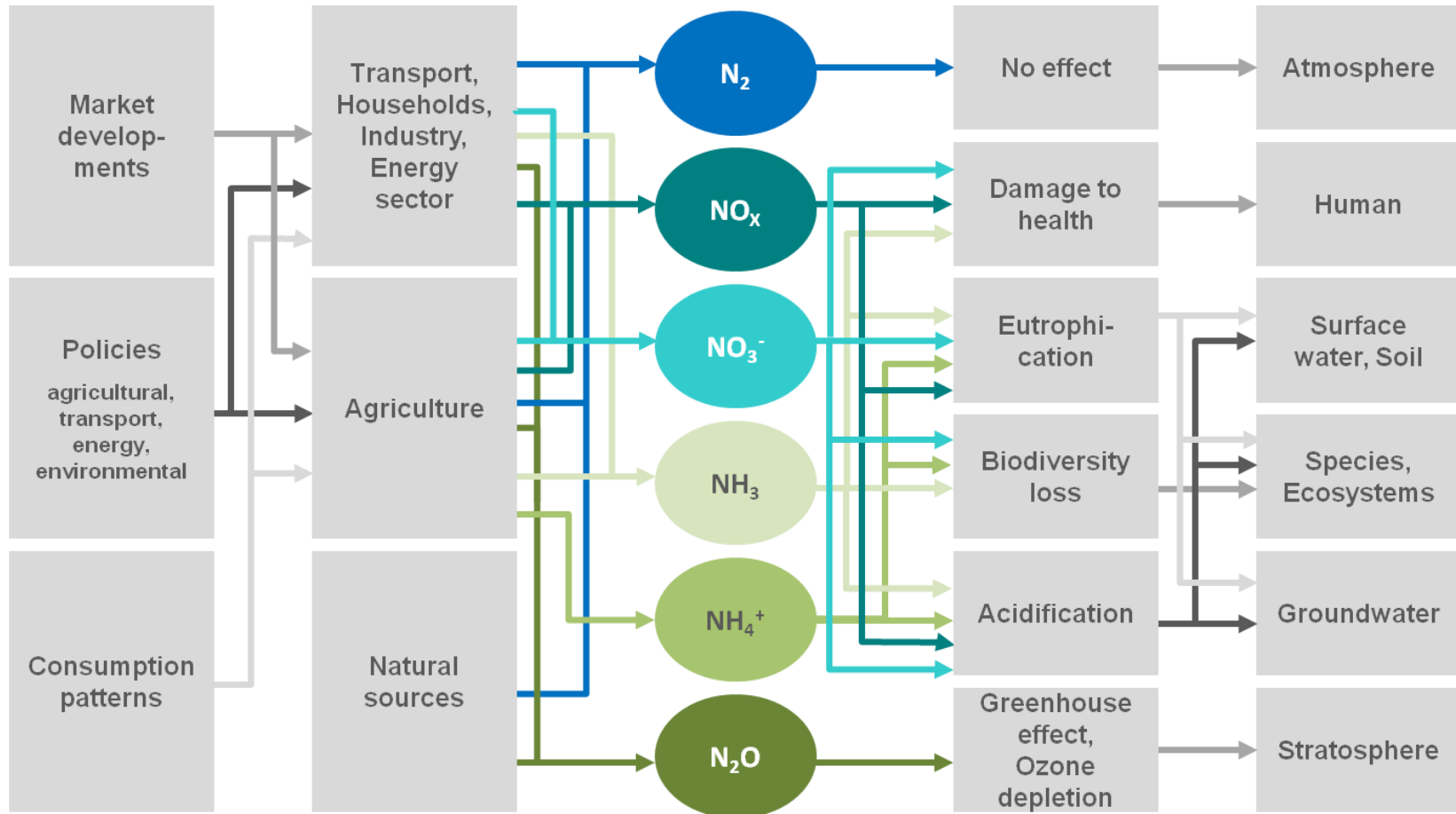


Photos: Alpha - Konrad/Wild (4), Peter A. Müller/BMZ (2), Tobias/Alamy (4), (2) - Dorothea Brunn/Wild (4), (4), Peter Brunn/SRU (4), Markus Böhmer/SRU (4)

Nitrogen: A complex matter



Driving forces	Source	Nitrogen species convertible into each other	Impact	Target site
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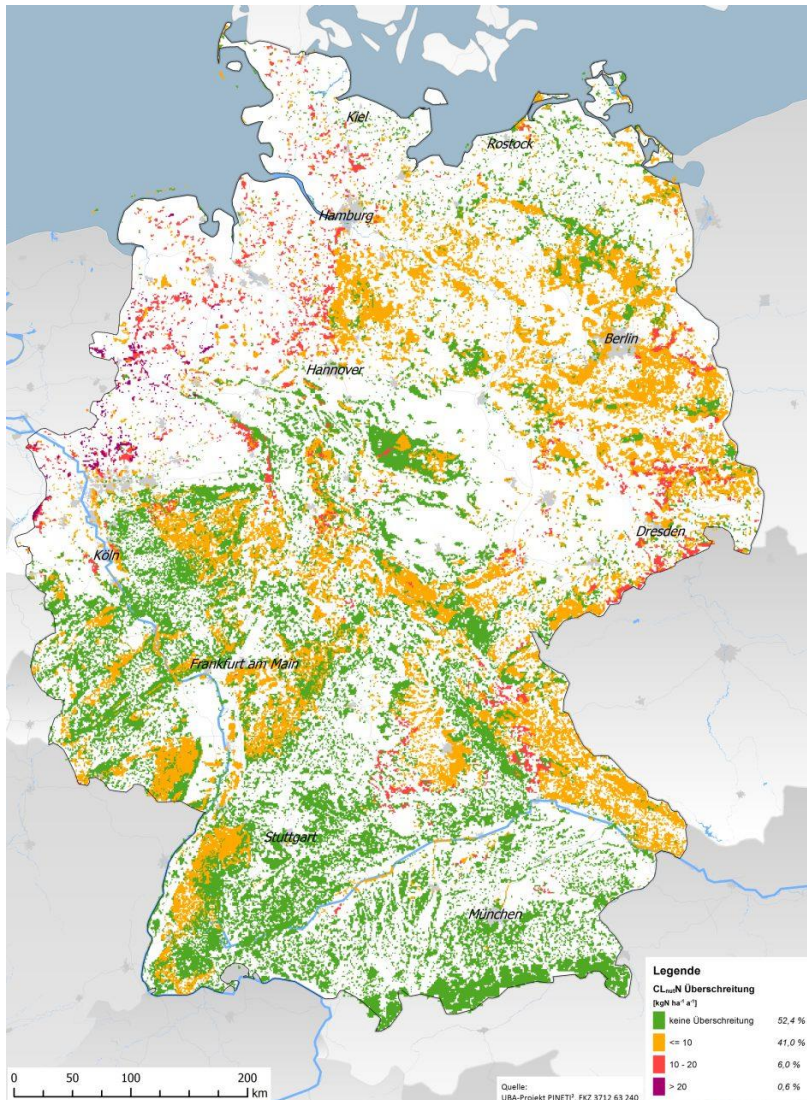


[source: SRU 2015, figure 4-2]

Exceedance of the annual limit value for NO₂ (40 µg/m³) in Germany

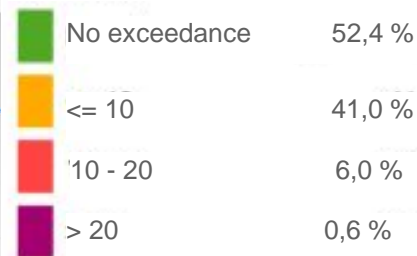


NO₂: Air quality standards are still being exceeded regularly, particularly for busy roads



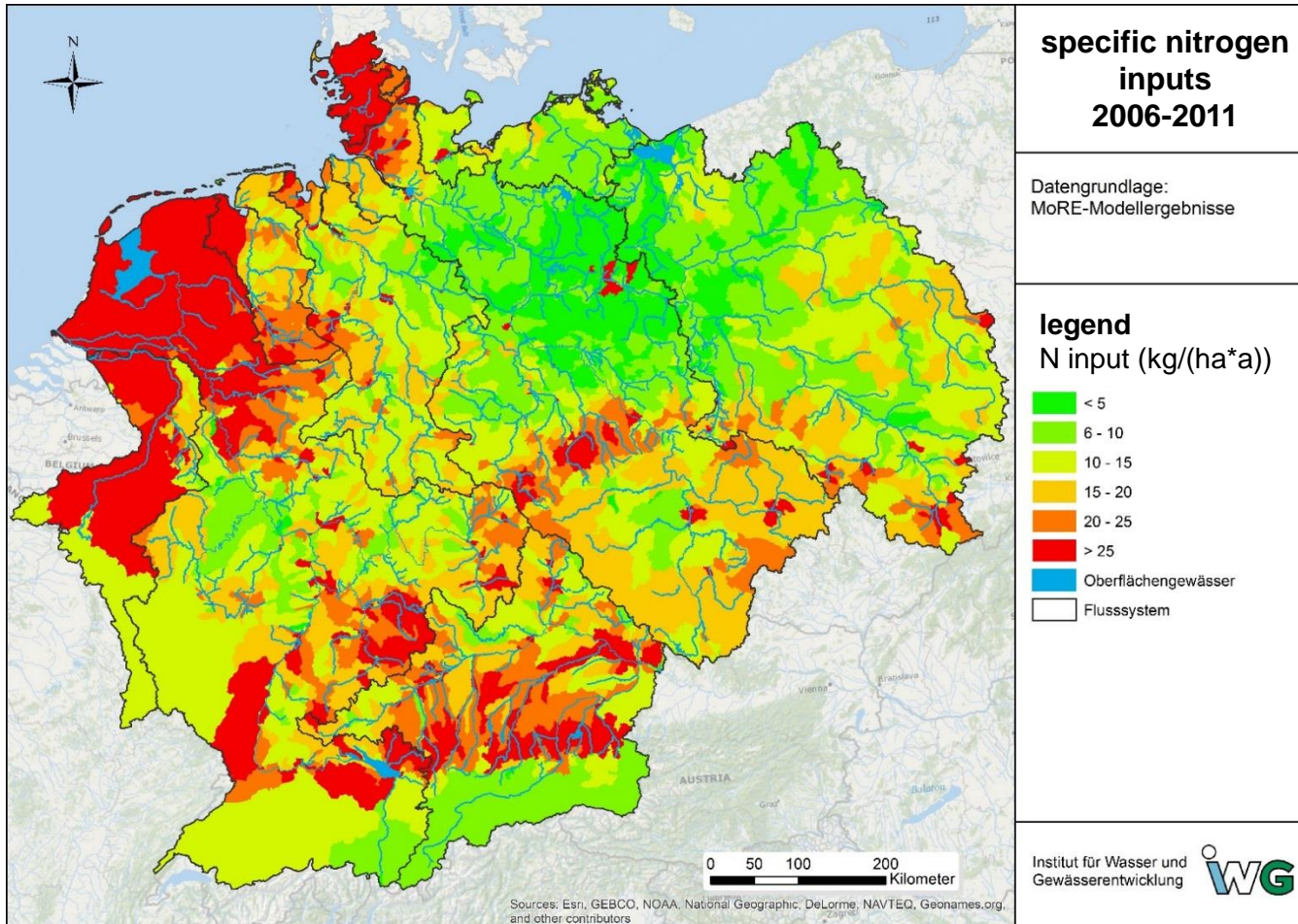
Exceedance of critical load for eutrophication on 48% of Germany's natural and semi-natural terrestrial ecosystems
(Data from 2009)

Legend
CL_{nut}N Exceedance
[kgN ha⁻¹ a⁻¹]

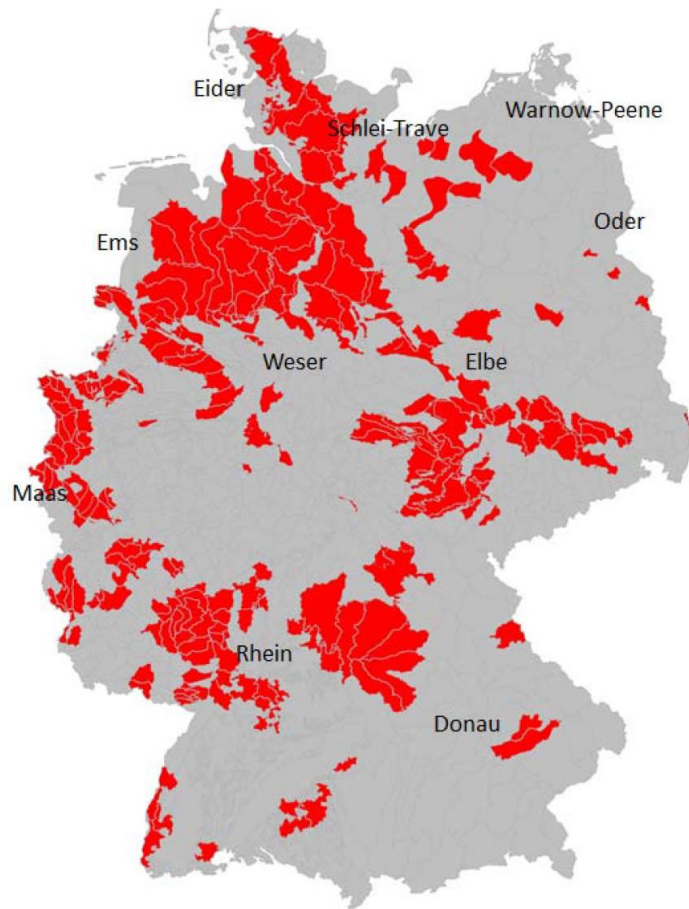


[source: Schaap et al. 2014]

Total nitrogen inputs into German surface water



[source: SRU 2015, figure 3-12]

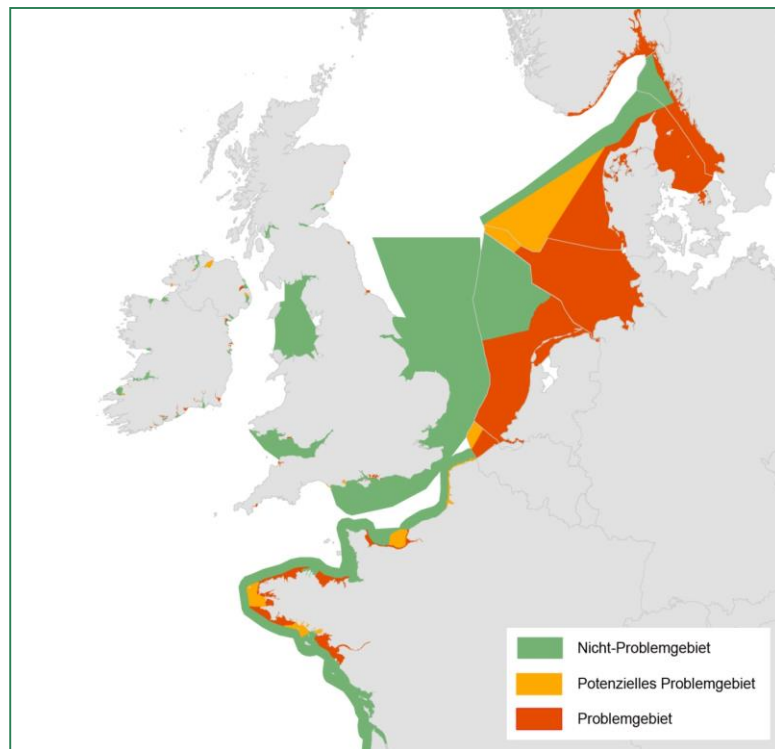


27 % of German groundwater bodies do not reach a good chemical status according to the WFD due to nitrate concentration > 50 mg/l
(Data from 2010)

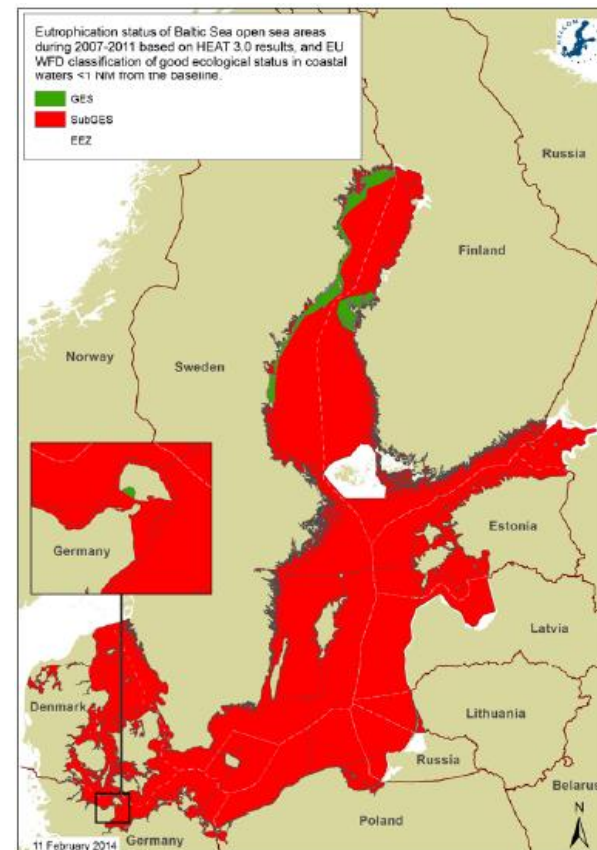
[source: SRU 2015, figure 3-9]

Eutrophication status for North Sea (2007) & Baltic Sea (2007-2011)

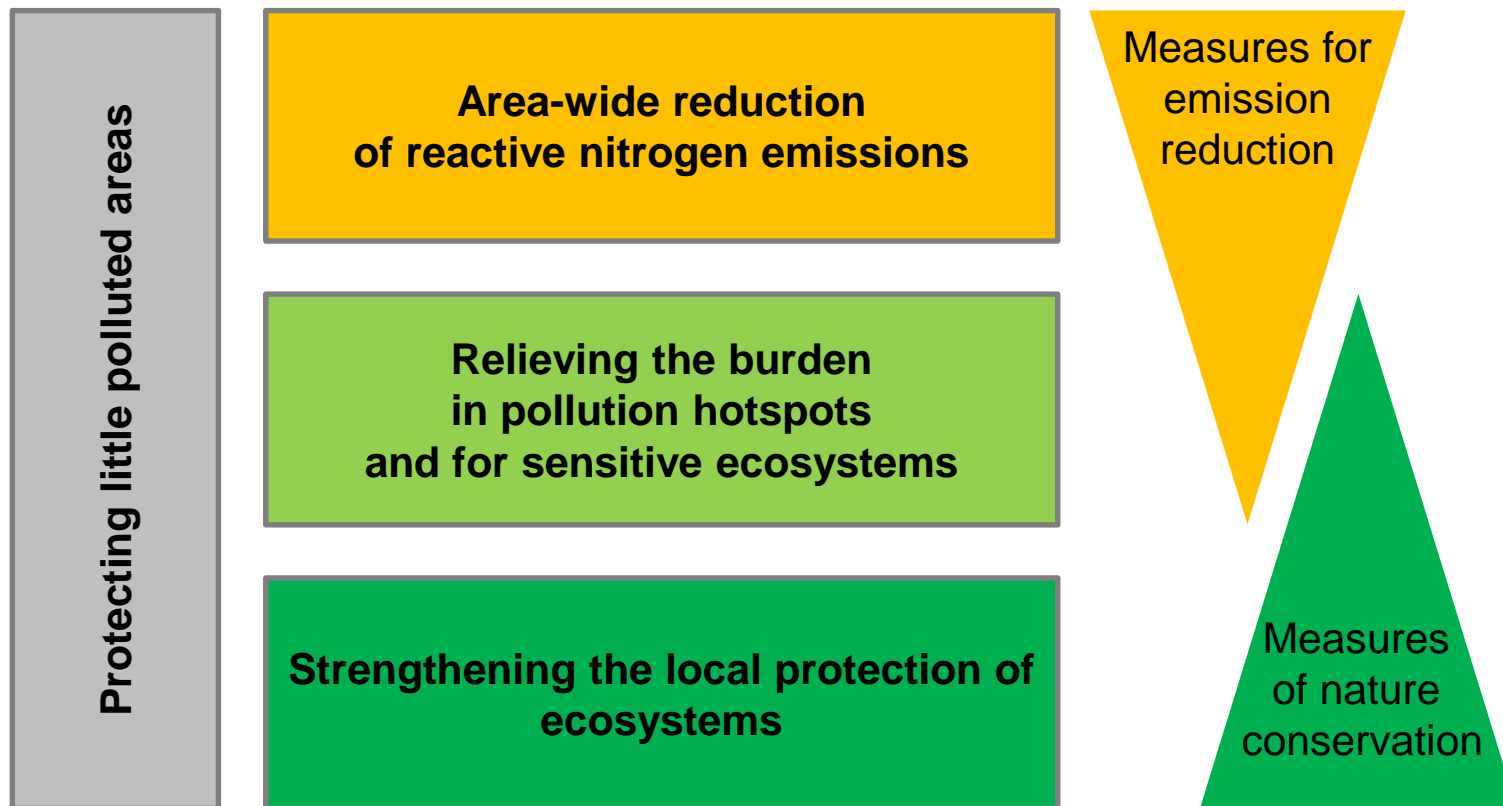
Green: Good status Red: Bad status



[source: OSPAR Commission 2009]



[source: HELCOM 2014]



[source: SRU 2015, figure 3-26]

- Improve the framework of reduction targets on multiple levels (e.g. NECD)
- Reduce nitrogen emissions from agriculture (e.g. reform of the Fertilizer Regulation, tax on nitrogen surplus)
- Nature protection measures
- Make biogas production environmentally sustainable
- Gradually change food consumption pattern
- Reshape the transportation sector by technical and structural measures
- Reduce power plant emissions still further
- Develop a national nitrogen strategy



- Better horizontal integration (environment, agriculture, transport, industry)
- Better vertical integration (EU, national, federal states)
- Public attention
- Raising awareness
- Systematic approach



The Federal Ministry for the Environment (BMUB) plans to launch a national nitrogen strategy by the end of 2016.

- National strategy, but alliances or cooperation with local, regional and international actors are looked for

Important aspects:

- To communicate the nitrogen-problem
- To develop an overall reduction target
- To adjust existing reduction measures if necessary, to find supplementary reduction measures, to combine all measures in a sensible way and prioritize them

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Thank you for your attention!

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