WORKSHOP ON SEWAGE SLUDGE MANAGEMENT IN THE DANUBE REGION FOR A GREENER EU

PREPARATORY STUDY ON SEWAGE SLUDGE MANAGEMENT IN THE DANUBE REGION

10. 06.2021

TRENECON

THE SYUDY

- Title: Preparatory study for the development of sludge management in the Danube Region
- Client: Hungarian Ministry of Foreign Affairs and Trade / EUSDR PA4
- Assigned to: Trenecon Planning and Consulting Ltd.
- Funding: Public Administration and Civil Service Development Operative Programme of Hungary (KÖFOP 3.3.3.-15-2016-00002)

  Within the framework of the project:

  “Support of the capacities of applicants and beneficiaries in connection with the Danube Region Strategy and the European territorial associations”
- Deadline for draft: November 30.2020.
- Final: march

THE OBJECTIVES OF THE STUDY

- **General objective:** foster common thinking on sludge management in the Danube Region towards increased resource efficiency and pollution control
- **Focus** on communal and agricultural sludge (no industrial sludge)
- Main questions:

Does it make sense to develop a common EUSDR level sludge management strategy? With what content?

How can EUSDR assist in the development of sludge management?

MAIN STRUCTURE OF THE STUDY

- Community strategy and legislation
- Overview of sludge management in the EUSDR countries
- Overview of best practices
- Identification of major challenges
- Summary and recommendations for the direction of common thinking

NEW CHALLENGES ARISE IN LINE WITH NEW COMMUNITY GOALS

- (Europe 2020 Strategy
  - Climate change
  - Resource efficiency
  - Decreased environmental loads
  - Environmental technologies)
- Green Deal
  - Circular economy – reuse wastes / decrease landfilled materials
  - Decrease environmental load on waters, soils and air
  - Clean energy – cut of GHG emissions / renewable energy sources
- “Farm to Fork” Strategy
  - Resource efficiency / increase soil organic content
  - Prevent soil pollution
  - Food safety

NEW CHALLENGES ARISE IN LINE WITH NEW COMMUNITY GOALS

- And others, notably:

Regulation (EU) 2019/1009 on EU fertilising products:

Sludge products may be used in agriculture if solid scientific evidence exists on its tolerable impacts on soil and water quality

Sludge products obtained through aerobic composting or digesting cannot be used as fertilising materials in agriculture

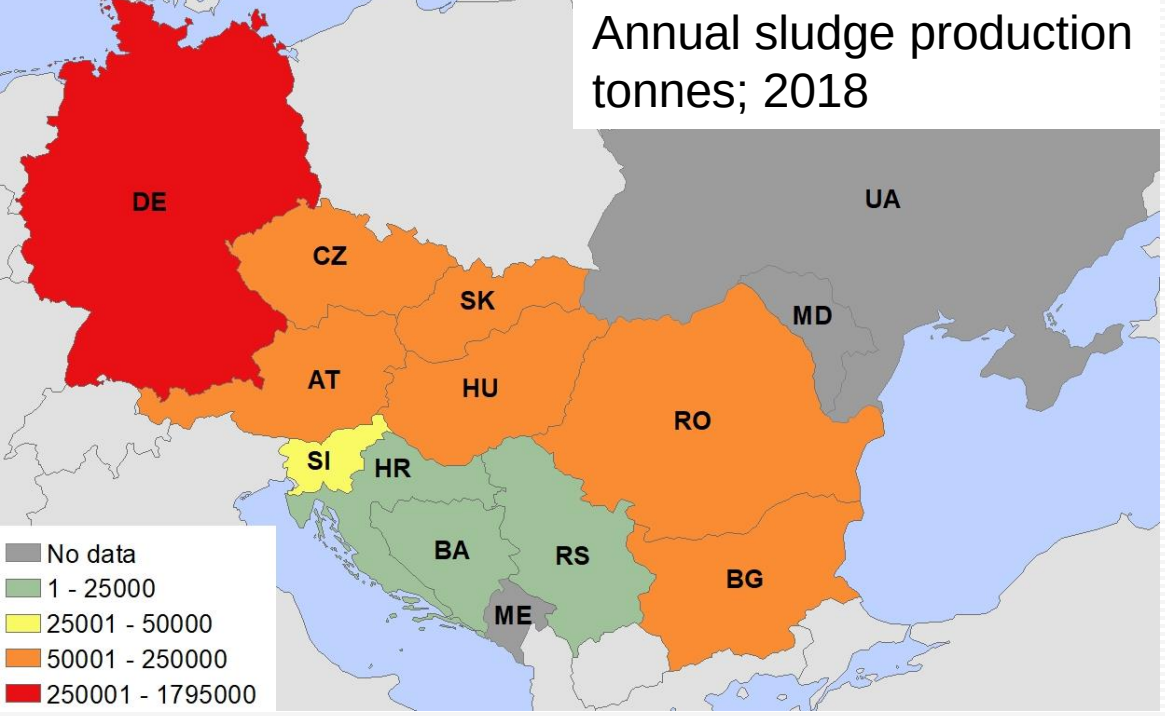
ONGOING POLICY DEVELOPMENTS

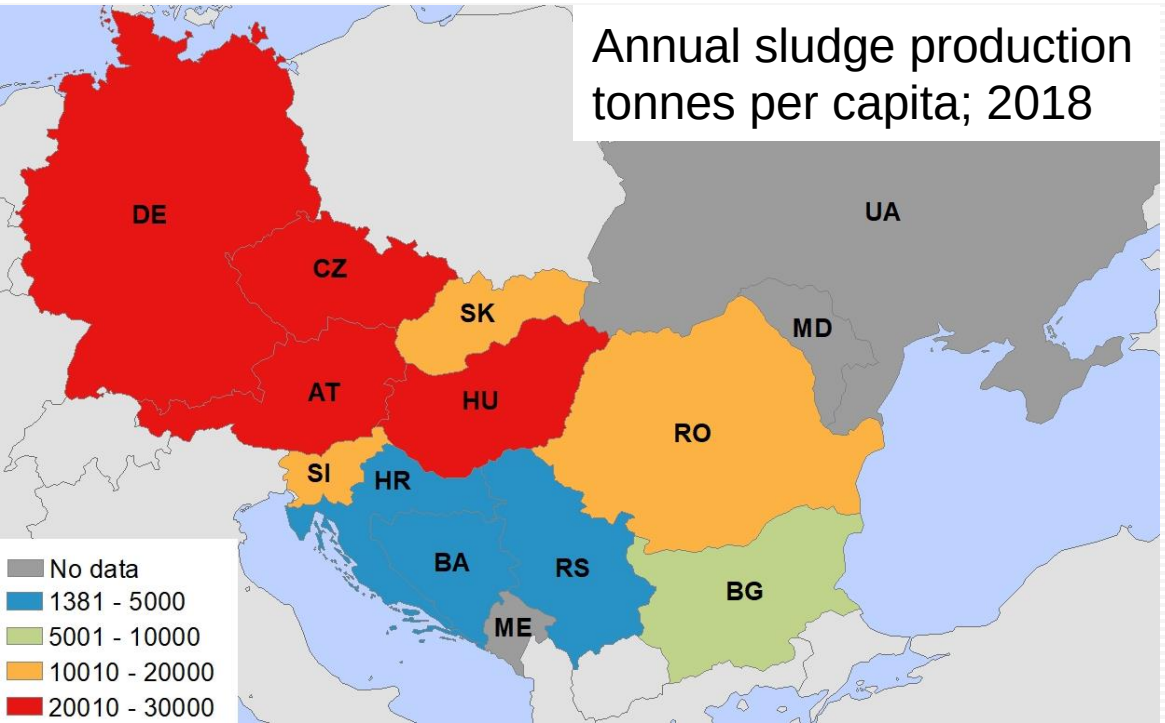
- EC on the rules set in Directive 86/278 on the use of sewage sludge in farming; ended
- EC on Urban Waste Water Treatment for revision of the EU Urban Waste Water Treatment Directive (UWWTD 1991/271); ended
- EC on the impacts of EU agriculture policy on water, on habitats / landscape / biodiversity and on sustainable management of soil; ended
- White Paper on resource recovery from wastewaters (Water Europe)

COMPARISON OF SELECTED COUNTRIES

Source: EUROSTAT

	1. Austria	2. Bosnia and Herzegovina	3. Bulgaria (2017)	4. Czech Republic	5. Croatia	6. Germany (2016)	7. Hungary	8. Romania	11. Serbia	12. Slovakia	13. Slovenia
Produced-disposed gap*	0.00	2.47	3.29	0.00	3.74	0.25	-1.38	0.00	0.01	0.01	0.00
Disposal total	26.52	0.39	6.40	21.47	0.97	21.49	23.67	12.72	1.36	10.26	18.37
1. agricultural use	5.45	0.00	3.18	10.19	0.38	5.13	3.49	2.38	0.00	0.00	0.00
2. compost and other appl.	5.24	0.00	0.54	7.34	0.04	2.43	17.08	0.21	0.00	4.67	0.29
3. landfill	0.03	0.39	0.96	1.84	0.19	0.00	0.15	6.59	1.36	2.07	0.14
4. incineration	14.18	0.00	0.00	2.10	0.02	13.85	2.95	0.04	0.00	2.14	5.11
5. other	1.63	0.00	1.72	0.00	0.34	0.08	0.00	3.50	0.00	1.38	12.83





COMPARISON

- Differences in national level strategic / legislative background – need for revision
- Level of sewage treatment and production of sludge increases considerably on EUSDR level / upstream/downstream differences
- Level of sludge management – applied techniques of recovery greatly differ – need for revision
- Focus / technical solutions concerning treatment and recovery – need for further studies/research

DATA ISSUES - DATABASES

- No concise data exist on sludge management (and sewage treatment); data availability differs greatly in the EUSDR countries
  - EUROSTAT versus national databases
  - Definitions of various recovery techniques; agricultural use / composting and other, recultivation / landfill
- Reported data differs from “real life” data
- Export-import data

see: produced – disposed gap; common vision?

DATA ISSUES / CASES AND TECHNOLOGY

- Environmental impacts of sludge management techniques are not well defined
- Solutions shall be specifically measured as local conditions (human activities, WWT sludge/technologies, etc.) vary
- Good practices exist, specific data related to them may be uncertain

Is it possible to set common standards?

MAIN TRENDS

- New community strategies

Circular economy

- Sludge as
  - Energy source
  - Raw material for industry
  - Raw material for agriculture
- New community legislation; stricter rule on agricultural use
- Public concern for environmental pollution grows (agricultural use)
- Revision of common practices
  - Landfill
  - “Recultivation”
  - Agricultural use

POSSIBLE TECHNICAL SOLUTIONS – THE FUTURE

- Incineration versus other uses
  - CBA based option analyses showed that agricultural recovery is usually the most feasible in CEE (Hungarian Sludge Management Strategy)
- Many high-end solutions exist; further research is need for financial feasibility
- Solid evidence is needed on the flows of sludge related materials

MAIN CHALLENGES / SLUDGE MANAGEMENT

- Align national legislation and practice with the new EU legislation
- Increase public acceptance of sludge reuse and other managerial issues (e.g. export-import)
- Increase farmers' willingness to use sludge / products
- Develop technologies that comply with standards, are environmentally safe, can be used on large scale and provide economic benefits
- Develop technologies that provide small scale solutions
- Management of "emerging" pollutants – new technologies?

MAIN CHALLENGES / EUSDR LEVEL SLUDGE MANAGEMENT STRATEGY

- New EU legislation
- Varying national legislations, embeddedness of sludge management into other legislation / policy fields
- Varying technologies preferred
- Different income levels, different financial environment
- Different technological levels
- Differing local markets for different sludge related products

PRE-REQUISITES FOR COMMON THINKING

- The sludge issue is to be managed on national level, however for the achievement of community goals common thinking may be needed:
  - Putting the issue on the agenda: professional communication – events, workshops, etc.
  - Common definitions
  - A concise analysis of the present situation based on consolidated databases
  - Forecasting

POSSIBLE DIRECTIONS OF COMMON THINKING – HARD ISSUES

- Cross - border / regional co-operation utilising existing capacities
- Export-import
- …

POSSIBLE DIRECTIONS OF COMMON THINKING – SOFT ISSUES

- Data issues
  - Collection, monitoring and management
- Good and bad practices: experiences in sludge management
  - The organisation of sludge management systems
  - Attracting private investment in the sludge management sector
  - Emerging new technologies
- Research on sludge related issues
  - Environmental impacts
  - Financial possibilities in different socio-economic environments
  - Possibilities of agricultural recovery

Developing a common strategy can be an option only on the long run

THE MAIN ELEMENTS OF A POSSIBLE STRATEGY

- Common database
- Common forecasts
- Common vision – environmental concerns
- Specific actions are within the power of the countries

- The role of the Danube Strategy and other international organisations, such as ICPDR and ISRBC:

  Support, assistance and promotion

IMMEDIATE ACTIONS – RECOMMENDATIONS

- Facilitate discussion
- Initiate follow-up studies
- Organising forums for discussion
- Increase visibility

- Participate in the processes of the revision of various related regulations following public consultations (sludge in agriculture, UWWTD and agricultural impacts)

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