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EU Green Week Partner Event

## Sewage sludge management in the Danube Region - overview

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



# Background

Study on the “Opportunities of sewage sludge utilisation in the Danube Region” developed in 2024  
(Update of the study for the development of sludge management in the Danube Region)

Client: Hungarian Ministry of Foreign Affairs and Trade / EUSDR PA4 (Water Quality), financed by the Interreg Danube Region Program, within project DRP-PAC-PA4.

Interreg Programme  
**Danube Region**



Co-funded by  
the European Union

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
- The Study has been already presented in detail to the
  - EUSDR PA4 – Water Quality Steering Group
  - EUSDR – Circular Economy and Bioeconomy Working Group
  - ICPDR River Basin Management Expert Group
  - ICPDR Nutrients Task Group

## 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

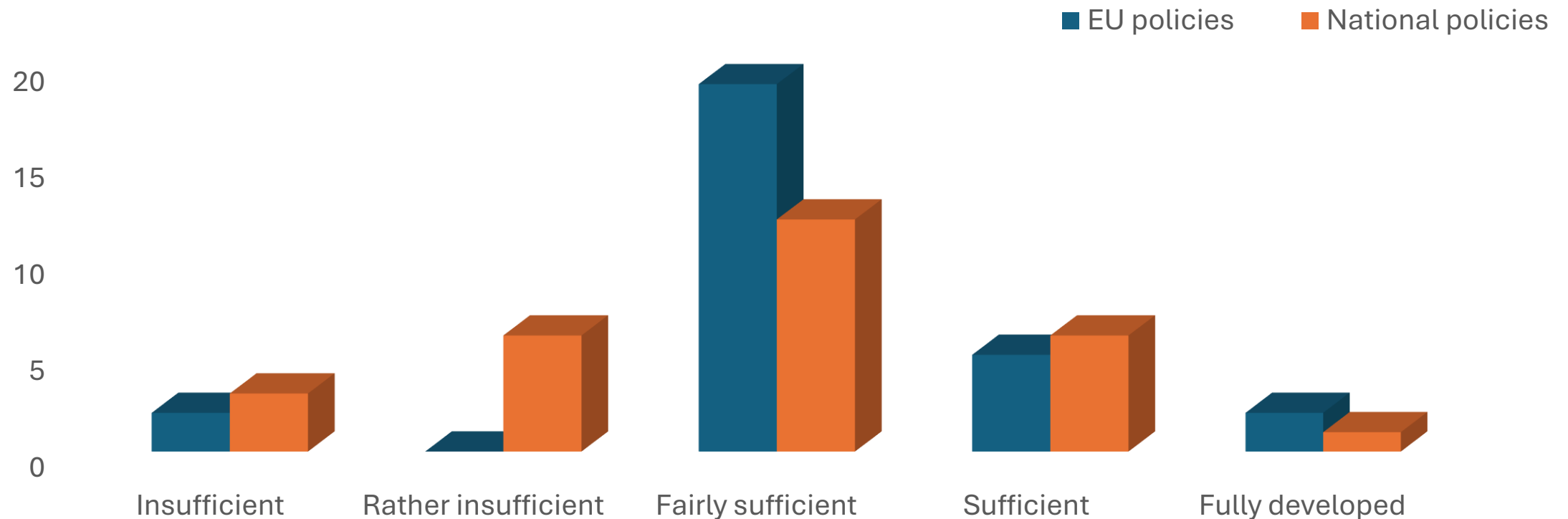
- National and community level policies and legislation
- Technologies
- Management

## Representativeness

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

# Stakeholder survey – policies

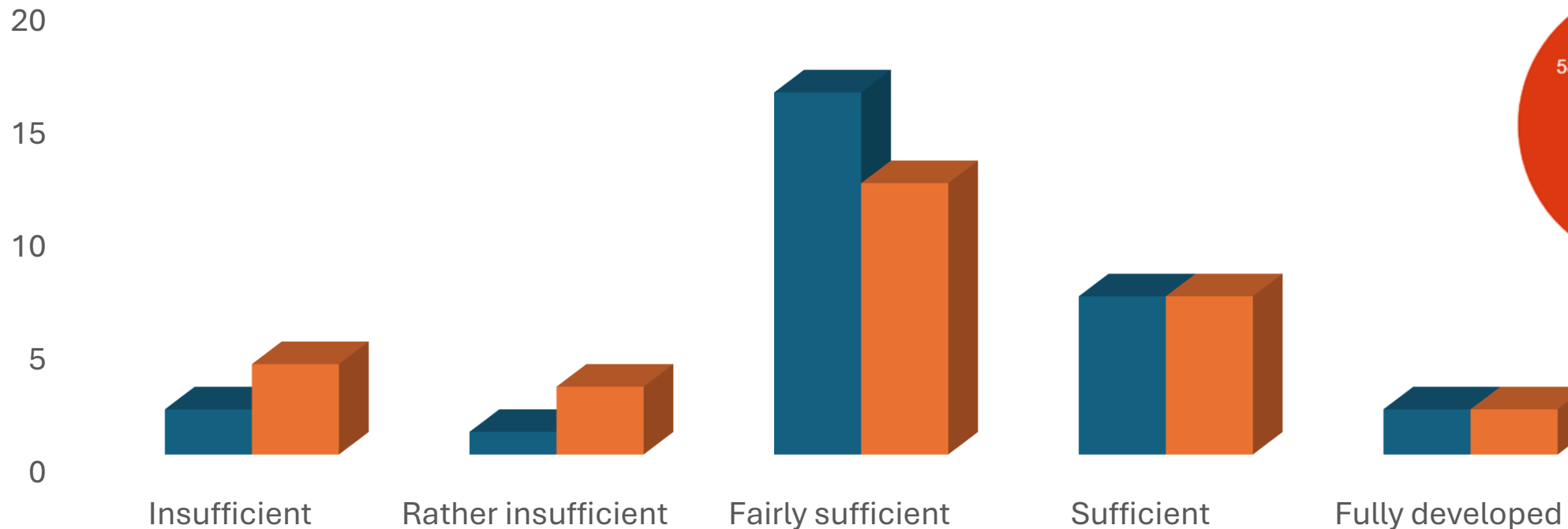
How would you rate Eu level / national/regional level policies in power concerning the utilisation of sewage sludge?



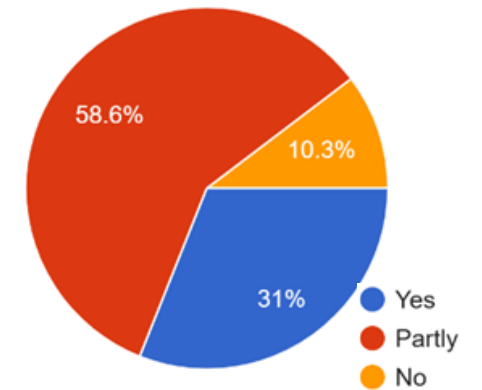
# Stakeholder survey – legislation

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

■ EU legislation ■ National legislation

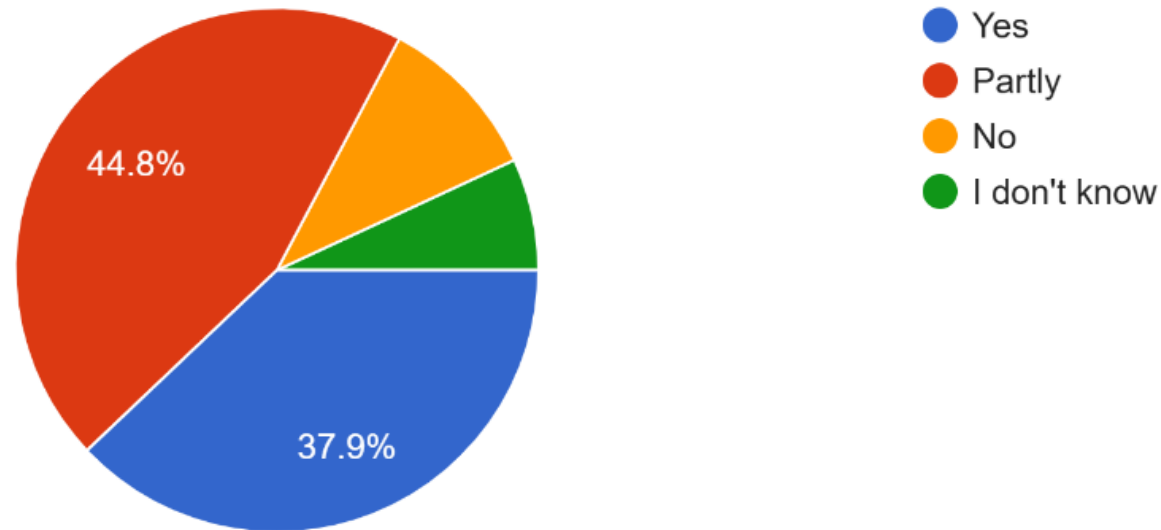


Is the legislation supportive?



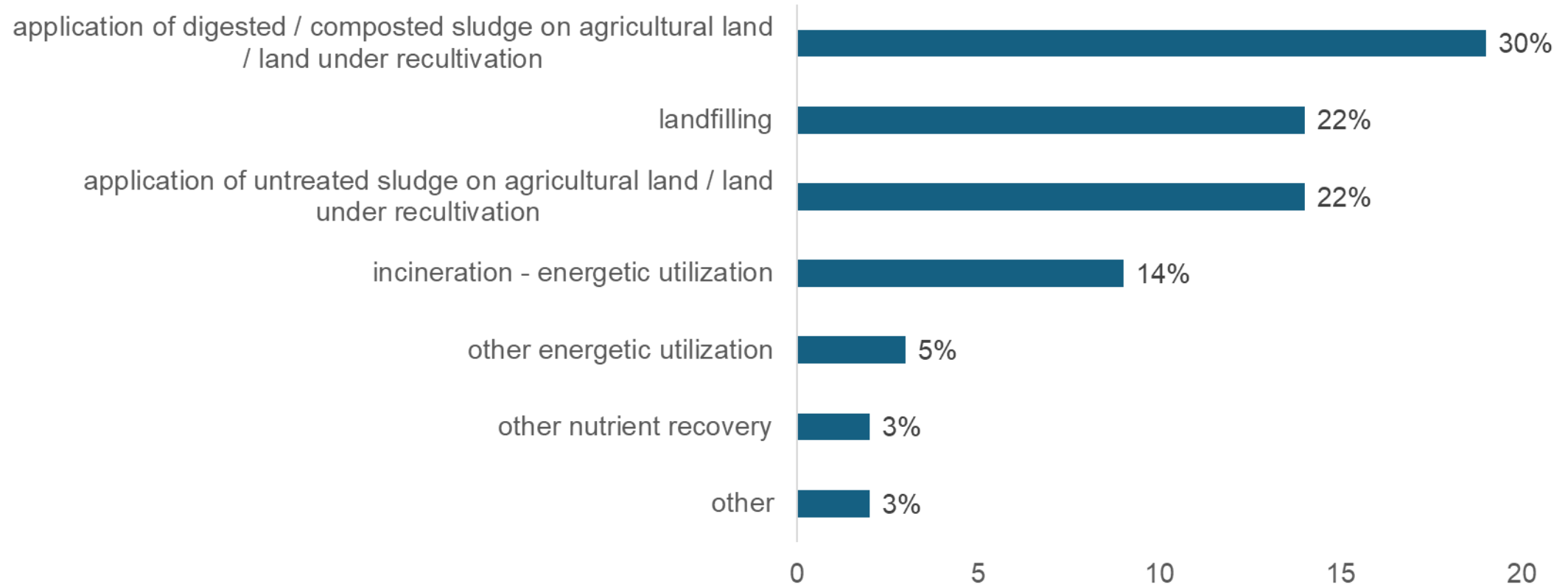
# Stakeholder survey – availability of technologies

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



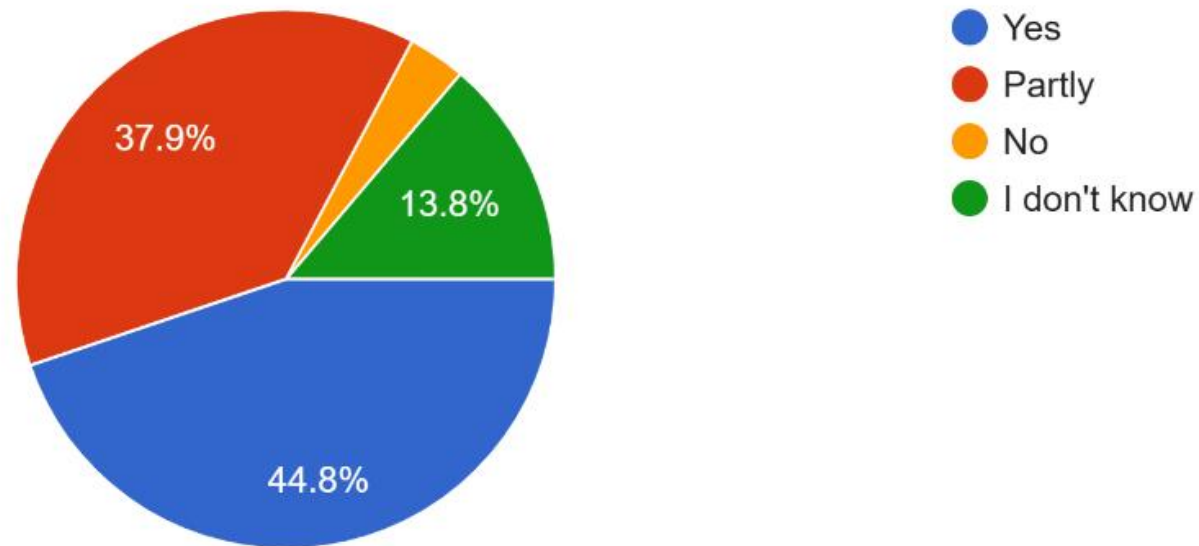
# Stakeholder survey – modes of sludge utilisation

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



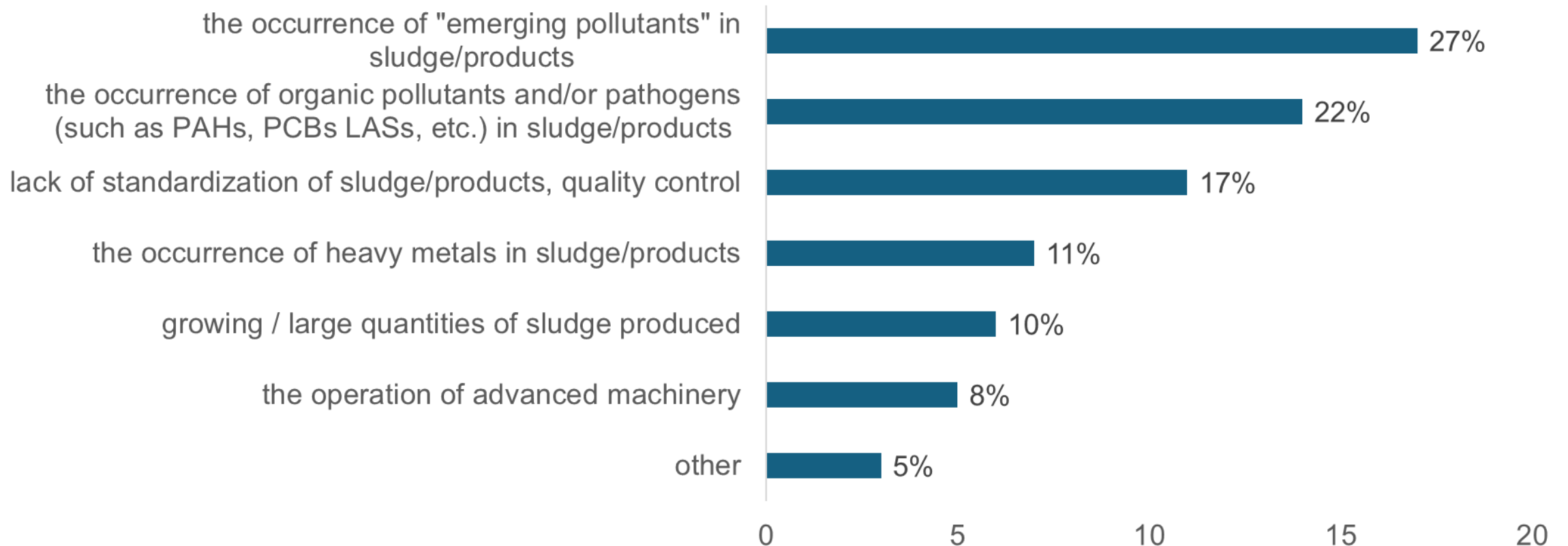
# Stakeholder survey – monitoring of technologies

Are there technologies supported by adequate monitoring?



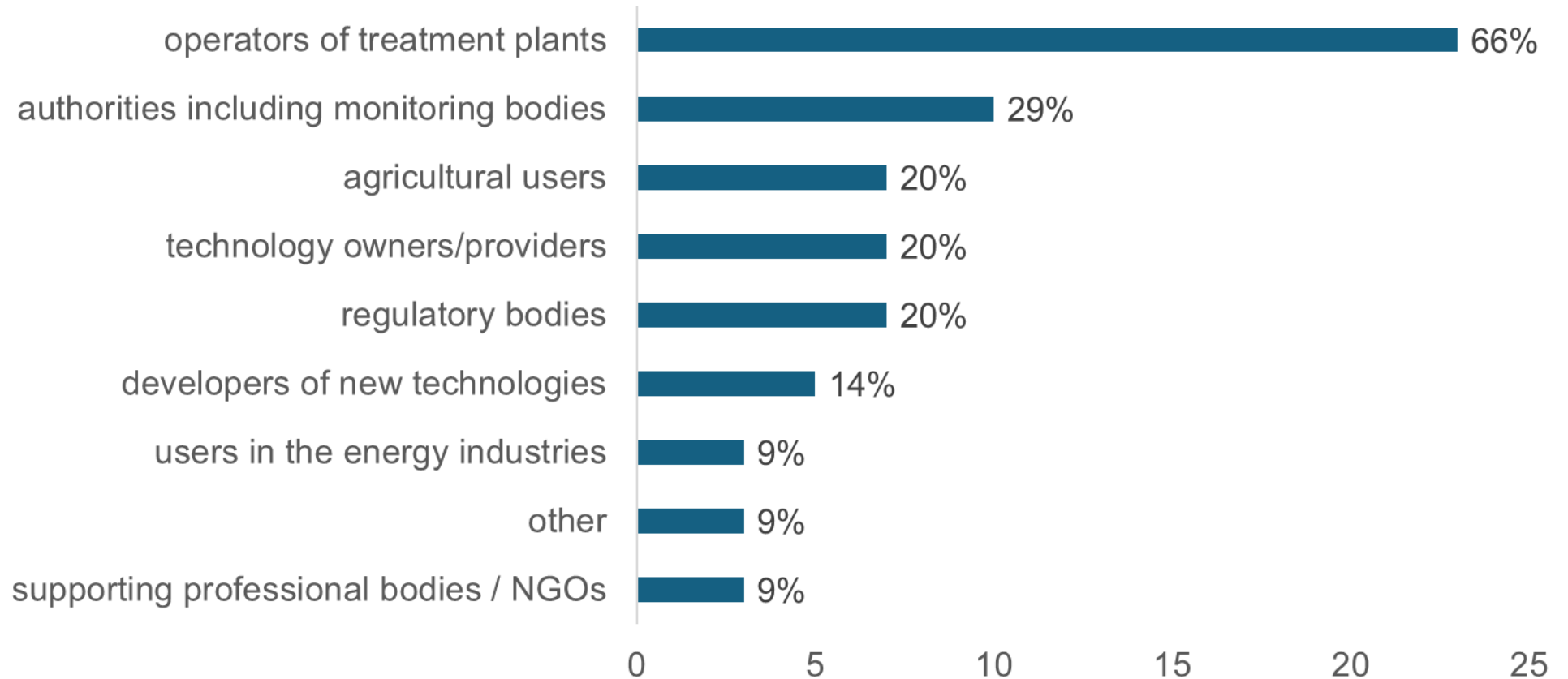
# Stakeholder survey – technological bottlenecks

What do you think are the most important technological bottlenecks ?



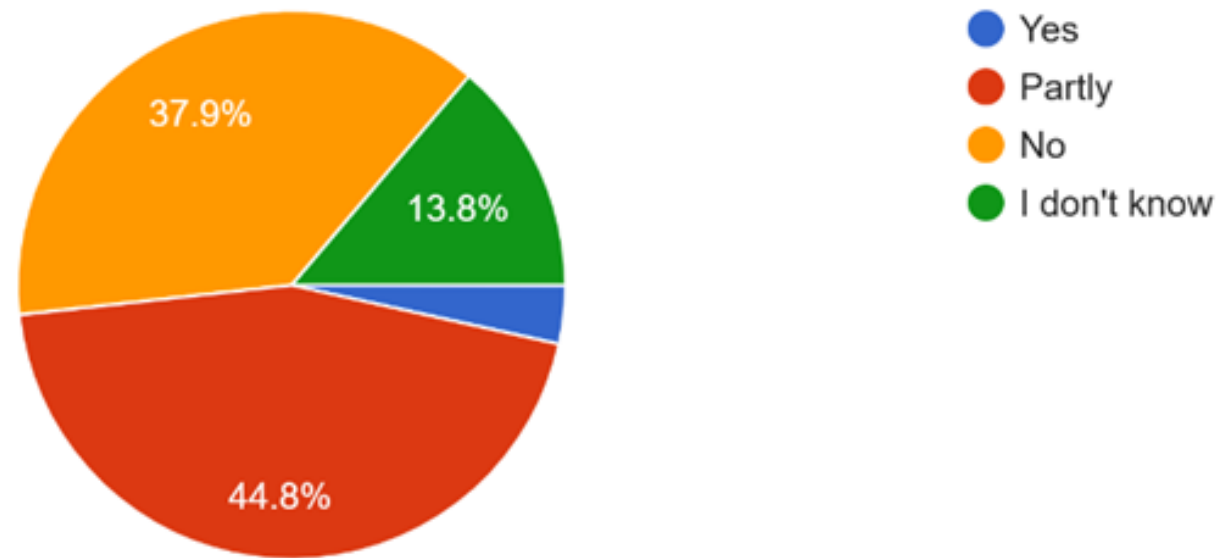
# Stakeholder survey – management actors

Which actors perform the best in the sludge management routes ?



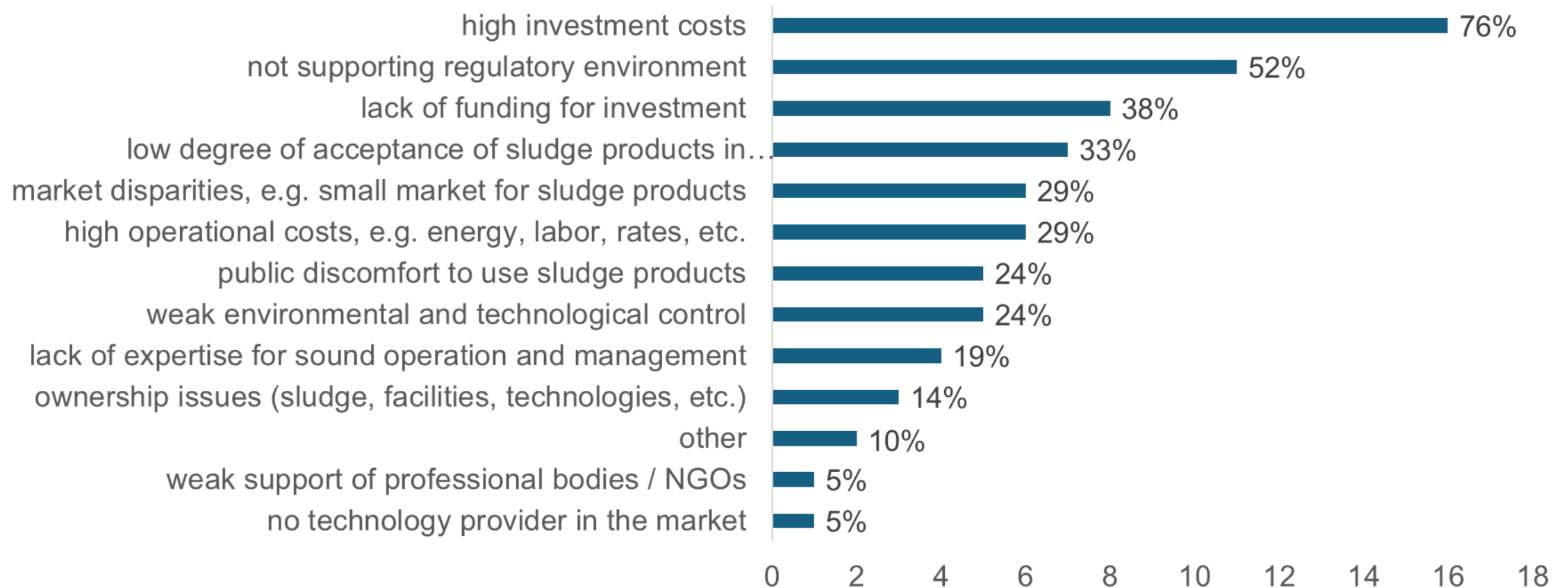
# Stakeholder survey – high-tech feasibility

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