



Sludge management: the wastewater sector's contribution to a circular economy

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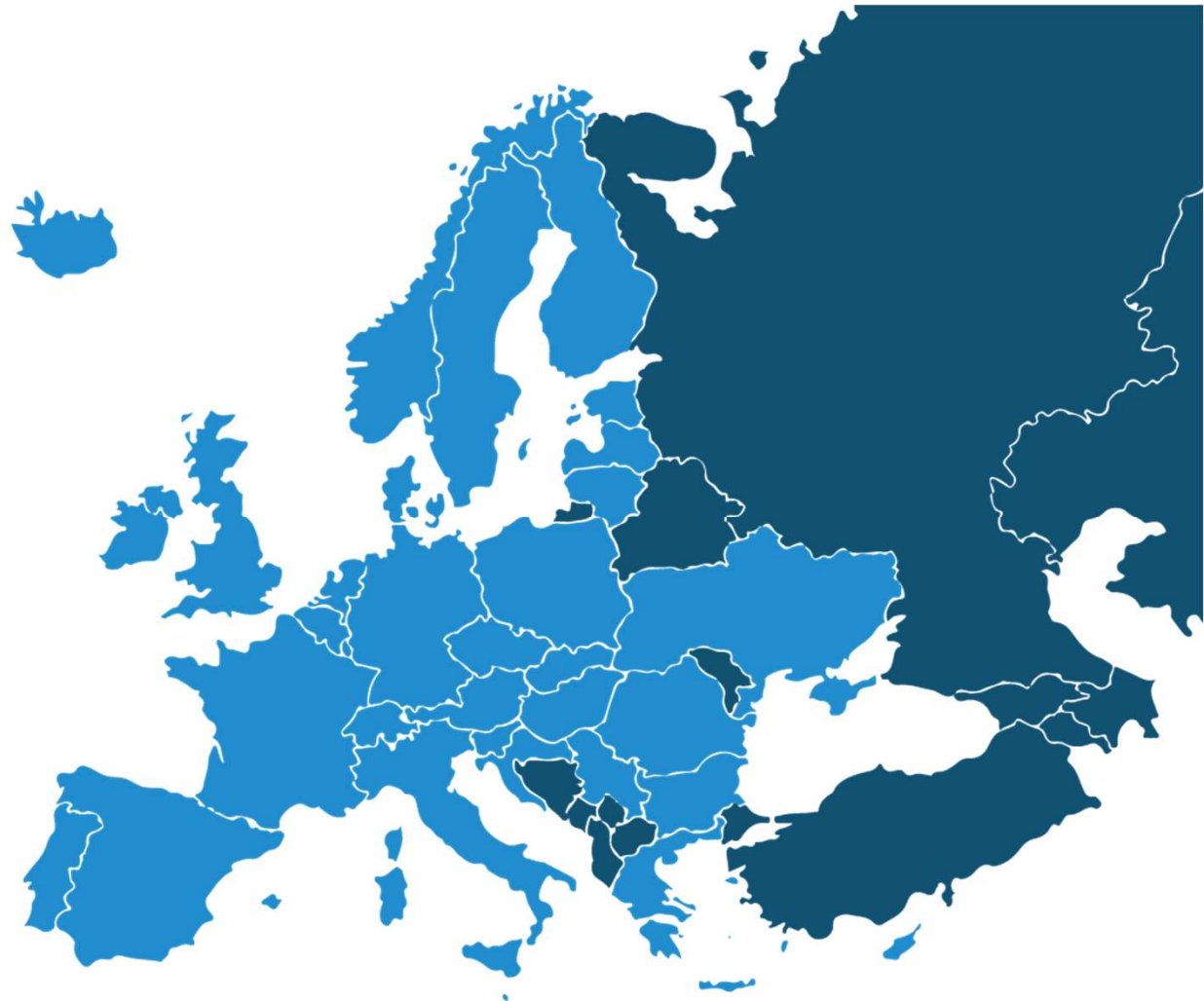
1. EurEau
2. Wastewater sector contribution to a circular economy
3. Current sludge management practices
4. Legislative framework
5. Challenges & strategic solutions to unlock the potential of sludge to contribute to a circular economy
6. Key messages

1. EurEau - European Federation of National Associations of Water Services



38 national associations of **drinking and wastewater operators** (public and private sector)

33 European countries



2. Wastewater sector contribution to circular economy



What the wastewater sector can offer

Water reuse

Renewable energy generation

Resource and nutrient recovery

Extraction

Soil improver

EU level impacts

Competitiveness

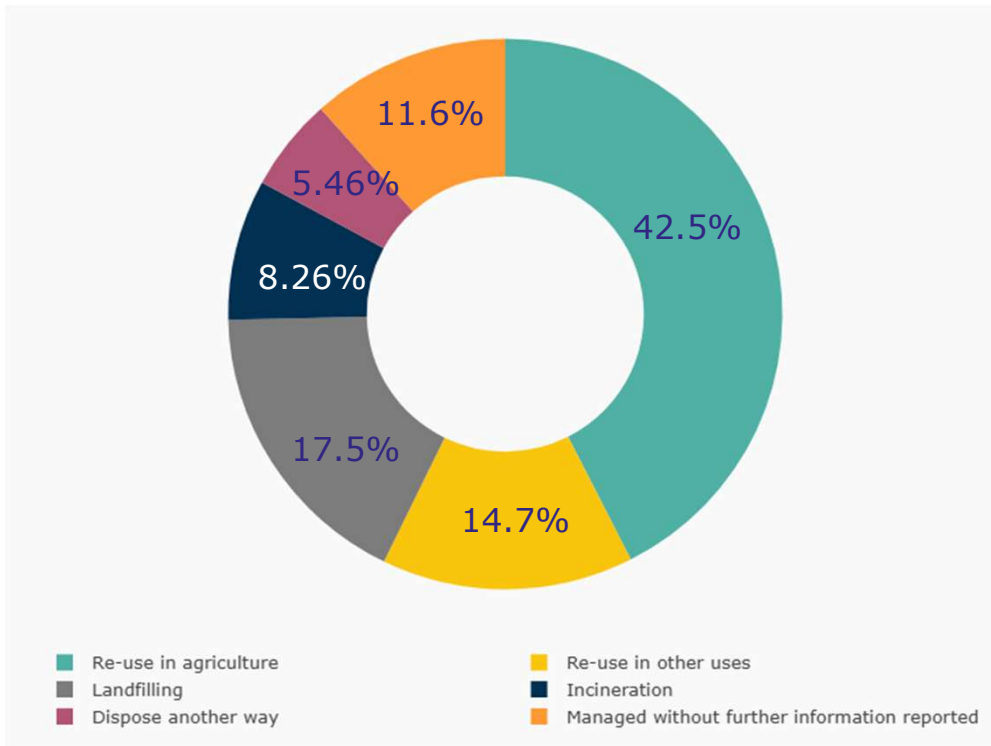
Autonomy

Water resilience

Climate mitigation and adaptation

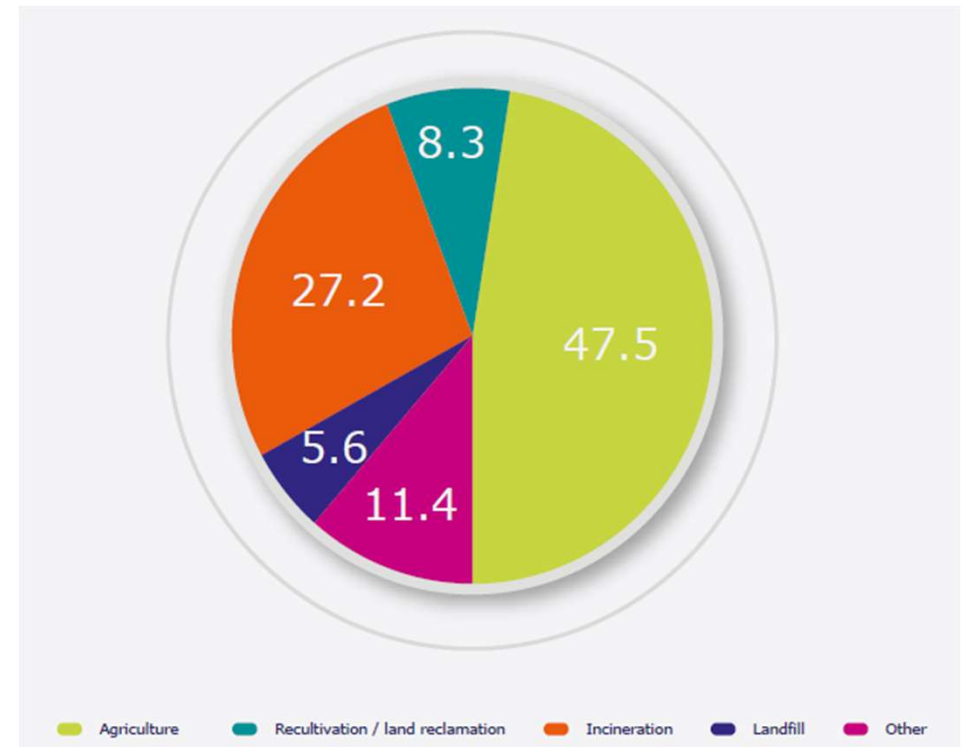
3. Current sludge management practices (I)

Proportion of wastewater sludge generated from UWWTPs reused or disposed



Source: EEA (2024) [UWWT Figure 6 NEW](#)

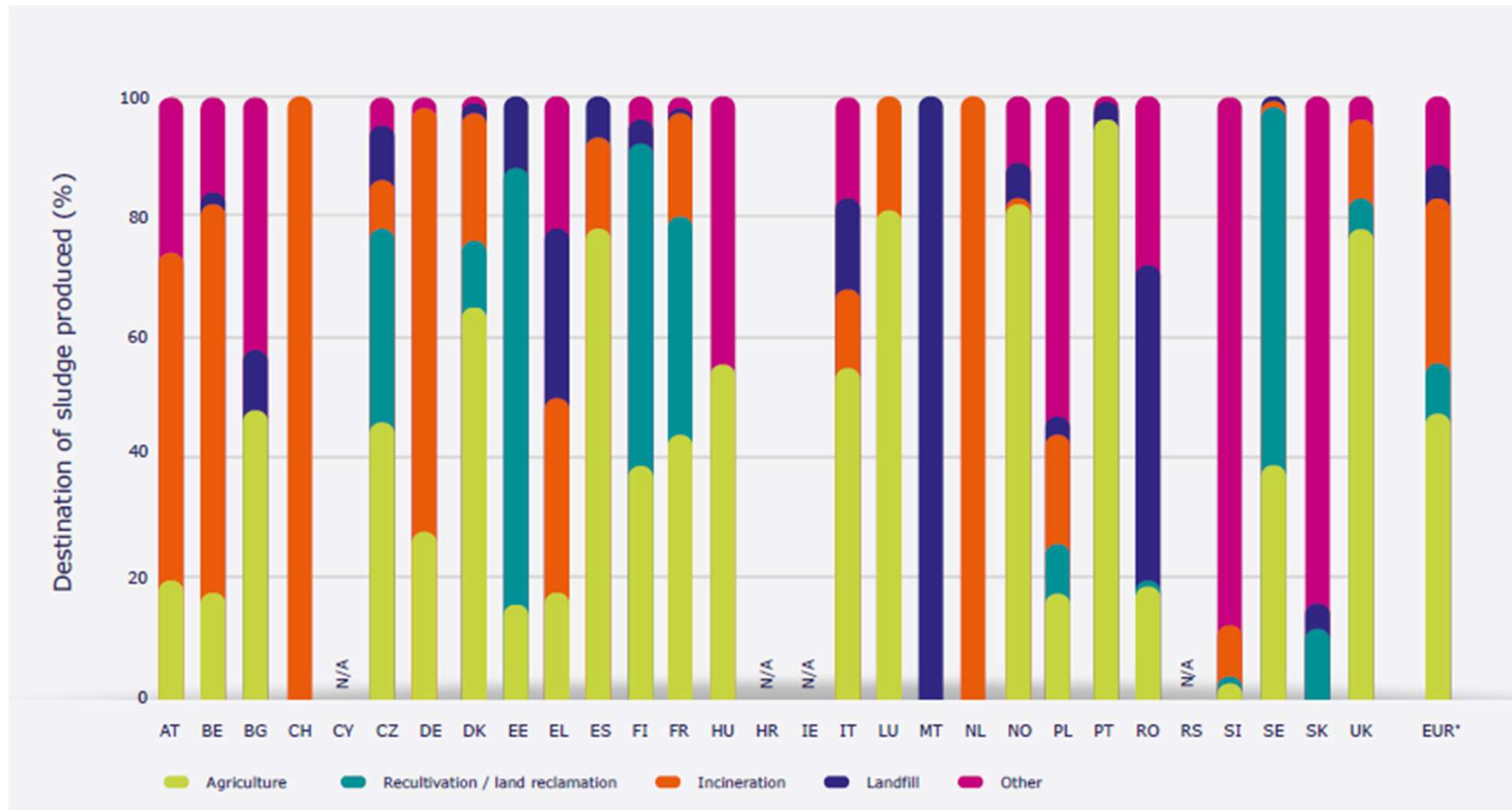
Destination of sewage sludge production in EurEau member countries (based on responses, no extrapolation) (8.7 Million tonnes DS/y)



Source: EurEau (2021) [Europe's Water in Figures](#)

3. Current sludge management practices (II)

Destination of sewage sludge production



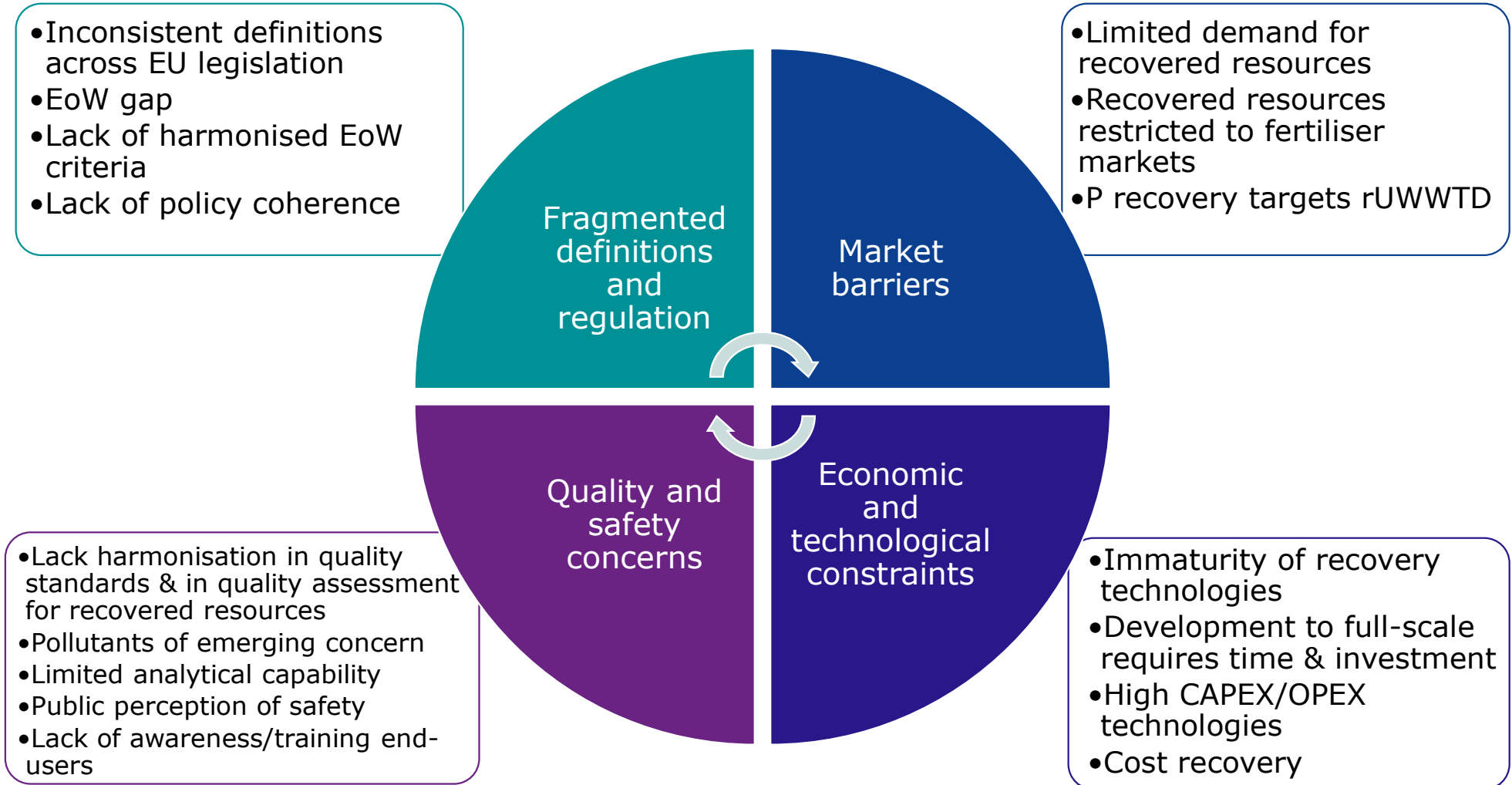
Source: EurEau (2021) [Europe's Water in Figures](#)



4. Legislative framework

Urban Waste Water Treatment Directive (91/271/EEC)	Recast Urban Waste Water Treatment Directive (EU 2024/3019)	Sewage Sludge Directive (86/278/EEC)
Circular Economy Act (proposal expected Q4 2026)	Waste Framework Directive (2008/98/EC)	Fertilising Products Regulation (2019/1009 – under evaluation)
Industrial Emissions Directive (EU 2024/1785)	Renewable Energy Directive (EU 2023/2413)	Health Soil Monitoring Directive (final approval still needed)

5. Challenges



5. Strategic solutions and recommendations (I)

Regulatory clarity and harmonisation



- Consider resources recovered from sludge as strategic EU resources
- Broaden & accelerate EoW & CMC criteria application to sludge-derived resources
- Homologation approaches to reduce costs while ensuring quality

Market creation and demand pull



- Compulsory blend ratios of recovered nutrients in fertilisers
- Subsidies/incentives for recovered raw materials
- Enable wider use of recovered nutrients beyond fertilisers
- EU-wide EoW and quality criteria
- Improve & facilitate approval processes for recovered resources
- Harmonise minimum P recovery rates rUWWTD

Holistic sludge management



- Acknowledge different possibilities in valorisation of sludge
- Address entire sludge cycle
- Ensure quality of sludge and recovered resources
- Prioritise & mainstream control at source
- New business partnerships & supply-consumption-chains

5. Strategic solutions and recommendations (II)

Policy coherence and integration



- Align and modernise legislation to ensure coherence
- Control at source
- Revive the Integrated Nutrient Management Action Plan
- Ensure soil monitoring aligns with EU soil health goals
- Guarantee synergies of resources recovery with climate policies
- Consider synergies with co-treatment of other organic waste streams
- Promote public procurement as a policy tool

Support for innovation and financing



- Subsidies, financial support & incentives
- Develop innovative financing schemes to share societal benefits
- Strengthen R&D financing & collaboration across public, private, and academic sectors
- Fund scale-up of promising technologies
- Better understand what form of recovered resources users/market want to drive investments
- Reward prevention at source and introduce producer responsibility

Building trust and awareness



- Ensure quality of products and processes
- Set standards & a standardised quality assessment
- Control at source
- Conduct awareness campaigns
- Provide training to end-users



6. Some take away ideas

- Address circular economy from a holistic approach (technology, regulation & governance) & recognising different realities
- Recognise recovered resources as EU strategic resource
- Mainstream policy coherence
- Create the market for recovered resources
- Control at source key to ensure quality of recovered resources

Thank you

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