Louis Tessier, ILVO L&M
Science for Climate Action workshop
Ukkel, 8/12/2025
Belgian Climate Centre

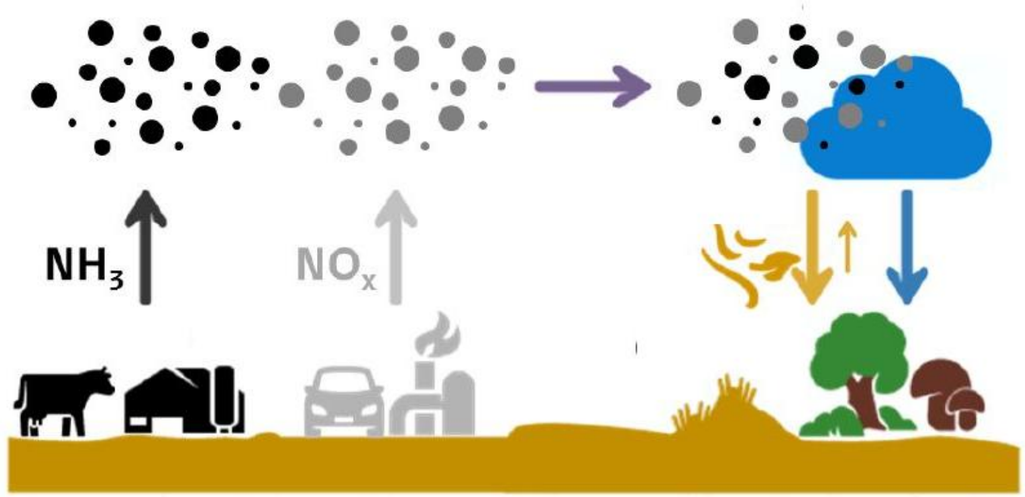
Nitrogen policy as climate policy in Flanders: from locked-up debate to livestock futures

Caught between techno-fixes and chaotic shrink instead of planning for a climate sensible agroecological future

ILVO

From birds to barns to climate

- Intensive livestock and other nitrogen-emitting activities (traffic, industry, combustion) →
- NH_3 & NOx → nitrogen deposition → habitat degradation & biodiversity loss
- NH_3 + acids → fine particulate matter ($PM_{2.5}$) → air pollution & health impacts
- N & P surpluses from manure & fertiliser → eutrophication & drinking water issues
- CH_4 & N_2O from livestock & soils → climate change



Biodiversity, health, water and climate problems partly share common roots

Compared to climate policy, EU biodiversity law (Habitats & Birds Directives / Natura 2000) gives courts much stronger, site-specific tools to enforce ecological limits.

ILVO

the entire Flemish political economy under legal scrutiny.

Political economy of Flemish agri-food & nitrogen

Dense corridor of livestock, food, feed, petro-chemicals industries, ports & logistics

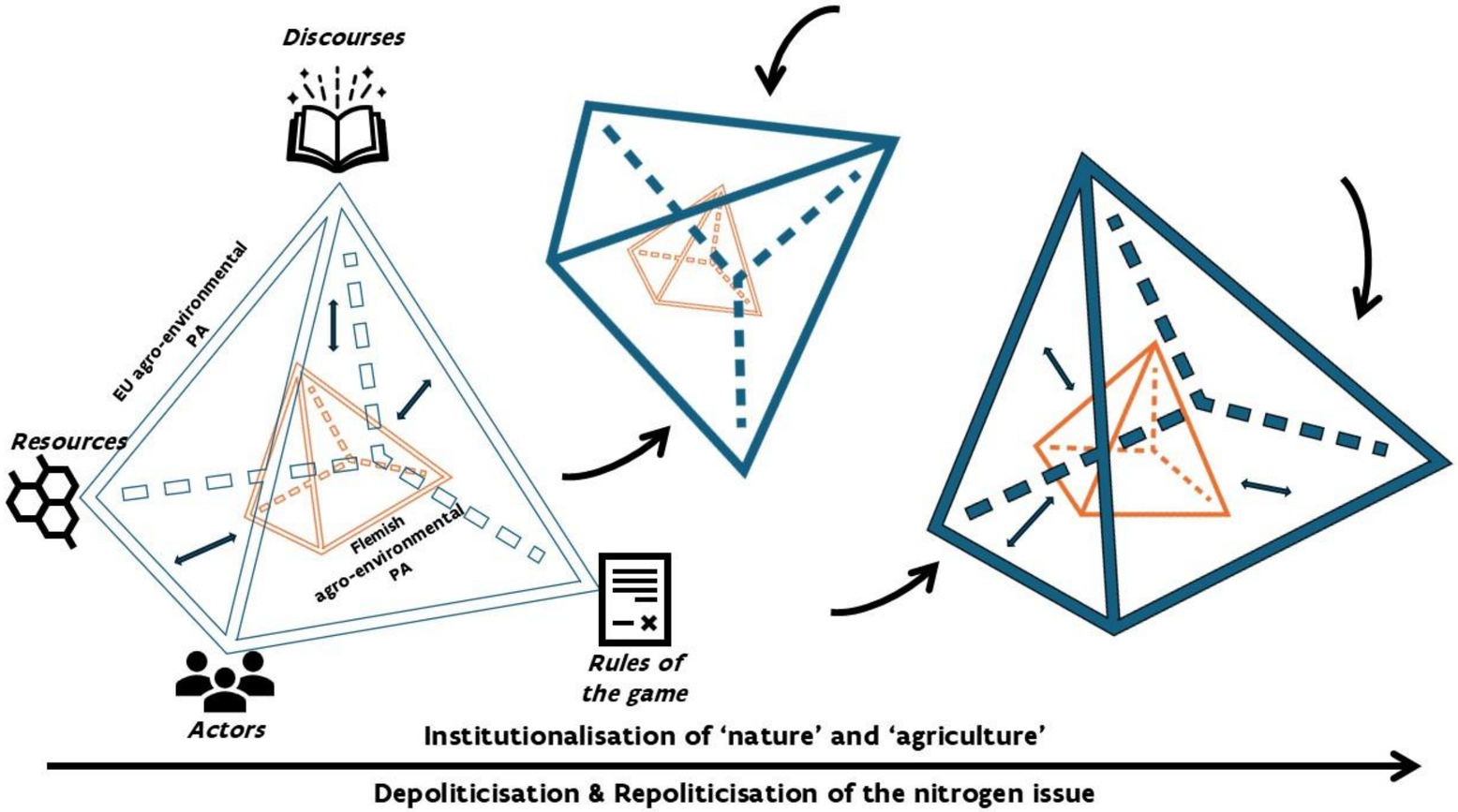
Executive-centred, particratic, neo-corporatist governance

EU Habitats Directive & Natura 2000 layered on top of this structure

ILVO

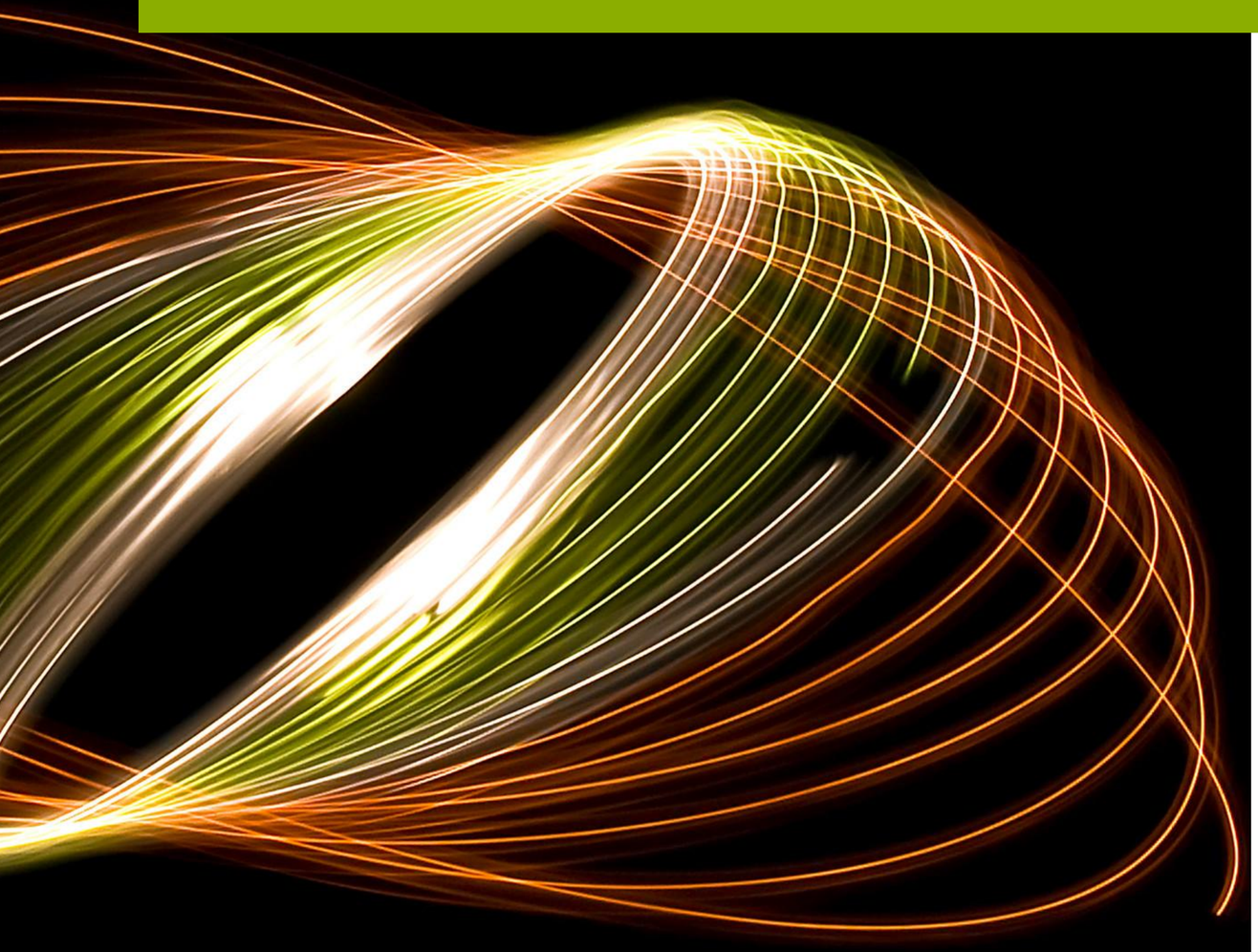
A nested Policy Arrangement Approach

- Actors · Resources · Rules · Discourses
- Nested arrangements: EU x Flanders
- Episode-based reconstruction (1990–2024)



ILVO

The nitrogen pendulum: opening and re-closure

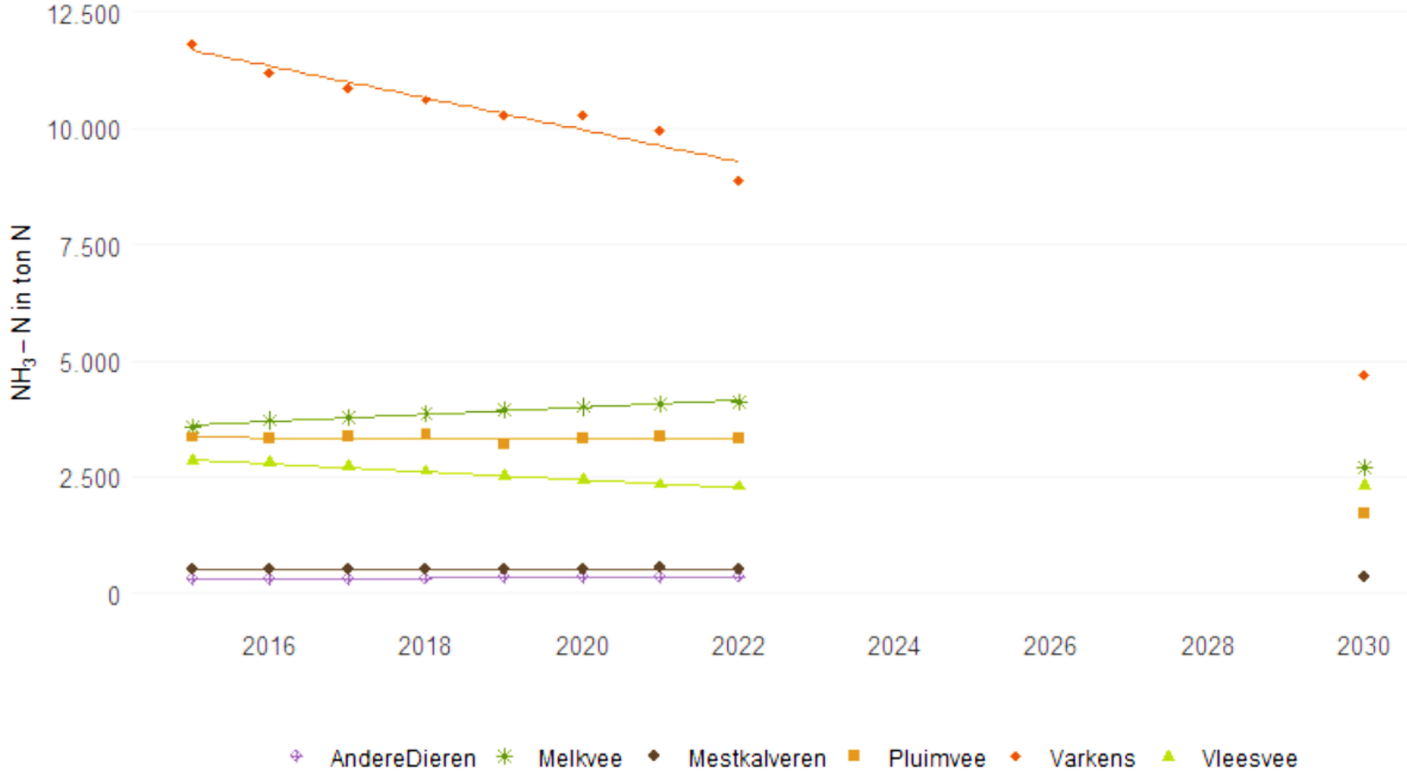


- Judicial openings:
  Courts enforce Article 6 & critical loads, expose non-compliance
- Technocratic re-closures:
  Inter-cabinet meetings, new thresholds, techno-fixes, enforced consensus
- Result:
  Nitrogen framed as technical compliance, Not as a lever for system change

ILVO

Evolution of nitrogen emissions

And their envisioned trajectory until *2030*



Departement Omgeving (2024). Voortgangsrapport PAS

ILVO

Three futures for Flemish livestock/protein systems

- Future A – Techno-fix & status quo: High livestock numbers, low-emission barns, export focus
- Future B – Managed shrink & agroecology: Fewer animals, mixed crop–livestock, feed and food legumes
- Future C – Chaotic shrink: Court-driven closures, no coherent strategy, high conflict

Future	GHG & nitrogen	Biodiversity & health	Farmers & rural areas
A – Techno-fix	Efficiency gains, but high absolute emissions	Partial relief near hotspots	On-going pressure, high capital intensity
B – Managed shrink	Significant GHG & N reductions	Better alignment with Natura 2000	Planned transition, new business models
C – Chaotic shrink	Emissions may fall, but unpredictably	Some gains, unevenly distributed	High social conflict, “losers” without support

ILVO

Where are we heading now?

- We plan for A: techno-fix & protection of production volumes
- Court rulings push us towards C: chaotic, contested shrink
- Future B – planned, agroecological transition – remains underdeveloped

Unchaining the debate: nitrogen as climate & protein-transition policy

To move towards Future B, nitrogen policy must:

- Make structural choices explicit (herd size, land use, diets, trade)
- Pair legal constraints with just, planned transition for farmers
- Support agroecological, mixed systems & local protein crops
- Open up public, farmer and citizen debate, not only expert negotiation

ILVO

Thank you!

QUESTIONS?

Contact:
louis.tessier@ilvo.Vlaanderen.be

Crivits, M., De Pue, D, Messely, L. & Tessier, L. (2025). Agriculture-nature relationships in an era of nitrogen policies: Who unchains a locked-up debate? *International Journal of Sociology of Agriculture and Food*. Vol. 31, No. 1, pp. 255-279

ILVO