



Guidance document on national nitrogen budgets: Annex 3 – Humans and Settlements – Overview

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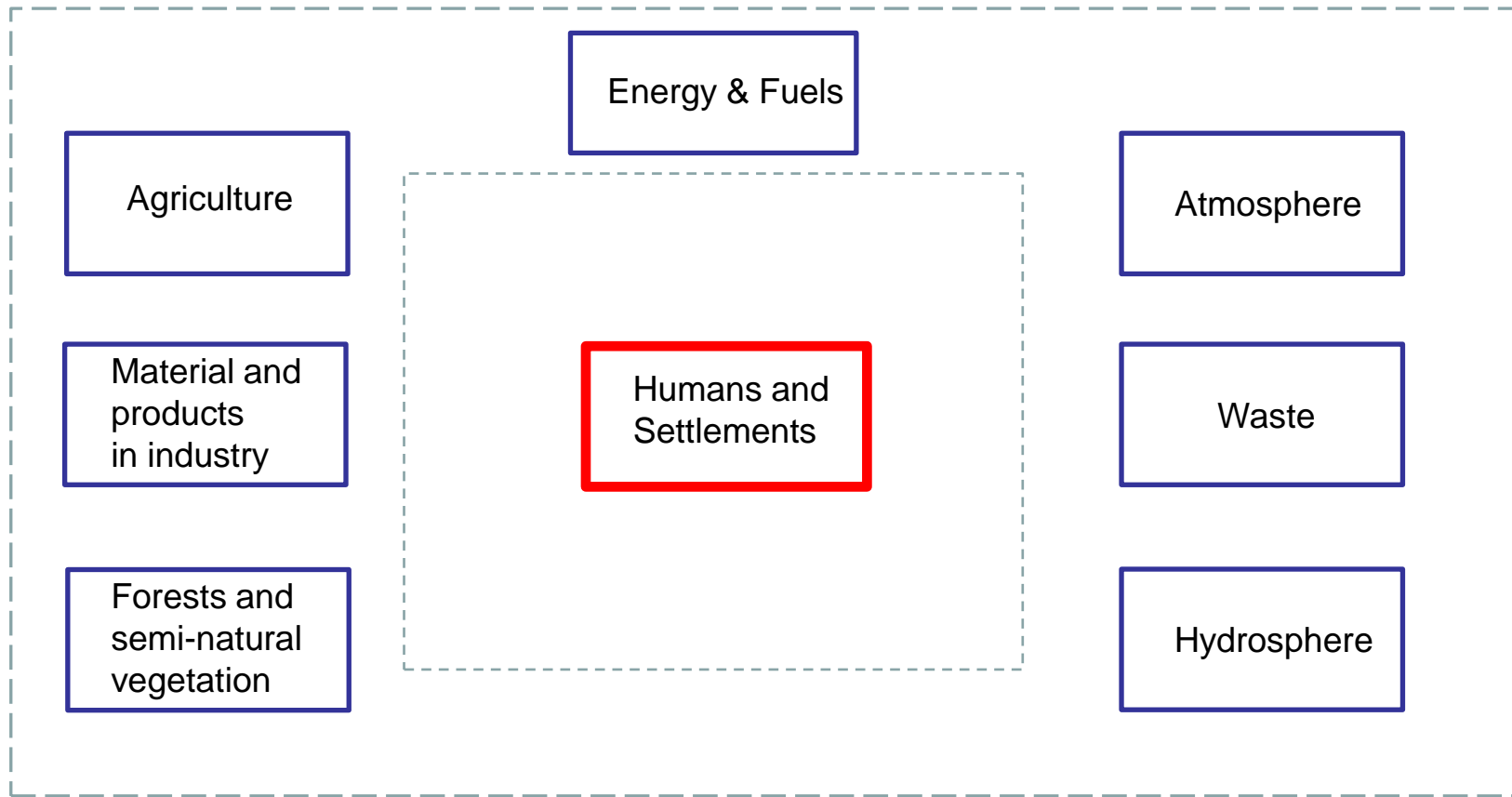


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Overview

- Humans & Settlements: context
- Flows considered & data sources
- Preliminary results: Austria
- Conclusion

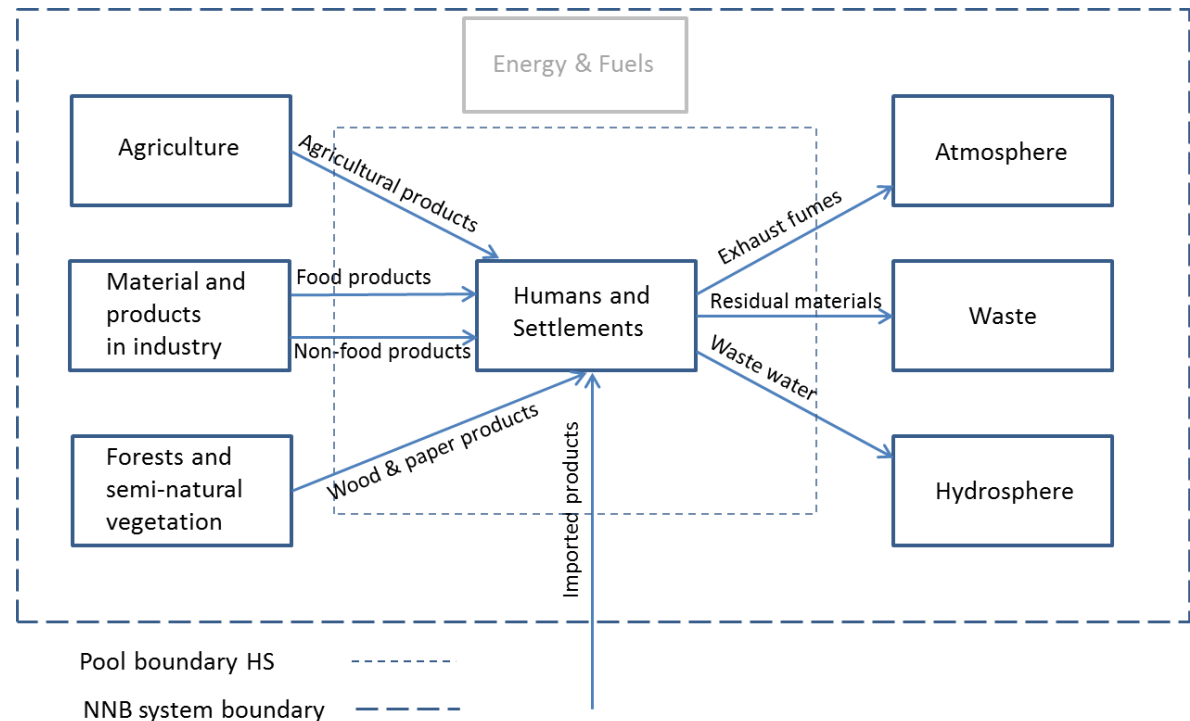


Pool boundary HS -----
NNB system boundary - - - - -

Guidance document on national
nitrogen budgets

Humans & Settlements

- 4 sub-pools:
 - Organic World
 - Human Body
 - Material World
 - Pets
- Connections:
 - Other pools
 - Imports



- Consumption! (vs. Production); N in product flows

Flows considered – categories

- Food supply (FS)
- Food consumption (FC)
- Non-agricultural animals (P)
- Private gardens & public green spaces (G)
- Human body emissions (E)
- Materials (M)
- Waste (W)

-- No stock changes --

Data sources – Food

- Food supply
 - FAOSTAT (protein supply)
 - Statistics Austria (supply balance sheets)
- Food consumption & waste
 - Gustavsson et al. (2011). Global Food Losses & Food Waste. (FAO)
 - BMLFUW (2010). Sewage treatment in Austria
 - Sutton et al. (2000). Ammonia emissions from non-agricultural sources in the UK.

→ Good understanding of N flows

Data sources – Pets

- Pet numbers
 - FEDIAF (pet food industry, number of pets)
 - „Green Report“ Austria (number of horses)
- Pet food
 - Various sources: protein requirements

→ Reasonable understanding of N flows

Data sources – Materials

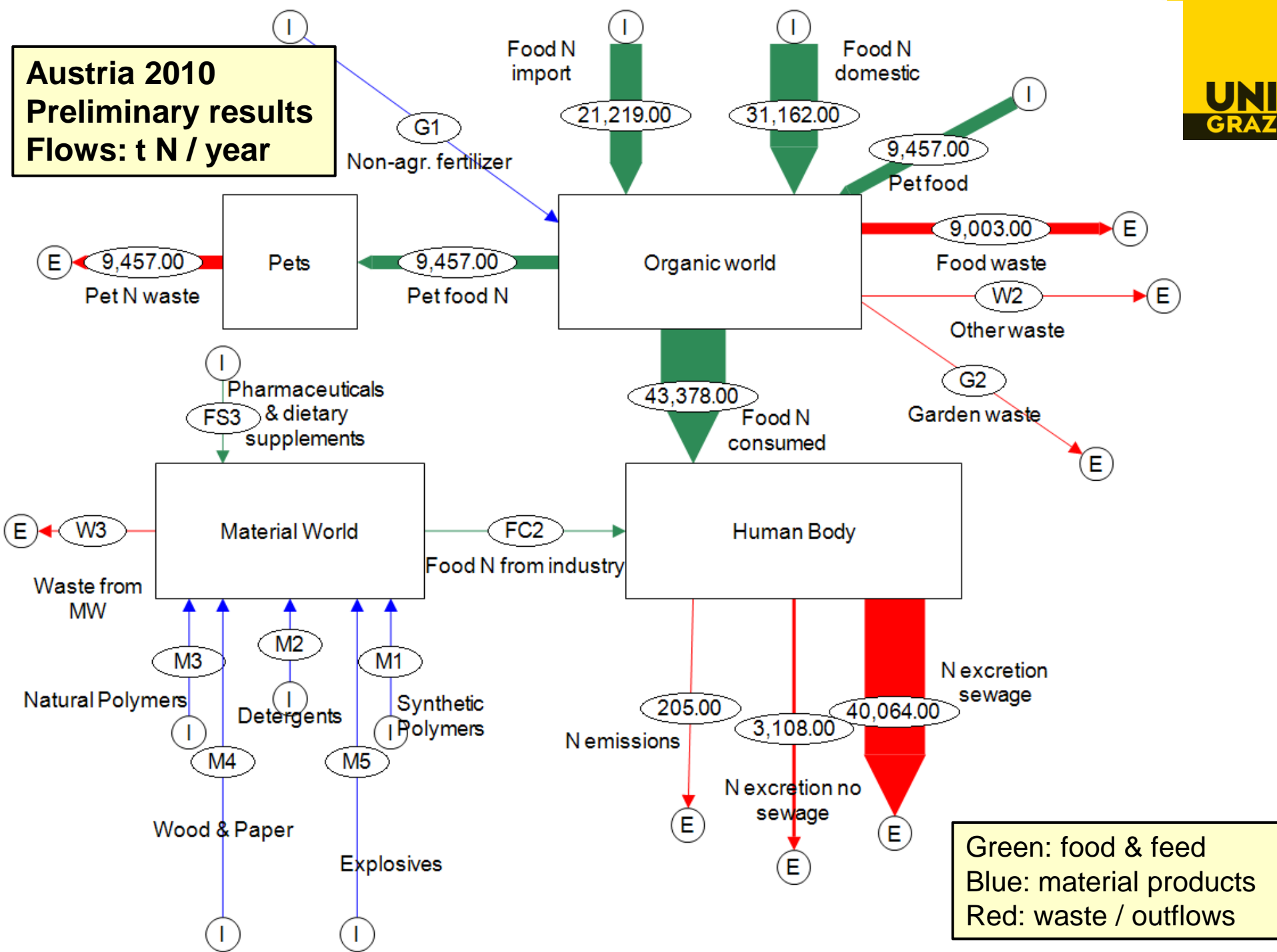
- Materials to be considered
 - Synthetic polymers for product use
 - Detergents
 - Natural polymers for product use
 - Wood & paper products
 - Explosives

Data sources – Materials

- Statistics on production & foreign trade (CPA classification)
- Assumed N contents
 - **Textiles** (synthetic fibers, cotton etc.): 0.1 % N
 - **Cellulose-based** products (furniture, paper and wood products): 0.1 % N
 - **Synthetic polymers** (plastics): ??

→ Questionable with regard to N flows

Austria 2010
Preliminary results
Flows: t N / year



Conclusion

- Achievements
 - Reasonable information on human food & pets
 - Annex document close to completion
- Challenges
 - Data sources: materials from industry
 - Uncertainty assessment
 - Coordination with other Annexes

Thank you for your attention!

- References:

- FAOSTAT database (faostat3.fao.org)
- Statistics Austria (2013). Supply balance sheets
(www.statistik.at/web_en/statistics/agriculture_and_forestry/prices_balances/supply_balance_sheets/index.html)
- Gustavsson et al. (2011). Global Food Losses and Food Waste - Extent, Causes and Prevention
(www.fao.org/docrep/014/mb060e/mb060e00.pdf)
- BMLFUW (2010). Council directive 91/271/EEC on urban waste water treatment – Austrian Report.
(www.umwelttechnik.at/fileadmin/content/Downloads/BMLFUW_Kommunale_Abwasserrichtlinie_der_EU_Lagebericht_2010.pdf)
- Sutton et al. (2000). Ammonia emissions from non-agricultural sources in the UK. Atmospheric Environment 3 (6): pp. 855-869.
- FEDIAF (2012). Facts & Figures 2012. FEDIAF - The European Pet Food Industry.
(www.fediaf.org/fileadmin/user_upload/Secretariat/facts_and_figures_2012.pdf)
- „Green Report“ Austria 2013 (www.gruenerbericht.at)