



EUSDR PA4-5-6

Marton Pesel PA4 coordinator

Danube Water Forum

May 20-22, 2026, Sofia

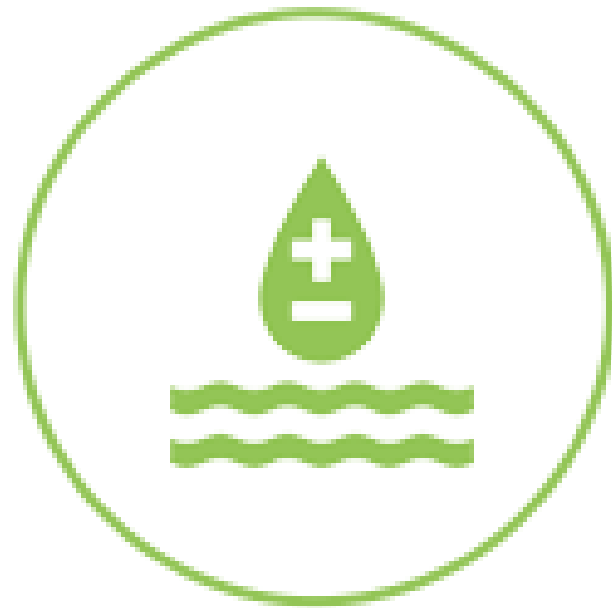
Interreg Programme

Danube Region

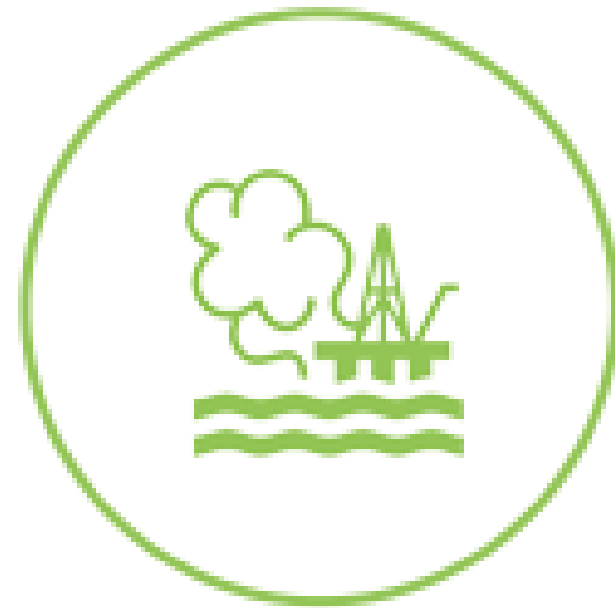


**Co-funded by
the European Union**

EU Strategy for the Danube Region



PA4
Water Quality



PA5
Environmental Risks



PA6
Biodiversity,
Landscapes and Air &
Soil Quality

Pillar "B"

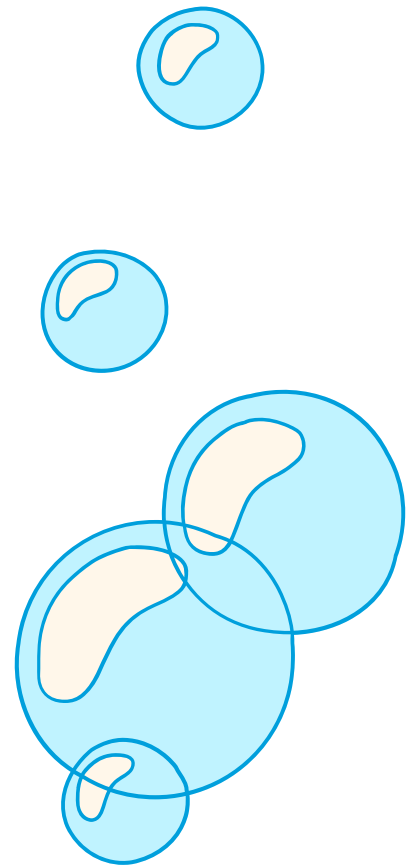
PA4 Sewage sludge study

- Study on the “Opportunities of sewage sludge utilisation in the Danube Region” developed in 2024
- Study update in 2025
- Relevant activities study:

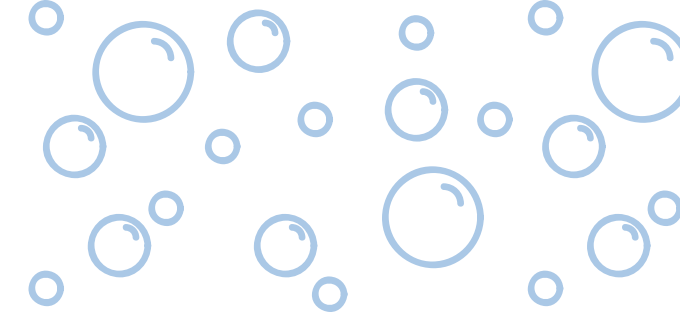
- study conducted on sludge management in 2020 (EUSDR PA4)
- workshop on sludge management in 2021 (EUSDR PA4)
- community level initiatives and plans for the revision of the Waste Water and the Sewage Sludge Directives and the existing policies on the management of sludge as a source of energy and nutrients

Highlights of the study

- **Recent trends of sewage sludge management in the EUSDR countries (analyses of data)**
 - Discussion on recent policy developments
 - Presentation of case studies / good practices – pros and cons
 - Assessment of the state of play through a stakeholder survey within the EUSDR
- **Final conclusions**



Trends in sludge management within the EUSDR (Eurostat)



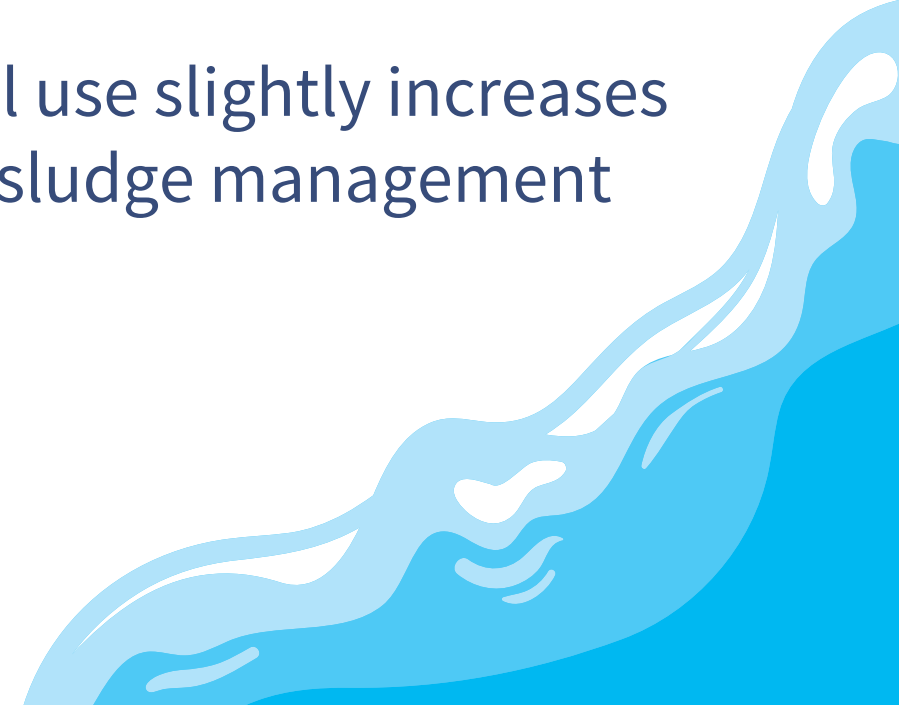
- **Data issues**

- The management gap
- No data on export – import
- No data for Moldova, Montenegro and Ukraine
- The detailedness of data is weak
- Missing data on the use of the processed sludge products

- **No trend showing increase in sludge quantity**

- **Trends in the modes of recovery:**

- Landfilling strongly decreases
- Direct agricultural use strongly decreases
- The relevance of incineration greatly increases
- The production of compost and other related products for agricultural/horticultural use slightly increases
- Countries differ greatly in the applied technologies – the historical development of sludge management



Stakeholder survey

Themes

- National and community level policies and legislation
- Technologies
- Management

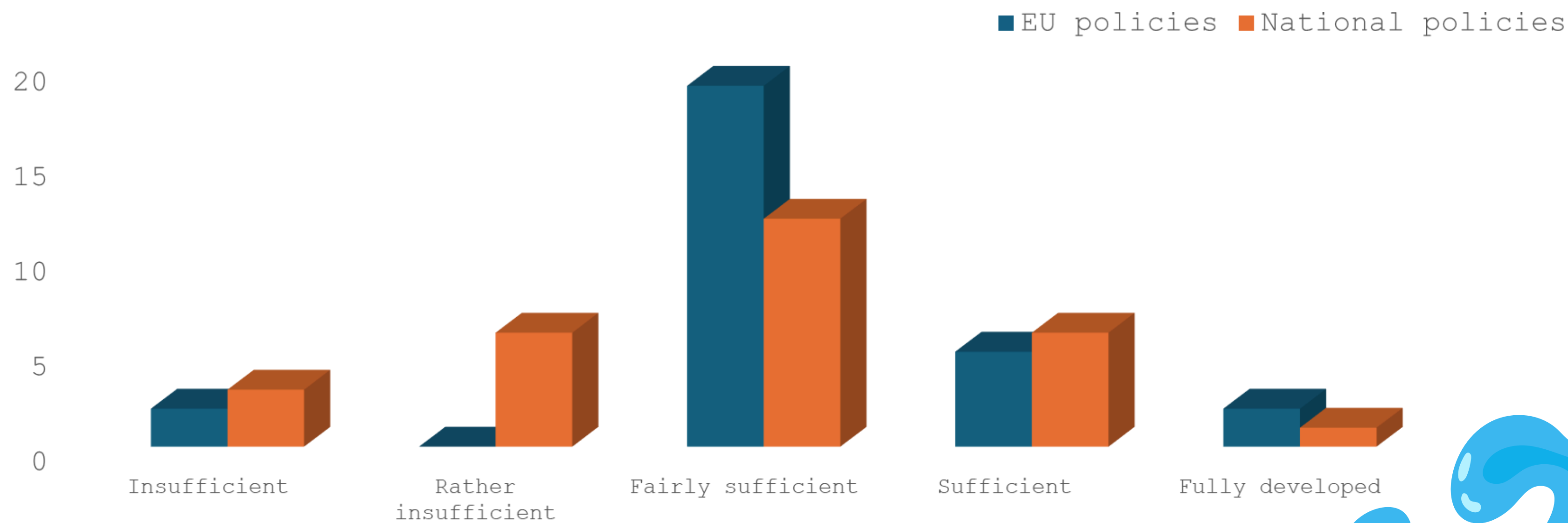
Representativeness

- Request published on various forums (EUSDR, ICPDR, national water management bodies)
- 29 responses, representing 6 countries and EUSDR / EU partners



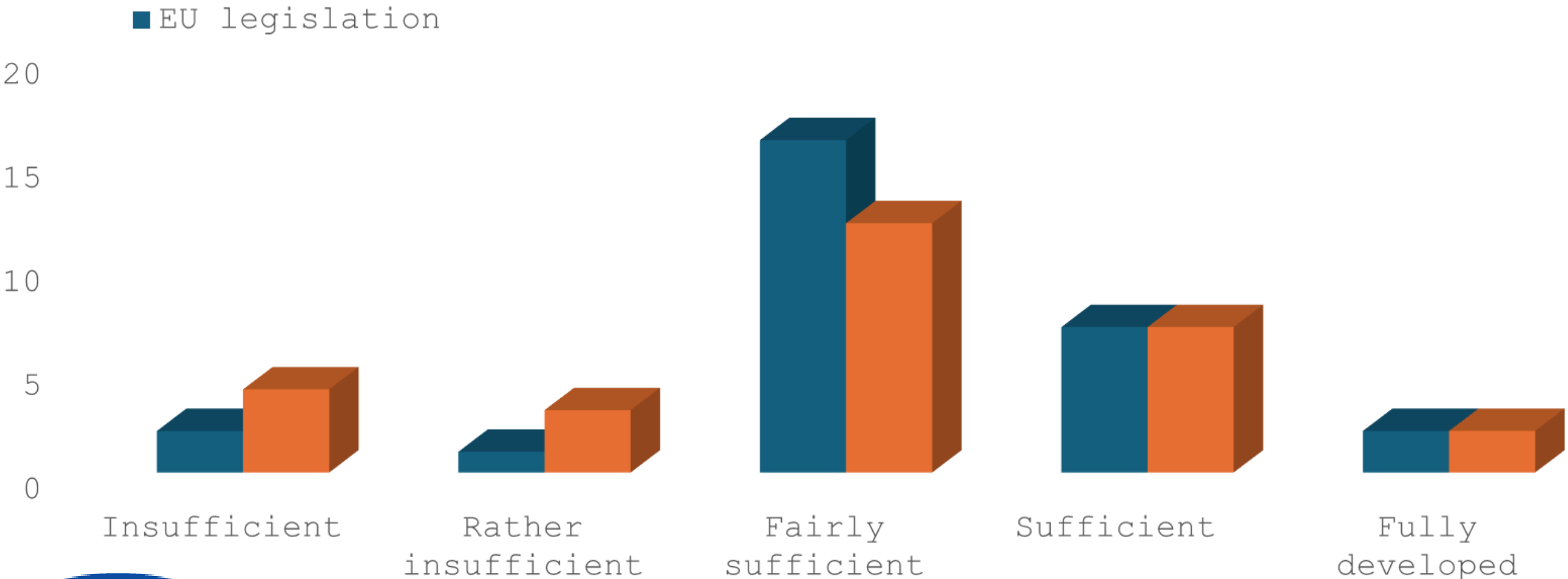
Stakeholder survey – policies

How would you rate Eu level / national/regional level policies in power concerning the utilisation of sewage sludge?

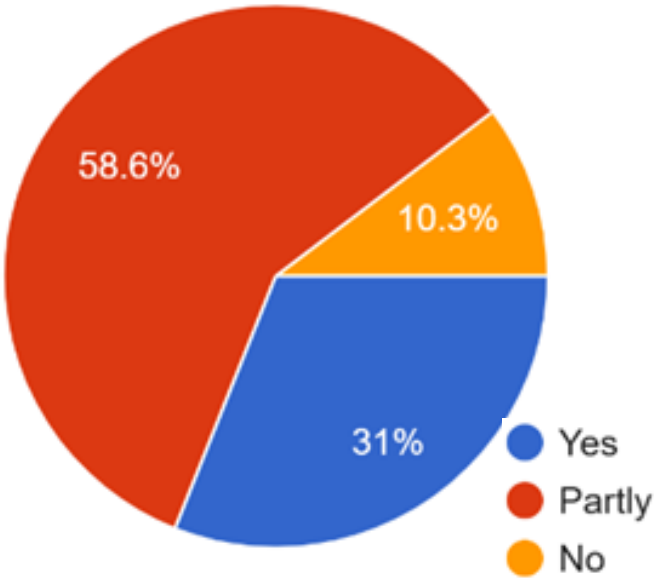


Stakeholder survey – legislation

How would you rate Eu level / national/regional level legislation in power concerning the utilisation of sewage sludge?

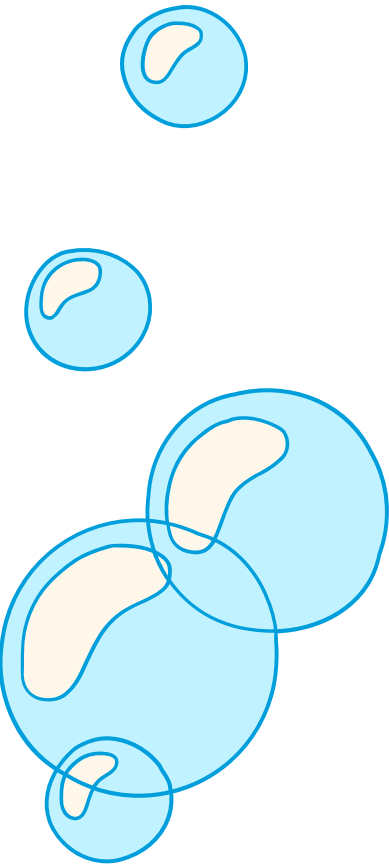
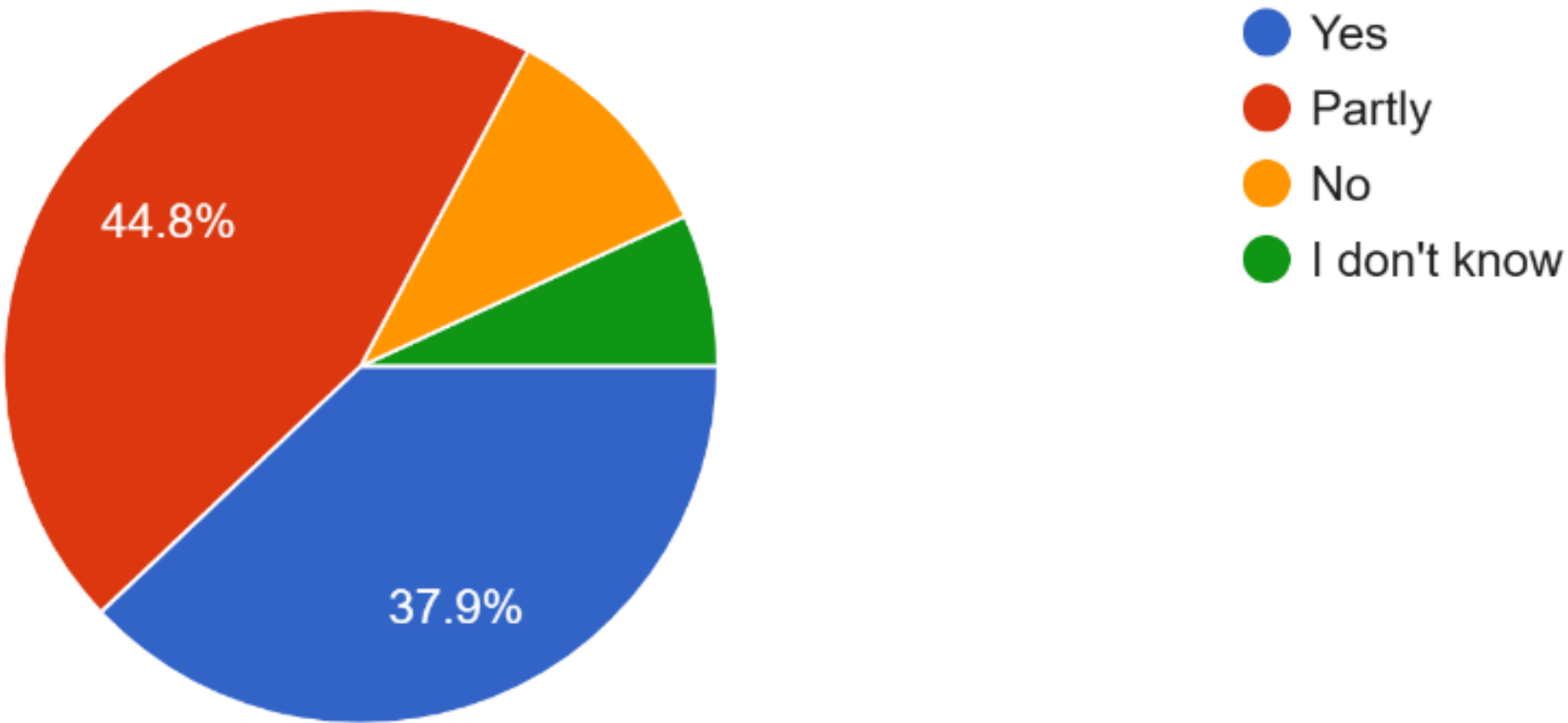


Is the legislation supportive?

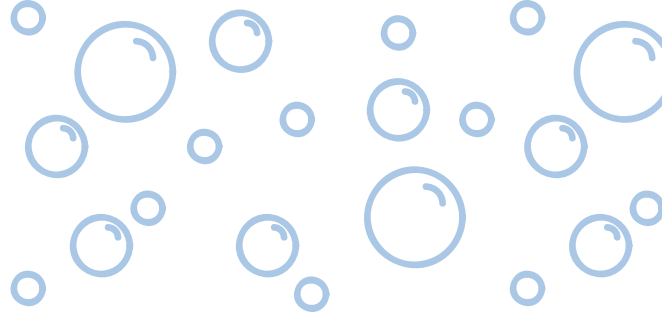


Stakeholder survey – availability of technologies

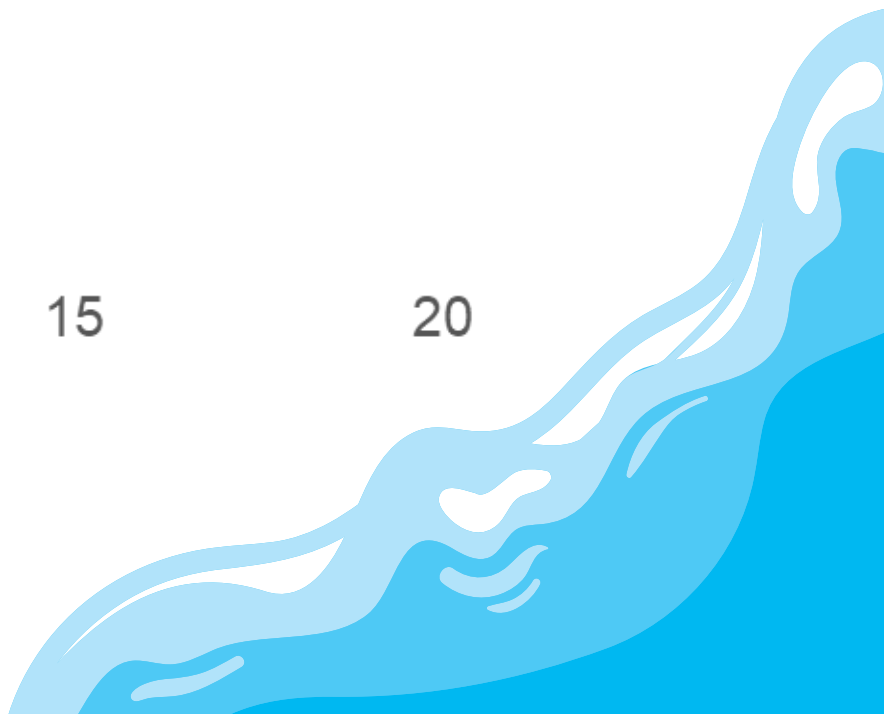
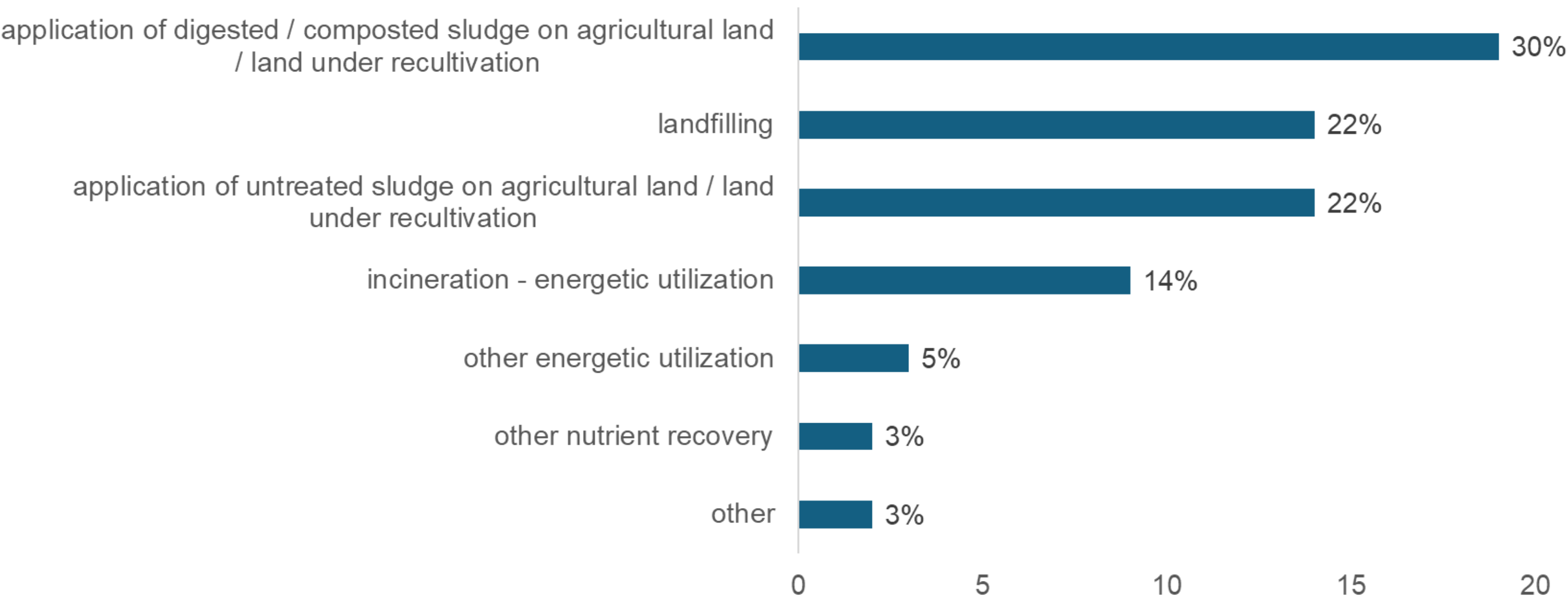
Are there the most important sewage treatment technologies available in your region for all potential users?



Stakeholder survey – modes of sludge utilisation

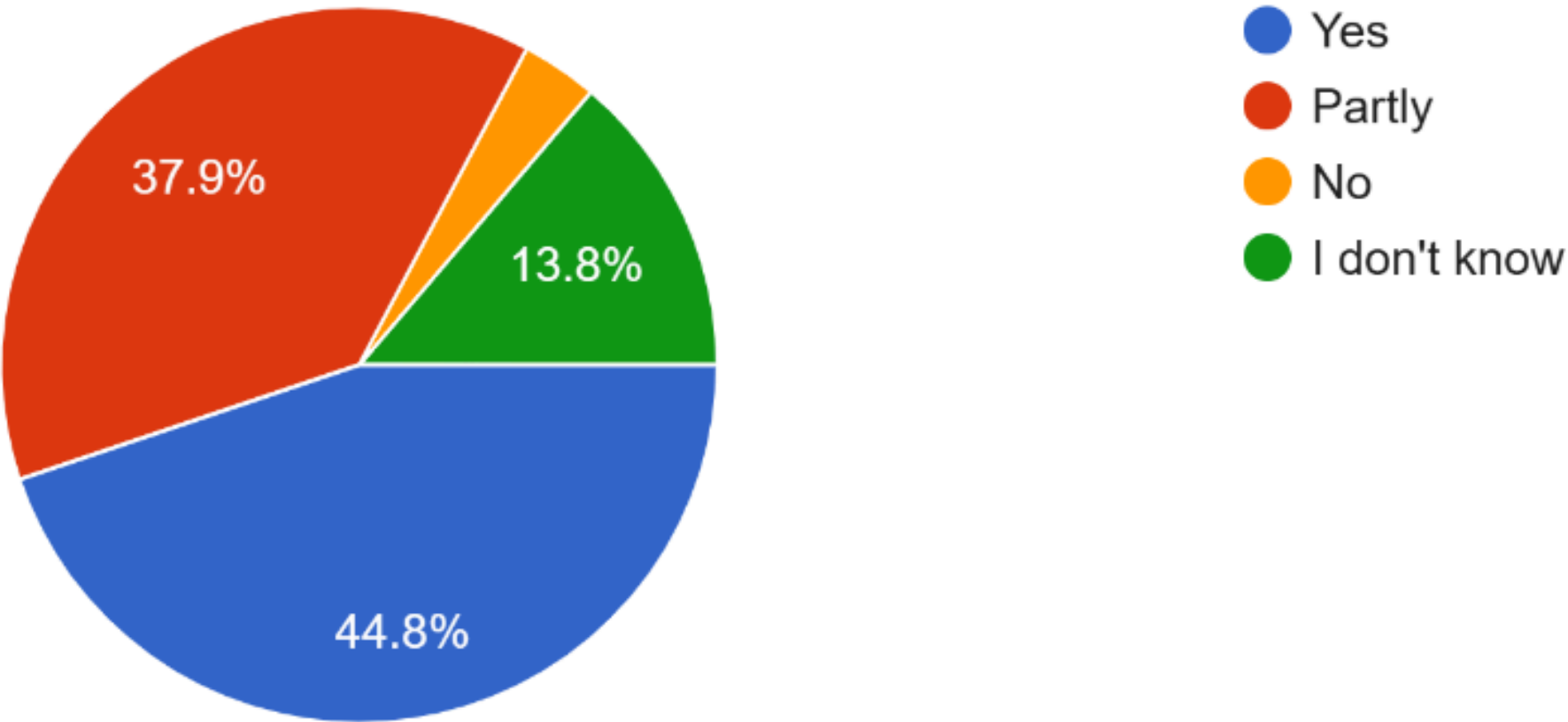


What are the most popular modes of sludge utilisation in your country/region in the recent years?

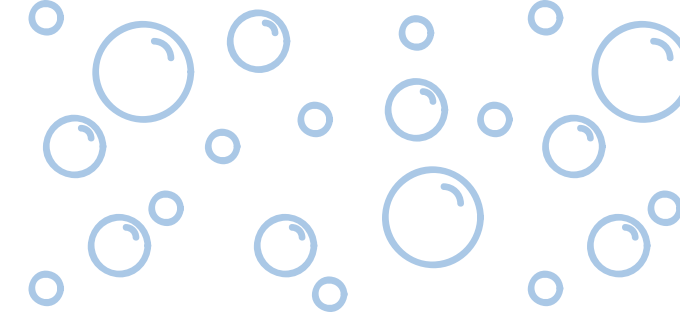


Stakeholder survey – monitoring of technologies

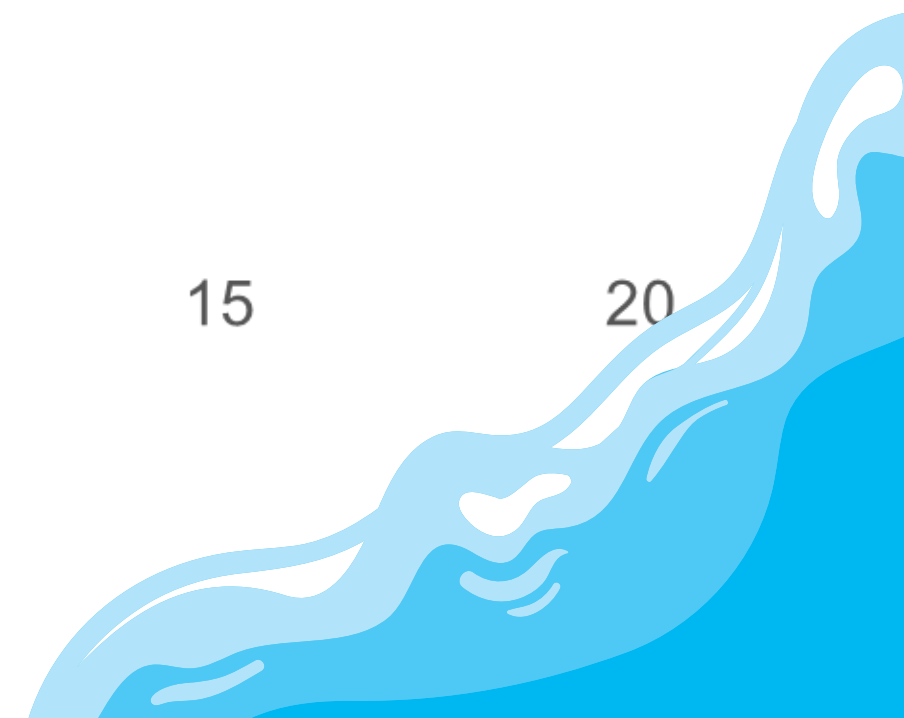
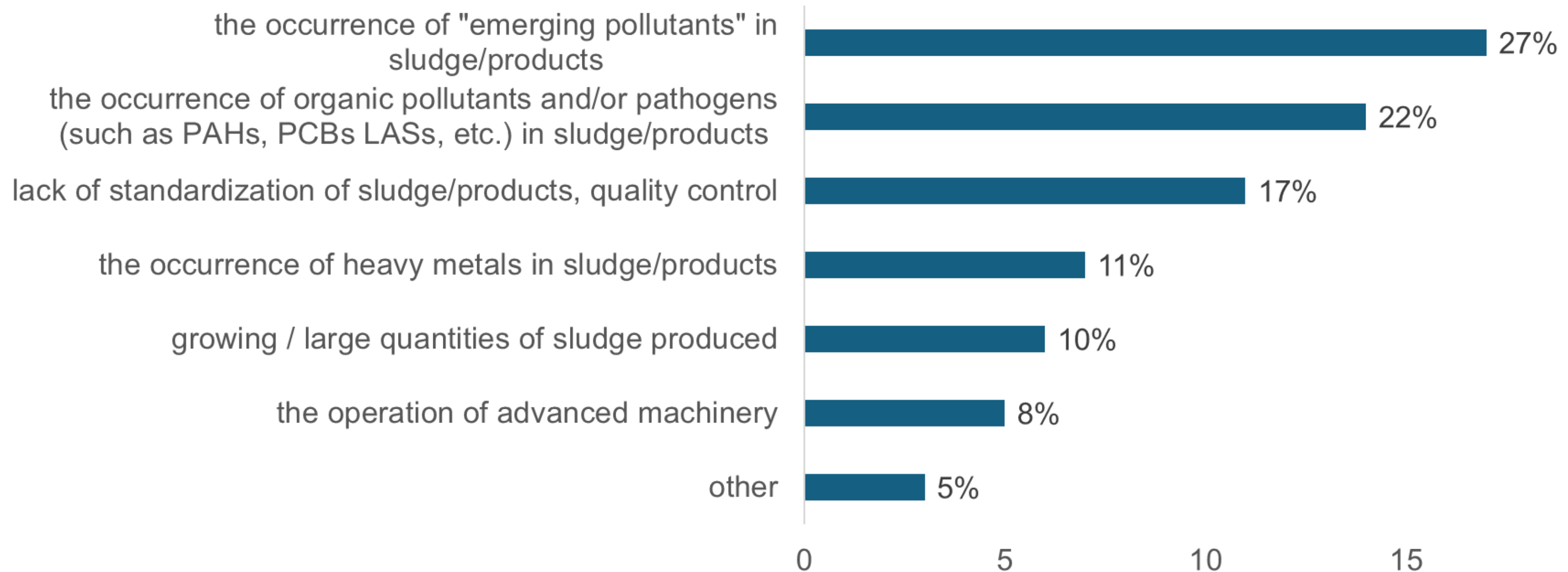
Are there technologies supported by adequate monitoring?



Stakeholder survey – technological bottlenecks

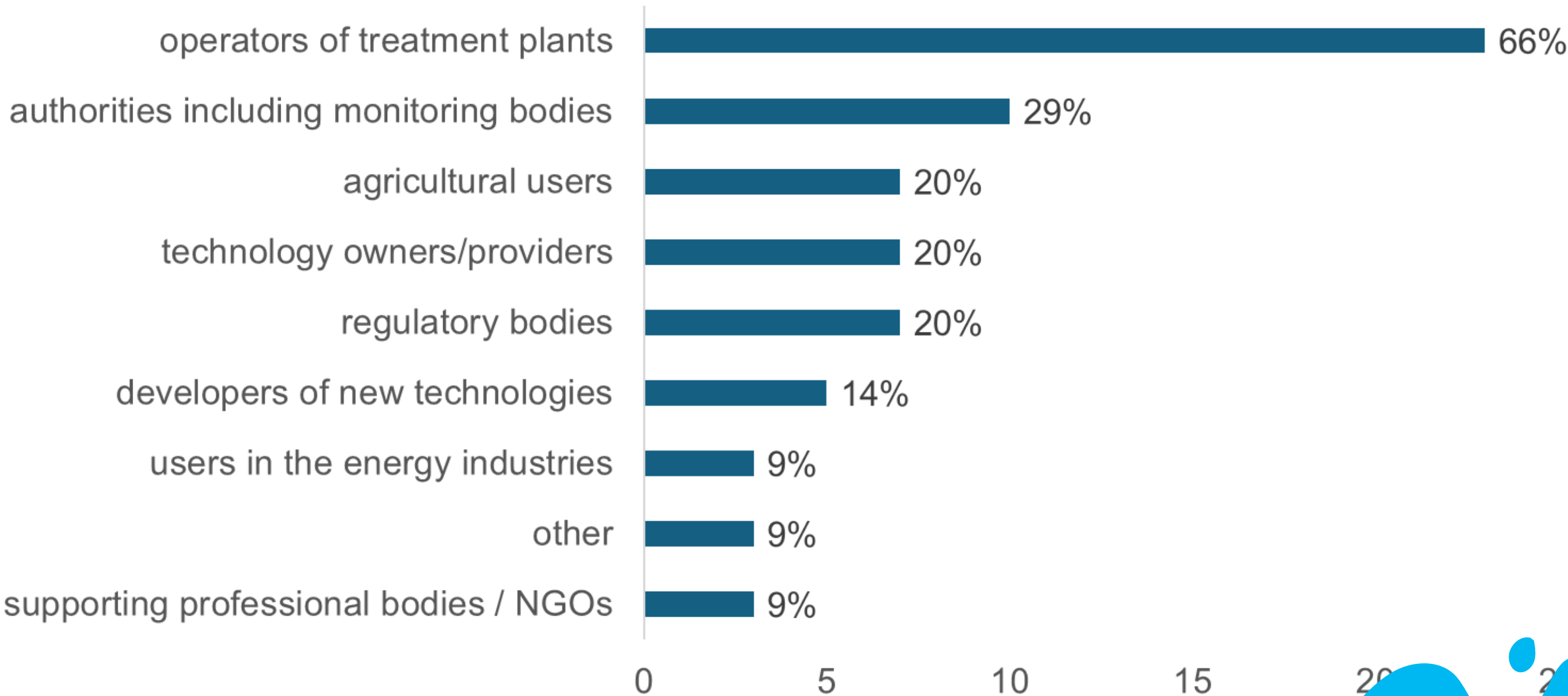


What do you think are the most important technological bottlenecks ?



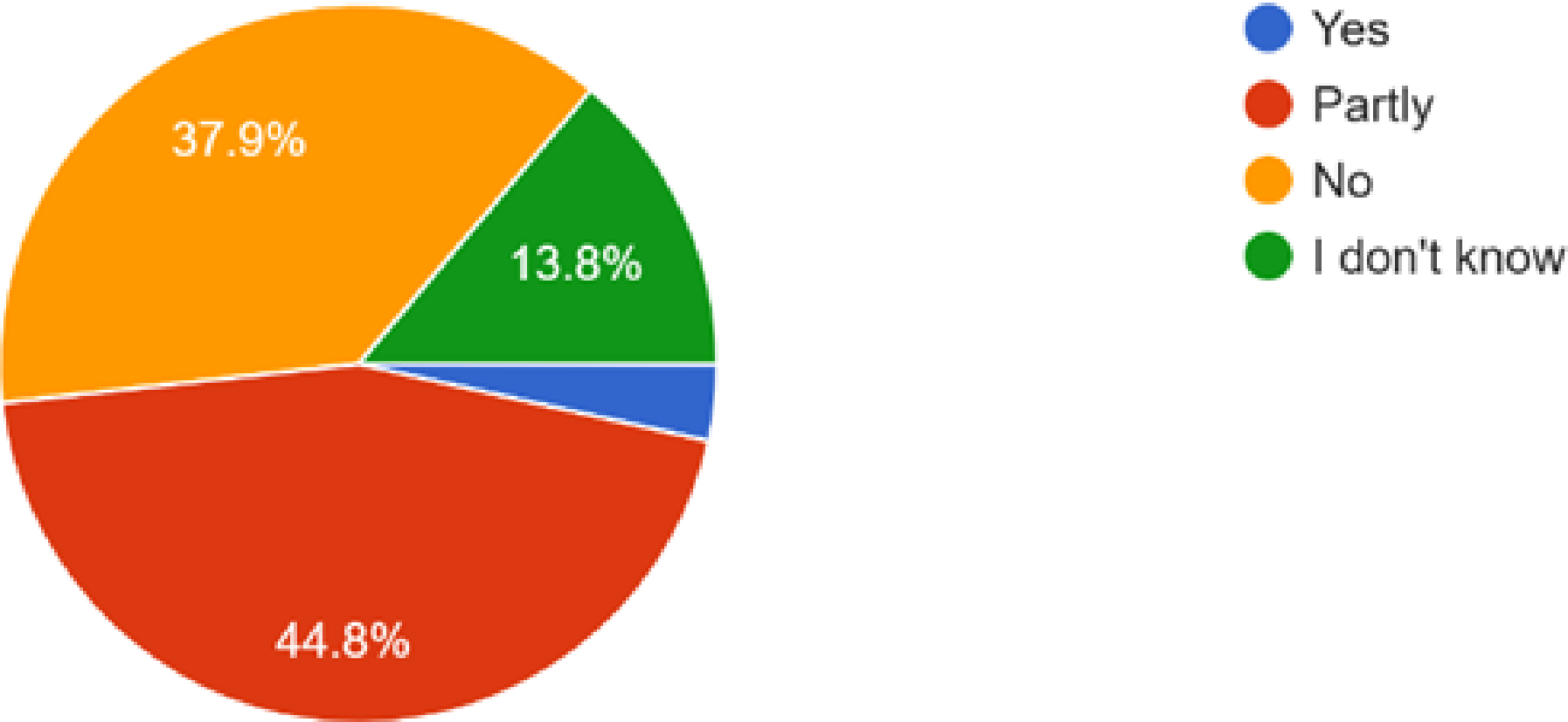
Stakeholder survey – management actors

Which actors perform the best in the sludge management routes ?

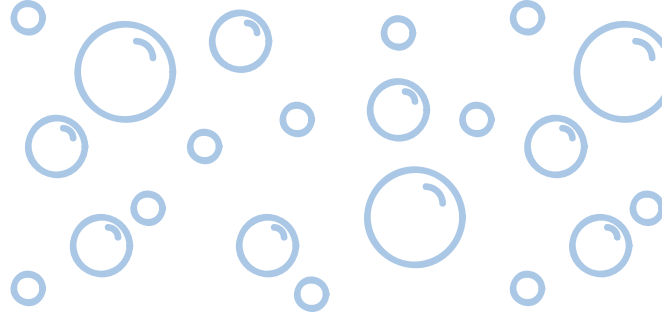


Stakeholder survey – high-tech feasibility

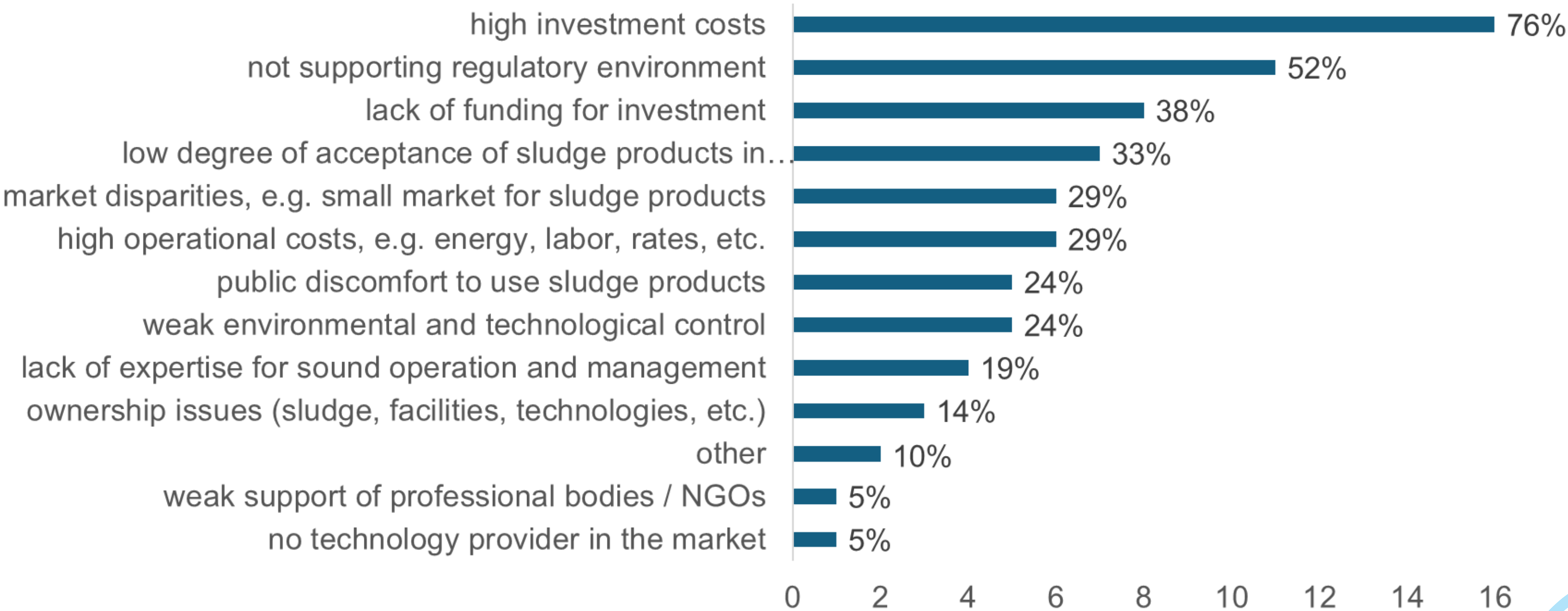
Are the most advanced, capital intensive technologies economically feasible in your region?



Stakeholder survey – bottlenecks in management



What are the most important bottlenecks in the sludge management routes?



Stakeholder survey – the role of EUSDR in sludge management

- Development of a common, but country specific, sludge management strategy
- (assisting in the) Strengthening of the regulatory framework, including the development of common standards, monitoring / data collection and reporting
- (assisting in the) Organisation of campaigns to engage industry players, agricultural users and the public in the sound management of sludge
- (assisting in the) Development of markets for sludge products
- Regional exchange of best practices and support technology transfer
- Support pilot projects and cross/border demonstration plants
- (assisting in the) Absorption of financial support
- (support) Strategic actions to promote sludge management as part of the circular economy
- (assisting in the) Strengthening of the visibility of the water utility sector in its efforts in sludge management



Wastewater Utilization Options: Workshop on Sewage Sludge Management and Energy Efficiency

EU GREEN WEEK PARTNER EVENT

WASTEWATER AS A RESOURCE:
REGIONAL WORKSHOP ON
SEWAGE SLUDGE MANAGEMENT
AND ENERGY EFFICIENCY

#EU
GREEN
WEEK

ONLINE
20 June 2025

to register: <https://us06web.zoom.us/meeting/register/D1iFvIm5Rg2qaTtejndHBA>



Workshop key takeaways:

- Sludge management is highly dependent on local conditions and requires country-specific approaches.
- Public consultation on the Circular Economy Act will begin in early July 2025 and input from the Danube Region is also expected.
- The EU Sludge Directive will not be recasted, but new rules will be applicable via the upcoming Circular Economy Act.
- In the future focus may be on updating contaminant lists and improving monitoring.
- Data management and monitoring of sludge usage remains a significant challenge.
- Microplastics and pharmaceuticals in sludge are emerging concerns.
- Financial investments continue to be a major barrier for implementing advanced sludge treatment.

Looking in to the future...

- Pharmaceuticals in water – conference 2026, Bratislava
- Global practice on nature-based solutions, 2026 Budapest
- Sediment management workshop 2027, Budapest
- Wastewater treatment (e.g. removal of pharmaceuticals) – conference 2028, Bratislava



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<https://waterquality.danube-region.eu/>

Contact us



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