Integrated Reactive Nitrogen Activities in Germany

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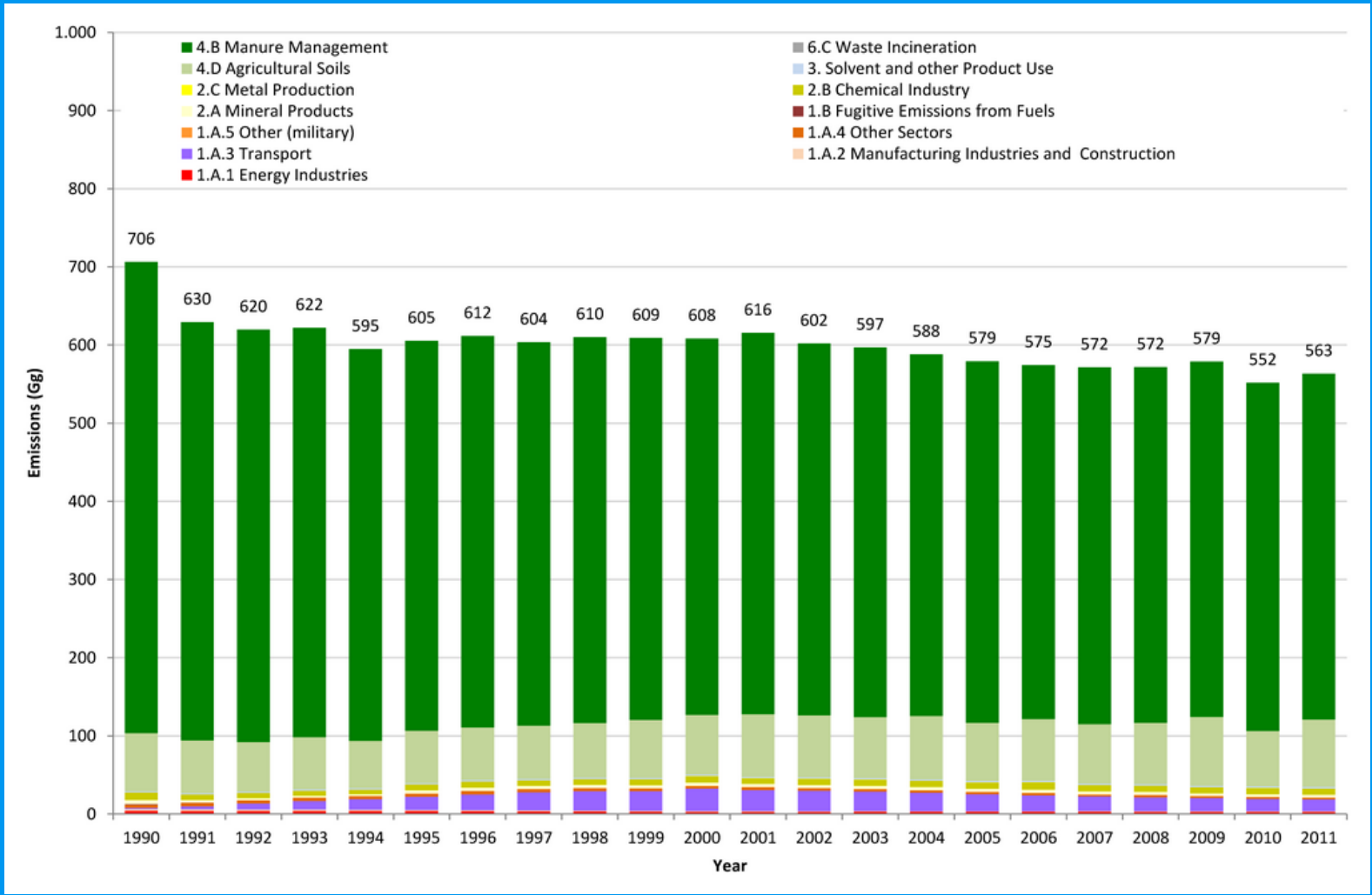
Umwelt Bundes Amt for our Environment

Outline

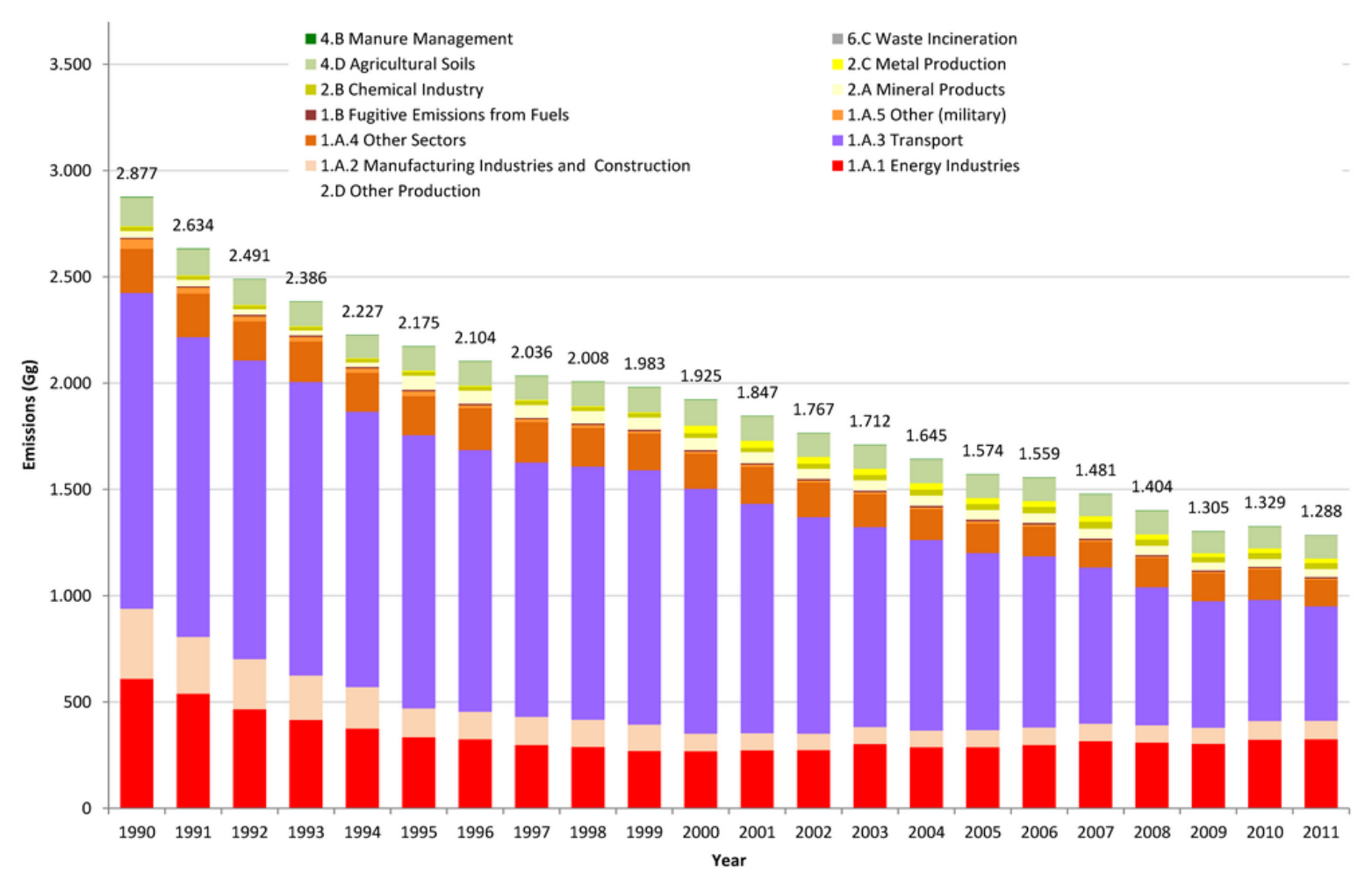
- Setting the scene since 2009/2010
- Environmental Background – examples
- Policy support
- Research activities
- Public relation activities

NH_3-Emissions in Germany [Gg yr^{-1}]



IIR 2013 – German Informative Inventory Report (www.iir-de.wikidot.com)

NO_x-Emissions in Germany [Gg yr^{-1}]



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NEC-Directive - Emissions

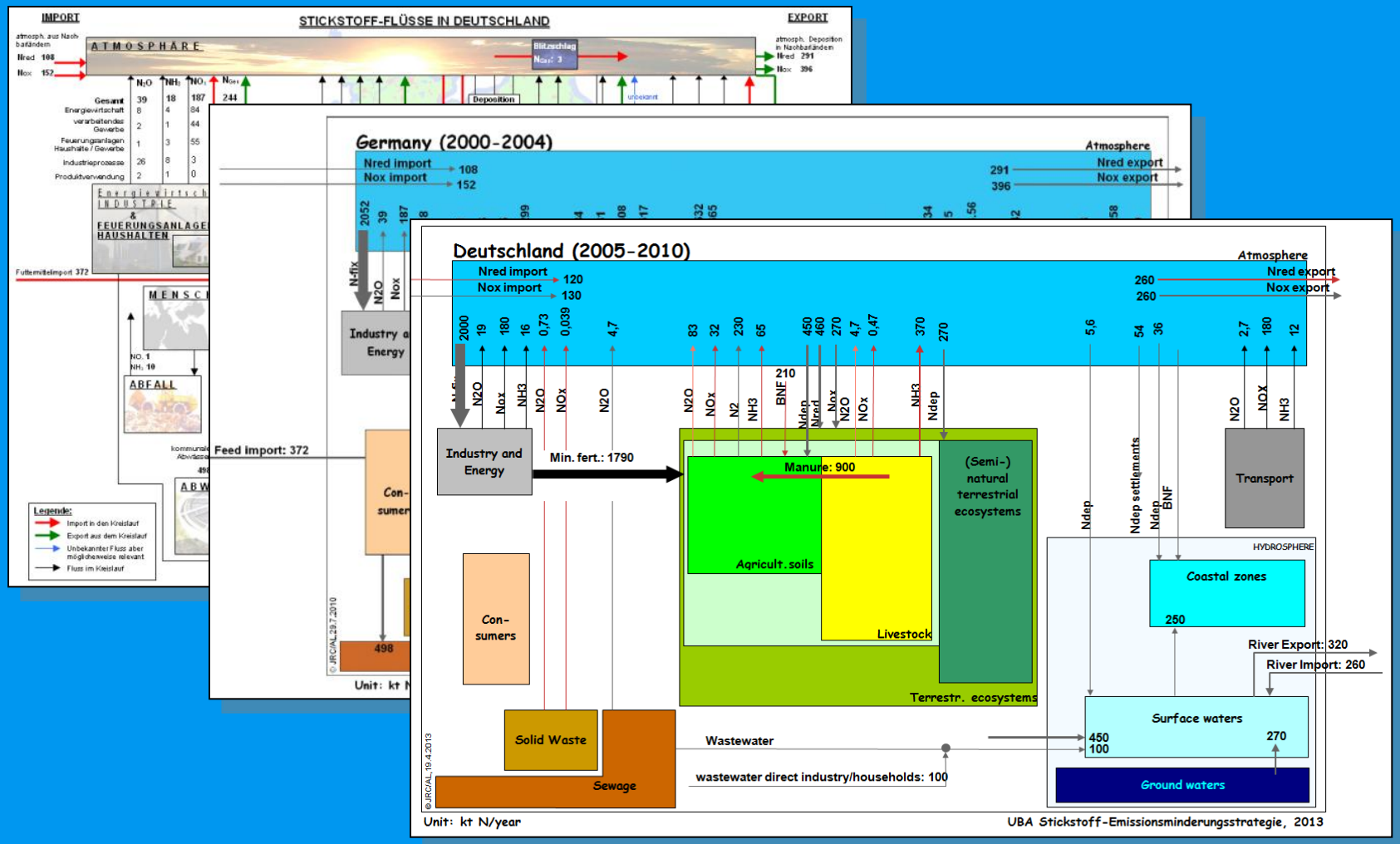
	2010 objective	status quo (2011)
NH_3	550 Gg	563 Gg
NO_x	1051 Gg	1288 Gg

Even stricter targets resulting from revised GP (-5%; 39 % compared to 2005)

Policy Support – national level

- Nitrogen Budget as a concept
- Cross-sector analysis of most promising measure, including pollution swapping
- Public and scientific interest
- Implementation within ministry not successfull

Policy Support – national level Nitrogen Budget as a concept



Policy Support - internationally

TFRN EPMAN: Revision of the FC GAP (2001)

→ elaboration of the first draft, harmonizing the FC GAP
with Guidance / Annex IX GP
and where possible with IRPP BREF (IED)

Industrial Emission Directive (IED, 2010/75/EU), Revision of the IRPP BREF (2003)

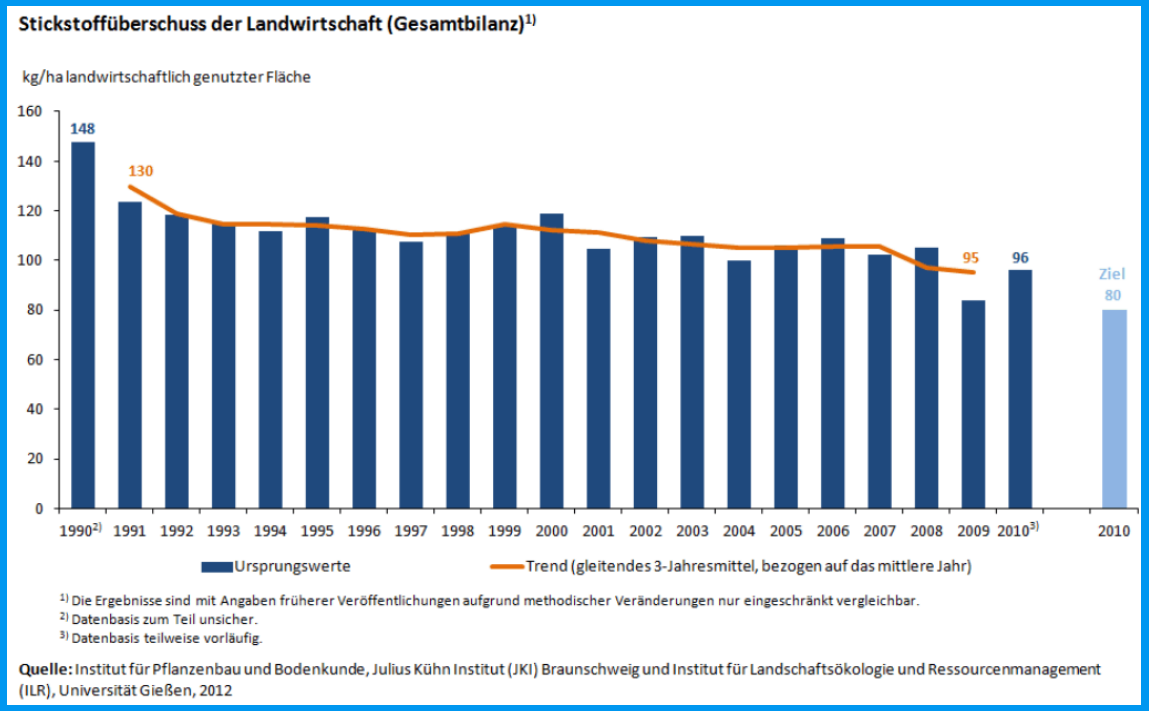
→ Information exchange in TWG for revising the Best Available Techniques (BAT) in the sector of Intensive Rearing of Pig and Poultry (IRPP) for the BAT REFerence Document (BREF),

→ Harmonizing the requirements with UNECE GP, Annex IX, GD and FC GAP

objectives:
→ integrated approach to prevention and control of emissions, to waste management, to energy efficiency (Nitrogen, PM, GHG, Resources)
→ BAT conclusions as a legal basis for permit conditions of installations

Policy support - Integrated agricultural Nitrogen indicator on a national level

Nitrogen Surplus as a Gross Nutrient Balance (farm gate)
Indicator for the German Sustainability Strategy



2011: 112 kg N ha-1

Activity that was taken

Methodological approach jointly developed and refined by BMELV und BMU (connected institutes); http://www.bmelv-statistik.de/index.php?id=139&stw=D%C3%BCngemittel

Policy support - Integrated agricultural Nitrogen balance on a farm level

Requirement of the national "fertilizer ordinance"
Obligation of yearly nutrient balance for the agricultural area (field balance)

- not included:
  - nitrogen losses in housing systems
  - nitrogen deposited on a field
- average of 60 kg ha^{-1} over 3 years
- no obligation of reporting to the institution in responsibility (in the federal state)

Activity that was taken

Working Group consisting of partners from the federal government and the
Several federal states gave a proposal for revision of the "fertilizer ordinance" to possibly meet the goals of the NEC-Directive or of the future GP

- Incorporation of fertilizer into soil
- Farm gate balance

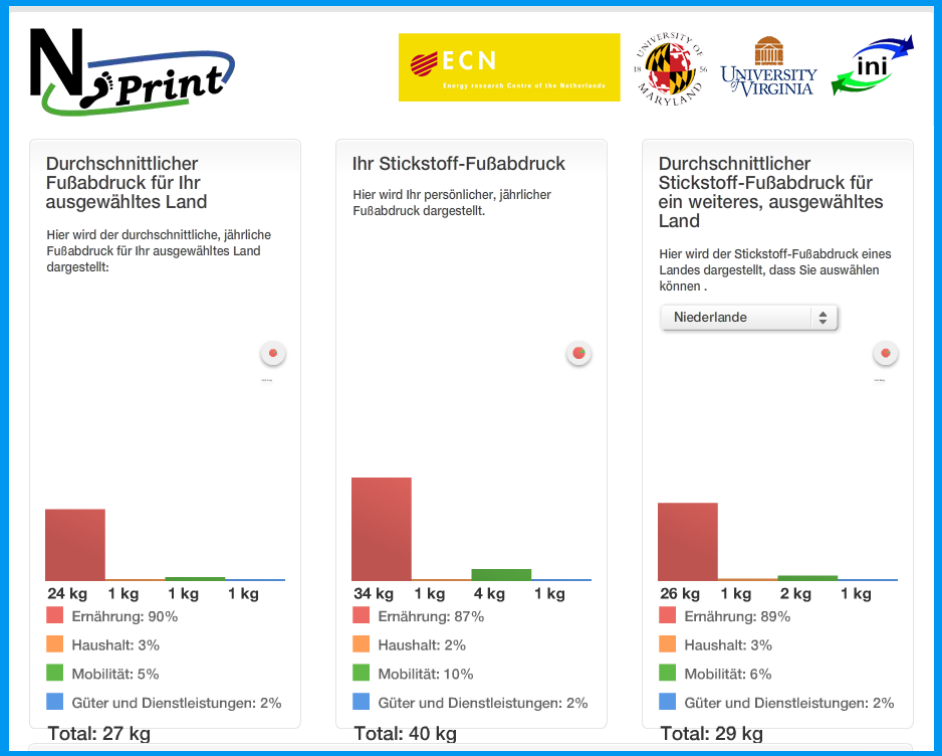
Good proposals – no implementation

Research in relation to integrated N-Emission abatement

A nitrogen footprint model to help consumers understand their role in nitrogen losses to the environment

Allison M. Leach[a], , James N. Galloway[a], , Albert Bleeker[b], , Jan Willem Erisman[b], , Richard Kohn[c], , Justin Kitzes[d],

http://dx.doi.org/10.1016/j.envdev.2011.12.005



Online Personal N Footprint Calculator

http://www.n-print.org

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London-Workshop in late 2011

- Organised by N-Print Team and UBA
- Promote the idea of N-Print calculator in other
- European countries
- Improve, discuss methodology

- Finland
- France
- Germany
- Italy
- Netherlands
- Portugal
- Spain
- Slovenia
- Sweden
- UK
- USA

Workshop report nicely sums up the nitrogen situation of the participating countries

Research in relation to integrated N-Emission abatement

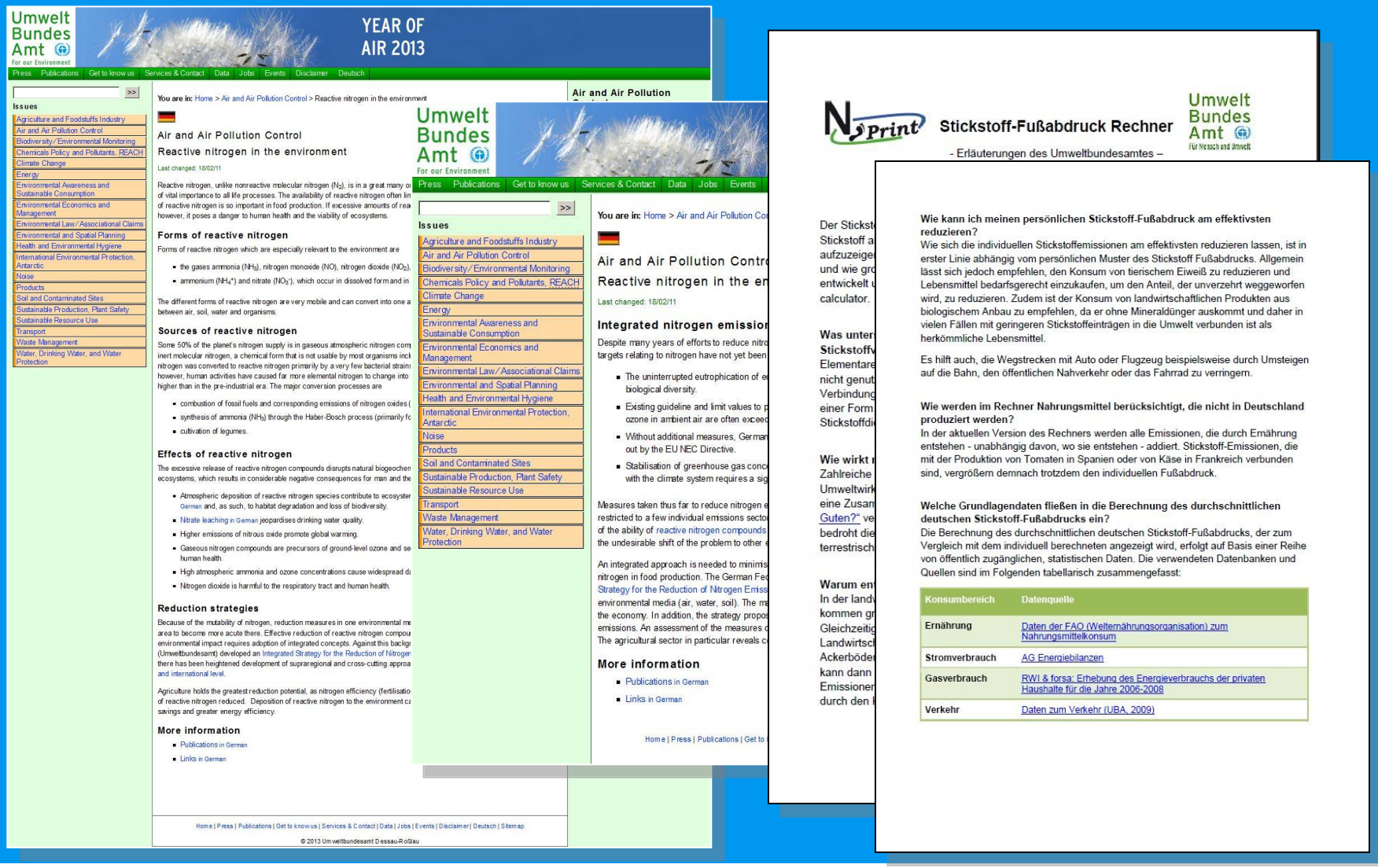
2012-2014:
Sustainable national N management in agriculture:
Balances and mitigation measures (Döhler et.al)

Objectives:
→ Development of two modules (plant production & dairy farming) for a comprehensive agricultural model

→ Better evaluation of N emissions in the production chain and to optimize N management on farm level

→ conclusions for policy makers

Public relation to inform the interested public of the issues of reactive nitrogen



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