

Potential of AD as a producer of renewable energy and fertilisers

*Systemic workshop,
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European Biogas Association (EBA)

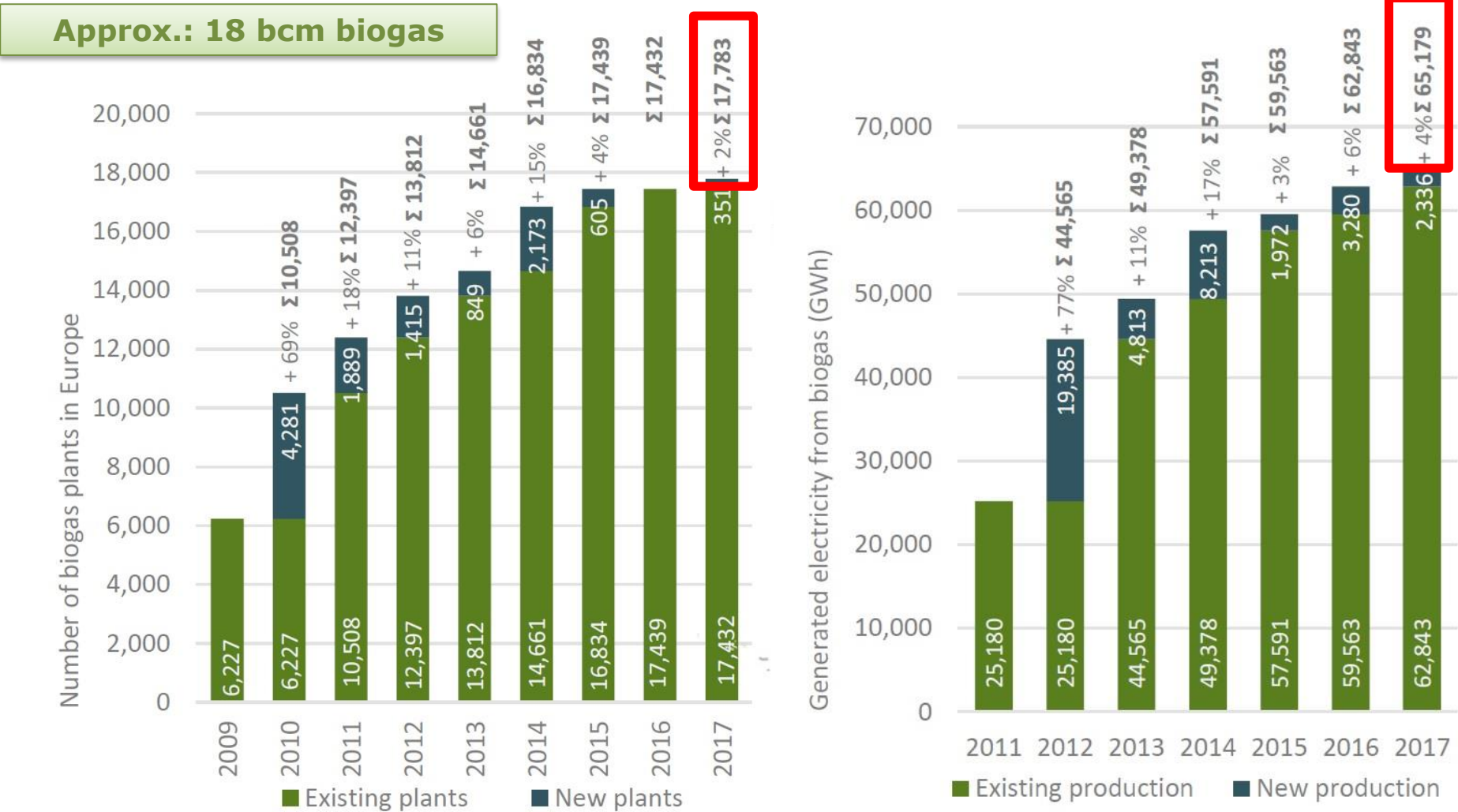
- **Non-profit organisation** founded in 2009
- Covers biogas and biomethane from **anaerobic digestion** and biomass **gasification**
- Well-established **network and communication platform** for exchanging information and expertise on biogas and biomethane
- **30 countries**
- **38 National Organisations**
- **78 Companies**
- **7,000 stakeholders**



Anaerobic digestion as a producer of renewable energy

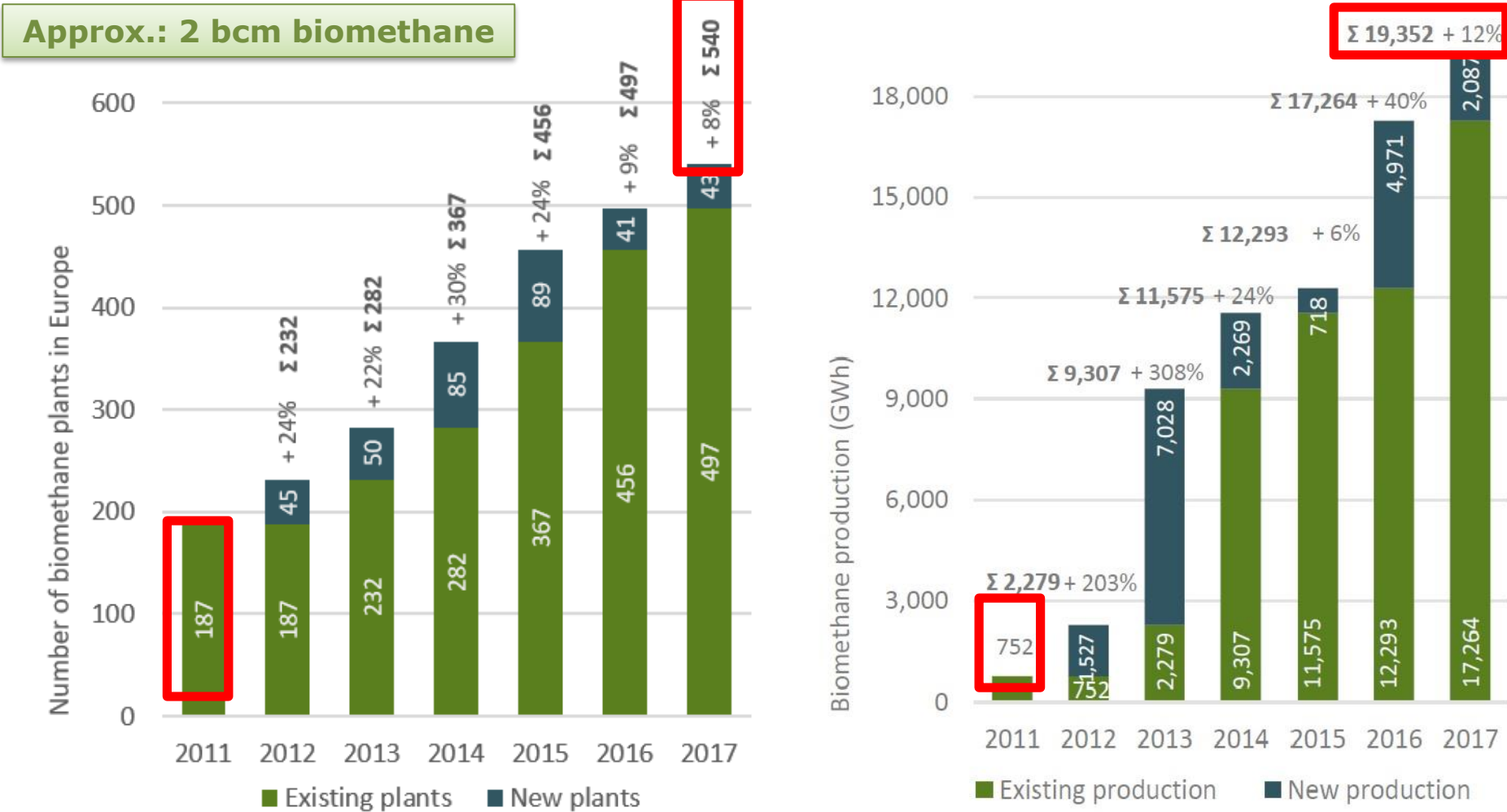
Development of biogas in Europe

Development of the number of biogas plants in Europe (left), total electricity production from biogas in Europe (right)

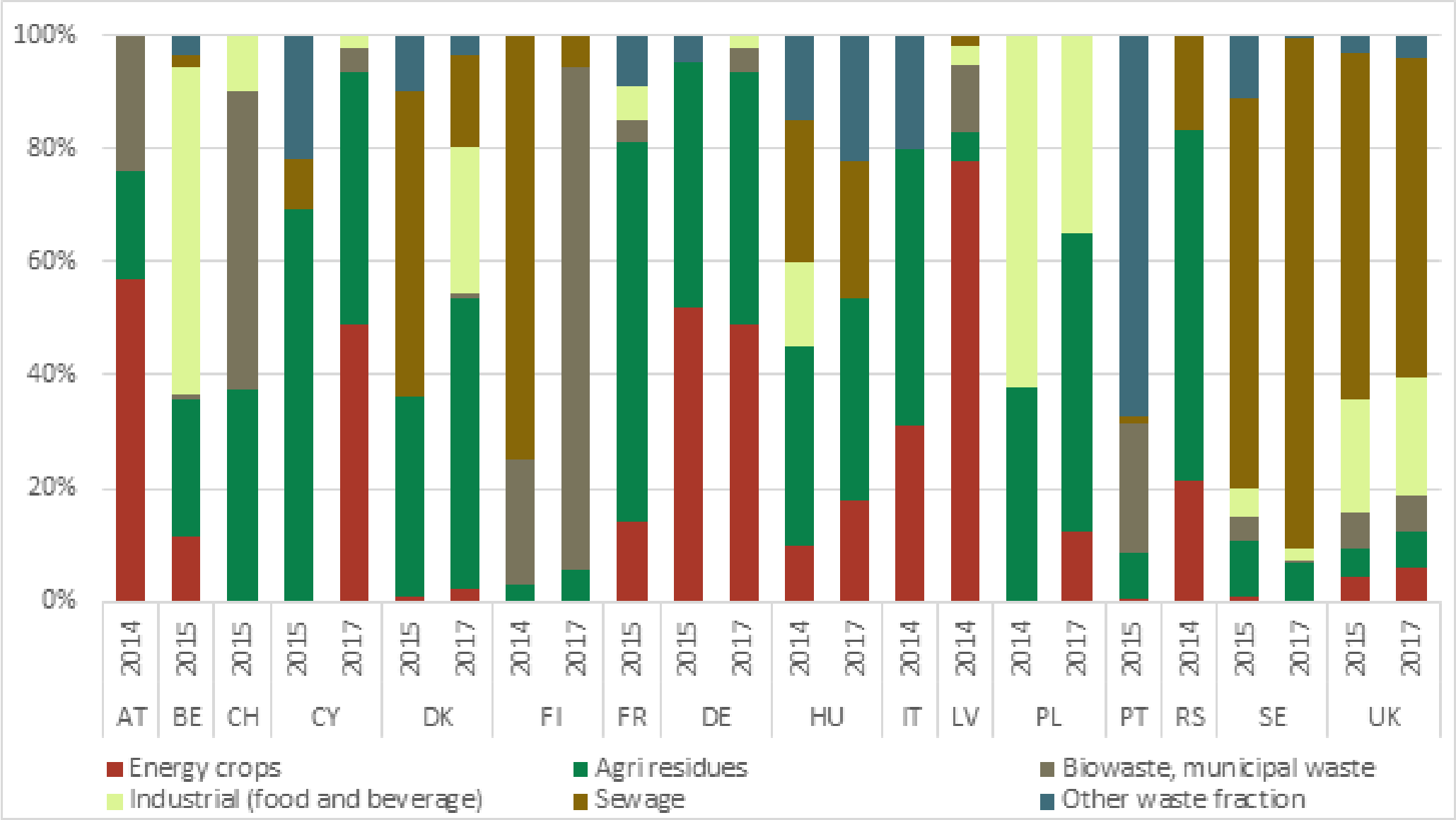


Development of biomethane in Europe

Development of the number of biomethane plants in Europe (left), development of European biomethane production in GWh (right)

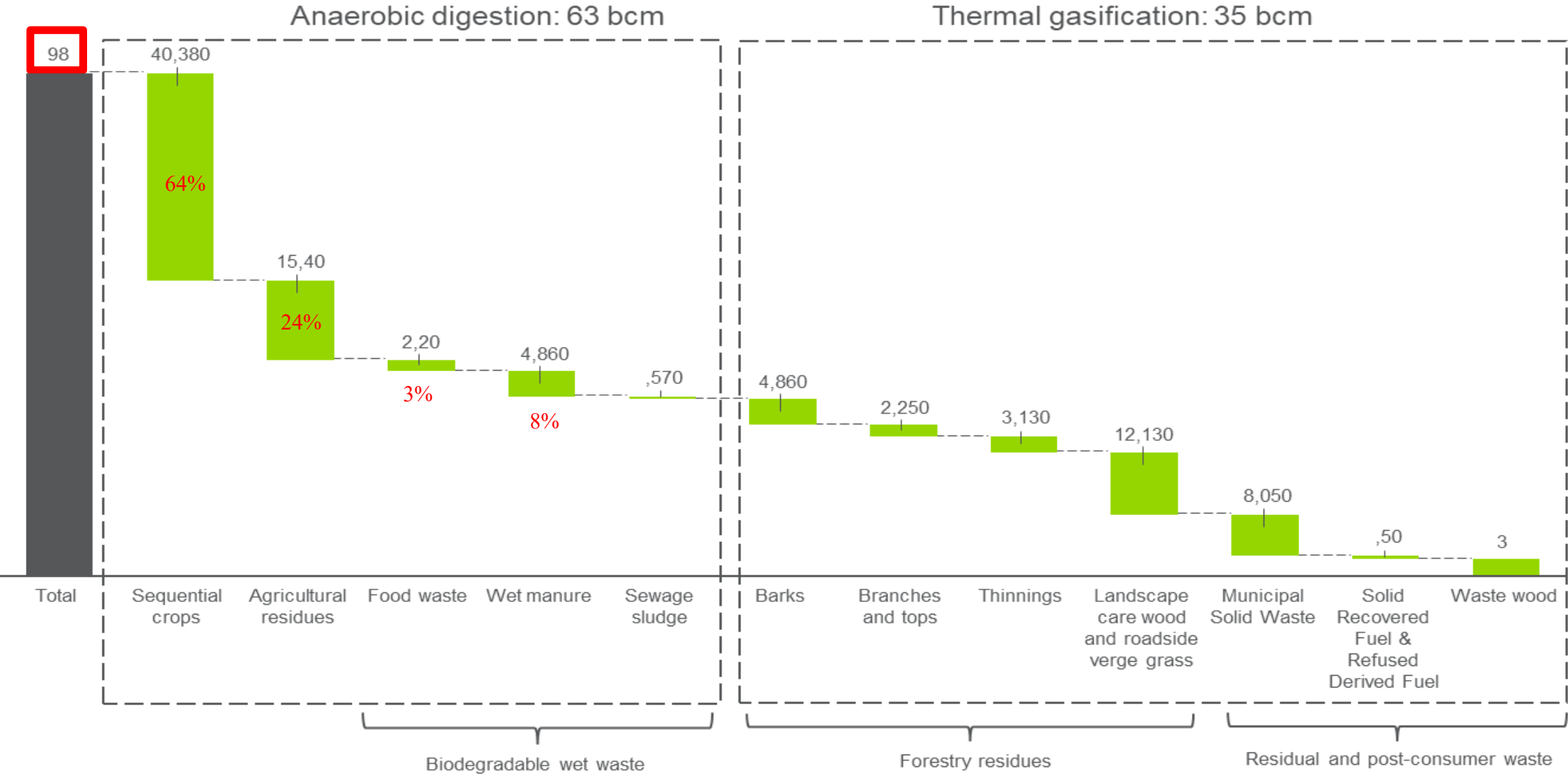


Feedstock use for biogas production in Europe (excludes landfilling)



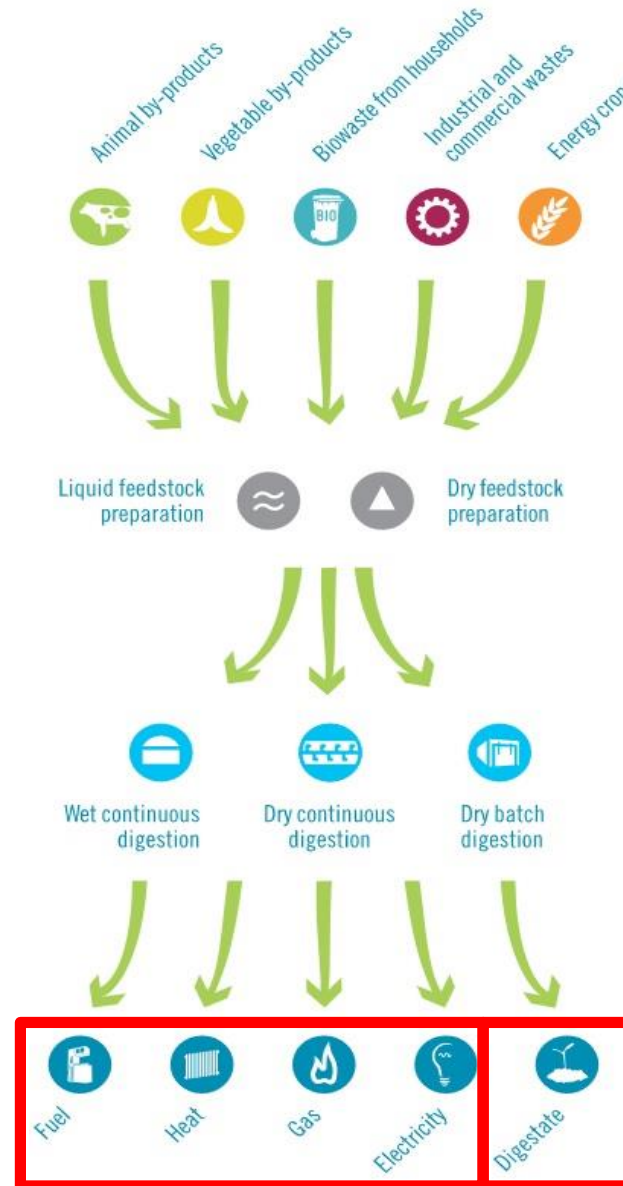
Source: EBA 2018. "Statistical Report of the European Biogas Association 2018." Brussels, Belgium, December 2018.

Biomethane potential per conversion technology and feedstock type by 2050

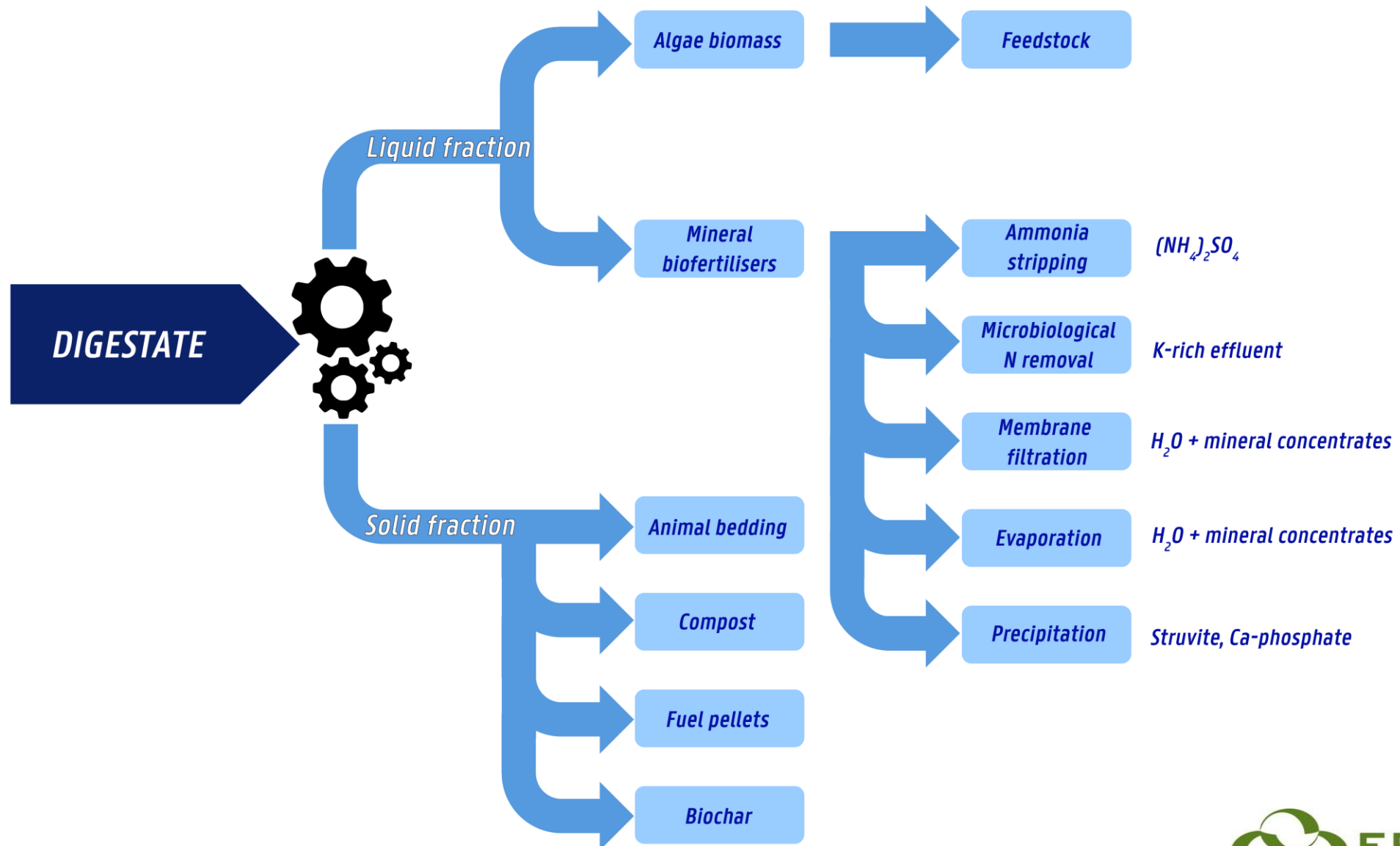


Anaerobic digestion as a producer of **fertilisers**

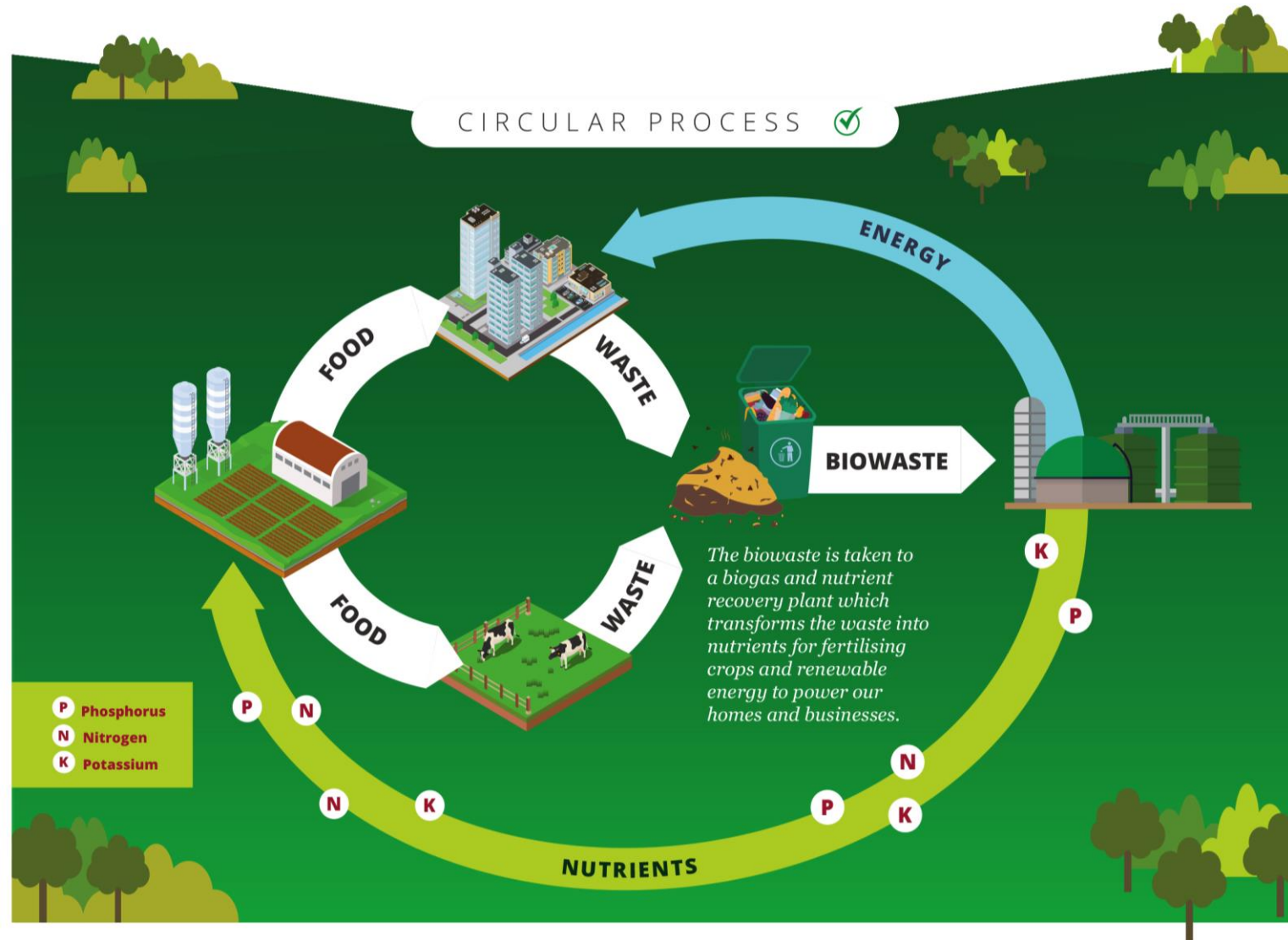
Efficient valorisation of the whole biogas production process



Digestate as a resource for mineral nutrients and organic fertilisers



Digestate in the Circular Economy



Find out more at
systemicproject.eu


@systemic_eu

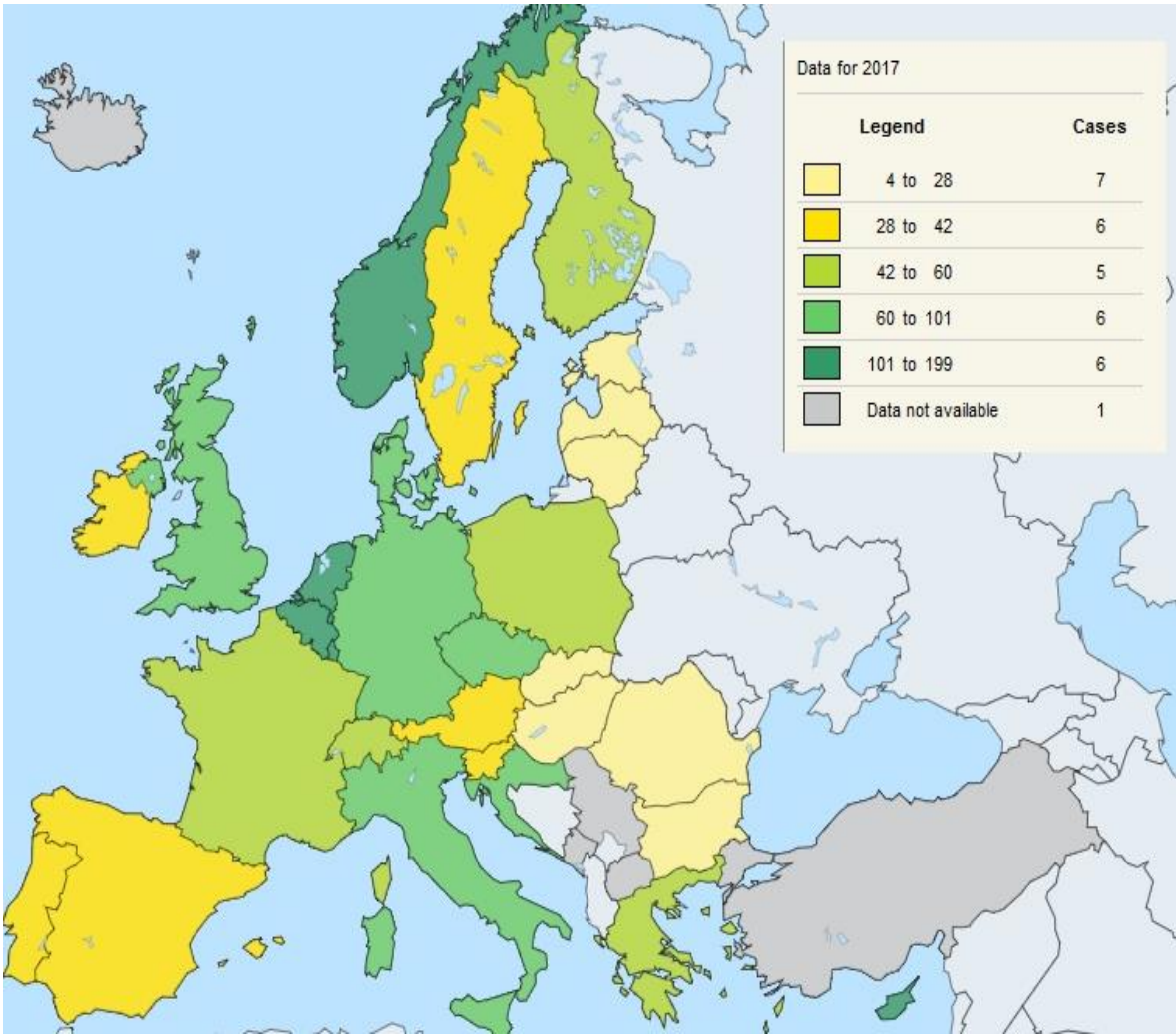


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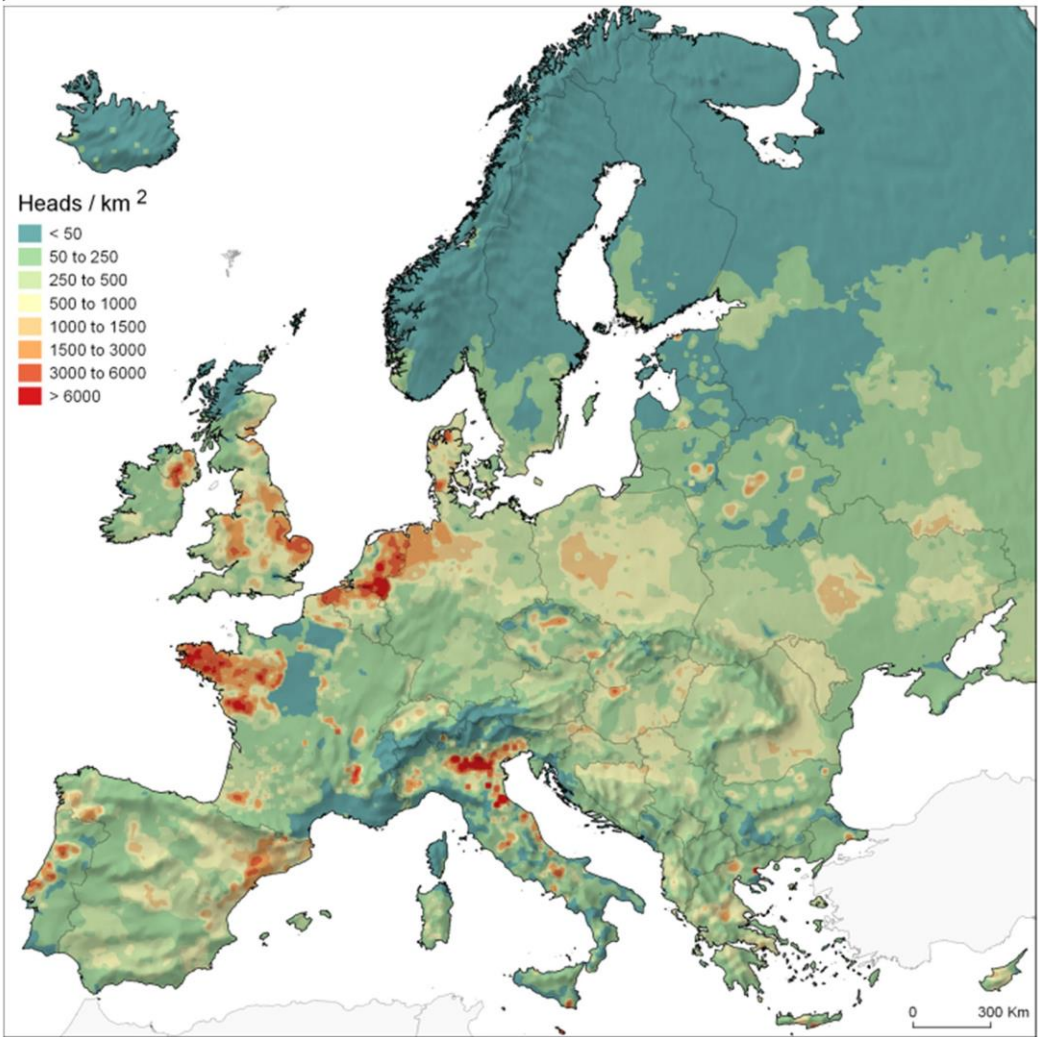


Nutrient recovery: a useful tool in areas with surplus nitrogen

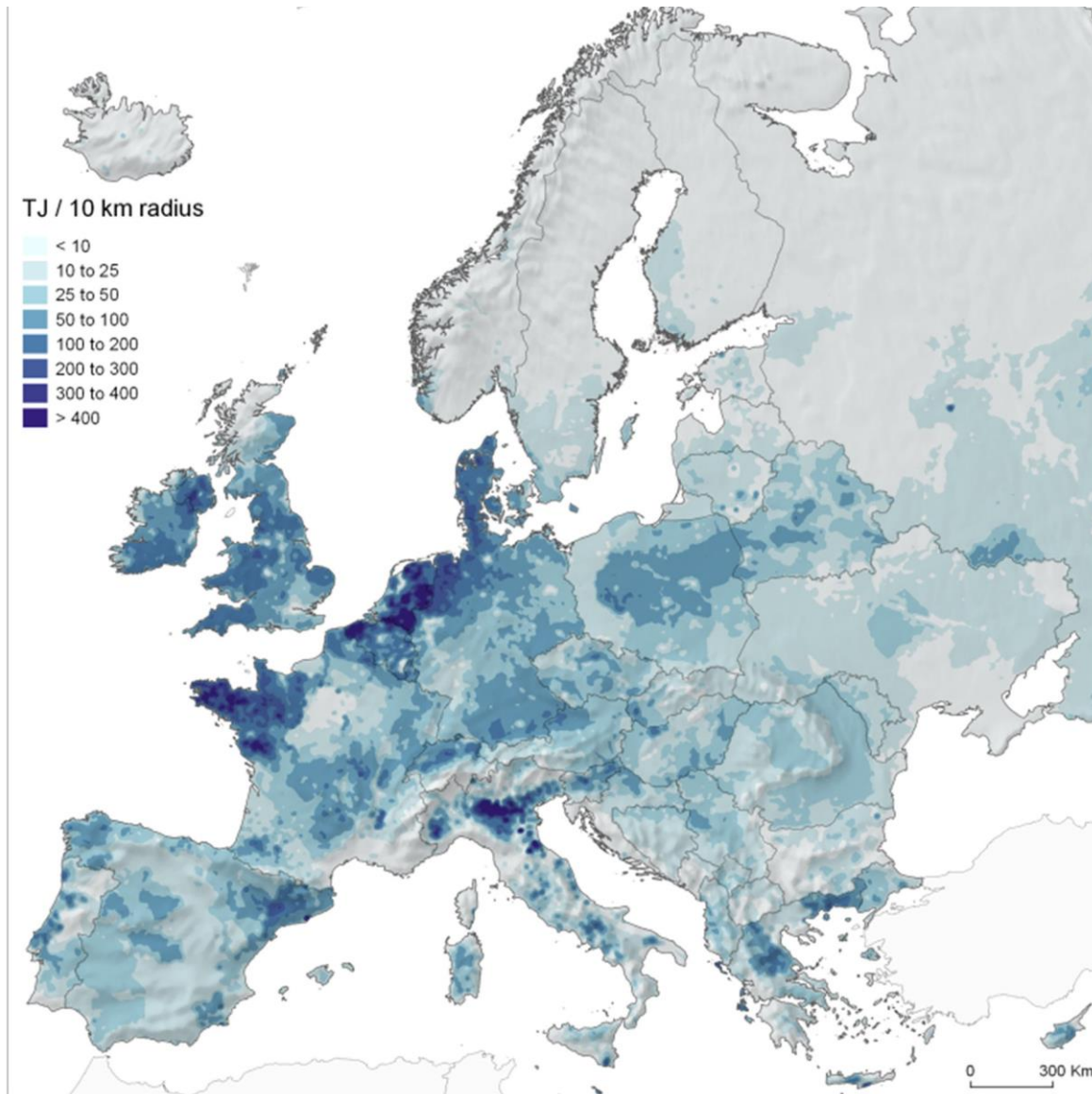
Gross nutrient balance on agricultural land (N kg/ha) (Eurostat, 2017)



Spatial distribution of livestock and poultry (heads/km²) (JRC, 2018)



Biogas potential from manure in Europe (JRC, 2018)



- ~ 1,900,000 thousand heads livestock (cattle, pigs, sheep/goats) and poultry
- ~ 1,200 million T fresh manure/year → 860.7 million tonnes collectable
- ~ 16 (realistic) to 23 (potential) bcm biogas

- **Agronomic efficiency** of digestate:
 - Higher content of plant-available N
 - Inactivation of germinable weed seeds and various pathogens
- **GHG savings:**
 - Digestion manure
 - Reducing mineral N fertilisers
 - Renewable energy (displaces the use of fossil fuels)
- **C sequestration** (4 pour 1000)  
- Adequate **legal framework** (Fertiliser regulation, SafeManure, REACH)

Thank you

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