



Nutrient data and flows: EU policy context

DONUTSS workshop on nutrient data monitoring to support
decision making
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N cycle: examples of data needs

Quantification of nutrient flows is key in implementing several measures of EU legislation

LIVING ORGANISMS

PLANTS

ANIMALS

HUMANS



Cattle

Waste production

Excretion figures

MATTER
gi, worms
osition

Soil
NO₃⁻

Application standards
Fertilisation plans
Closed periods...

Storage capacity,
Respect of N limit,
Manure management...

Crop needs

(nitrites) NO₂⁻

Precipitation

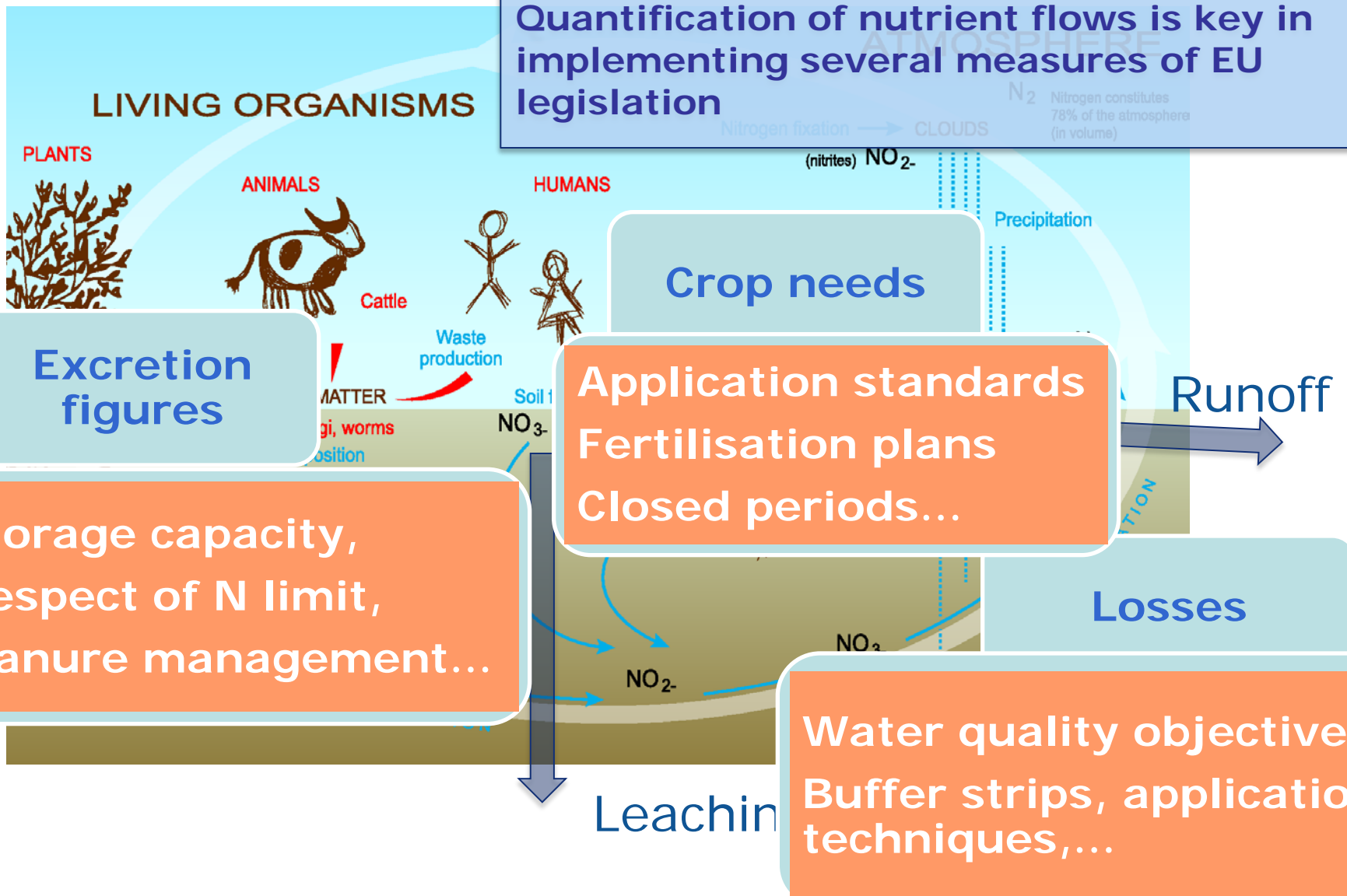
Runoff

Losses

Leaching

Water quality objectives
Buffer strips, application techniques,...

ATMOSPHERE
Nitrogen fixation → CLOUDS
N₂ Nitrogen constitutes 78% of the atmosphere (in volume)



Application of livestock manure: examples

Excretion figures

- Animal category
- Housing systems, grazing time
- Production levels

Manure application

- N losses during application cannot be discounted

Concrete and detailed examples exist in case law; the Court of Justice always considers the most recent scientific evidence

Nitrates Directive action programmes

- **Periods** when fertilizer application is prohibited
- Capacity and construction of **storage** facilities for livestock manure
- **Limitation** of land application of fertilizer
- Limit of **170 Kg N/ha/year** from livestock manure
- Land application on **water-saturated, flooded, frozen or snow-covered** ground
- Buffer strips near **water courses**
- Application of fertilizer on steeply sloping ground
- Procedures for land application

Quantification of nutrient flows is key for defining and implementing all measures

Water legislation relevant to nutrients

Water Framework Directive (2000/60/EC)

- **'Framework Directive'** bringing together EU water policies
- **Aim:** Achieve good status of EU waters by means of integrated RBM
- **Instrument:** RBMP and Programme of Measures → integrated approach based on identified pressures

Urban Waste Water Treatment Directive (91/271/EEC)

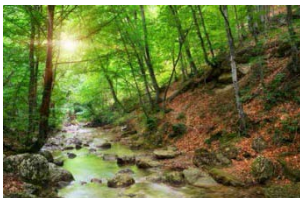
- **Aim:** Protect environment from the adverse effects of waste water discharges
- **Instrument:** Establishment of proper collection systems for waste water; Ensure appropriate treatment of collected waste water; Ensure reinforced treatment in areas sensitive to eutrophication

Marine Strategy Framework Directive (2008/56/EC)

- **Aim:** Achieve Good Environmental Status (GES) for marine waters by 2020 by means of coherent approaches across sea basins
- **Instrument:** Marine strategies and programmes of measures based on identified pressures

Nitrates Directive (91/676/EEC)

- **Aim:** Reduce water pollution caused by nitrates from agricultural sources and prevent further such pollution
- **Instrument:** Codes of Good Agricultural Practices, designation of vulnerable areas, Action Programmes



Implementation of policies → Diversity of approaches → need for scientific basis

Other relevant legislation

Overall impact of intensive livestock rearing:

- Prevention and control of industrial emissions: Directive on industrial emissions 2010/75/EU (IED)/IPPC (pig and poultry)

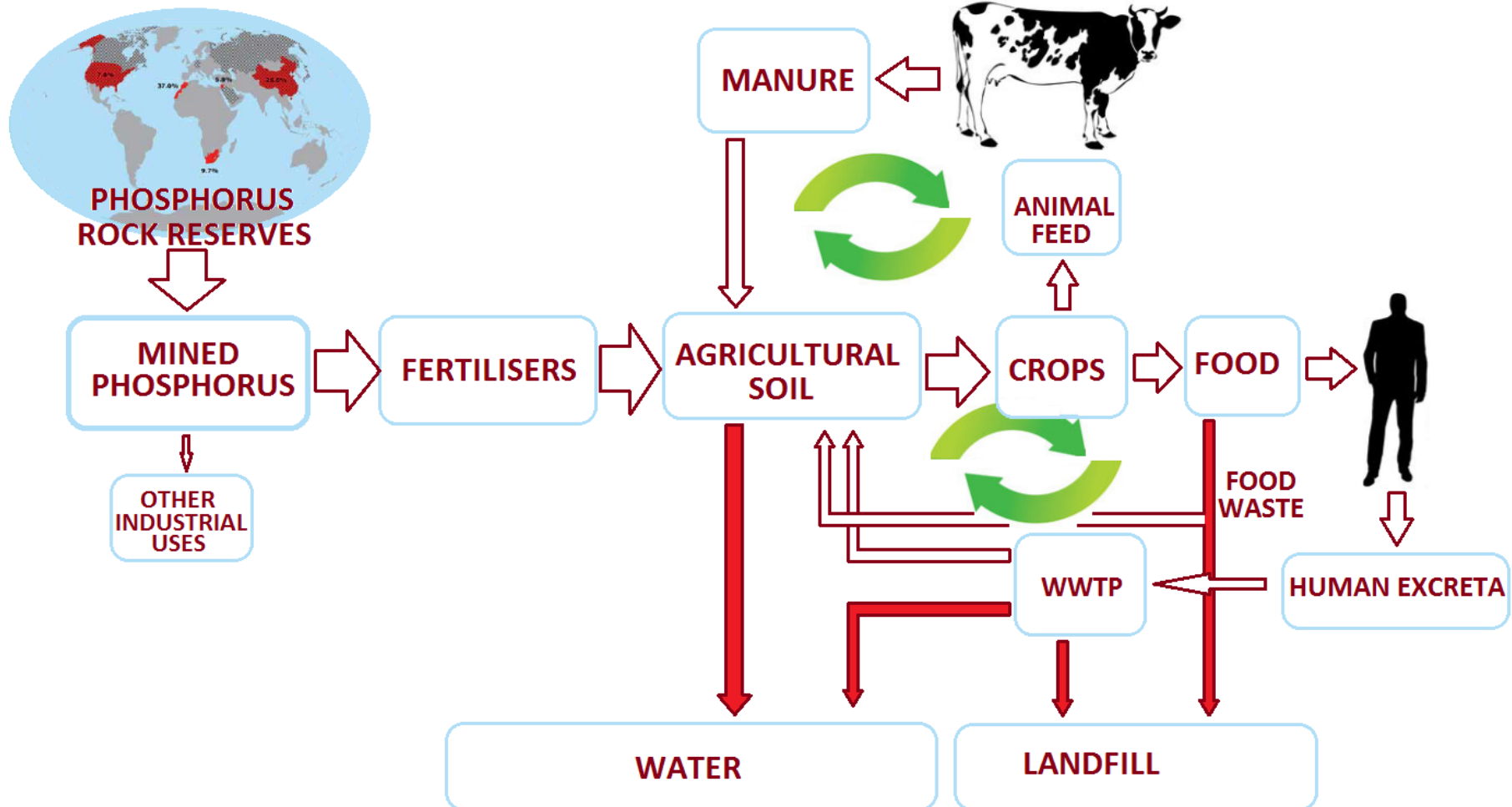
Air emission from livestock manure:

- National emission ceilings in place for 2010 in the NEC Directive (2001/81/EC) (now under revision)
- Air Quality Directive (2008/50/EC) (PM)

Rules for placing livestock manure and/or processed products on the market:

- The Animal By-products Regulation (1069/2009/EU) supplemented with Regulation (142/2011/EU)
- Fertilizers regulation

The Phosphorus Cycle



"Consultative communication on the sustainable use of phosphorus"

- Published in 2013 (COM(2013)517) to launch an EU wide debate on the sustainability of the phosphorus cycle
- The consultation identified the closure of the cycle as an opportunity for the environment and economy
- Among the key messages of the replies (SWD(2014)263):

"Need to improve knowledge base on worldwide supply and demand and phosphorus use efficiency"

- *More knowledge base is needed, from different sources, on more geographical areas*
- *The information needs to be more transparent and reliable*
- *Harmonizing definitions, adopt a common language*

Conclusions

- Quantifying nutrient flows important for nutrient policy development and implementation
- A scientific basis is necessary for several policy areas: agriculture, food, environment, fertilizer market, etc. as regards both availability and efficient use of nutrients
- Figures do not remain theoretical, but have a direct influence on farm management → importance of a solid science basis



Thank you for your attention

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