

Module 5: Case studies of the Wastewater Management in the Context of the Circular Economy

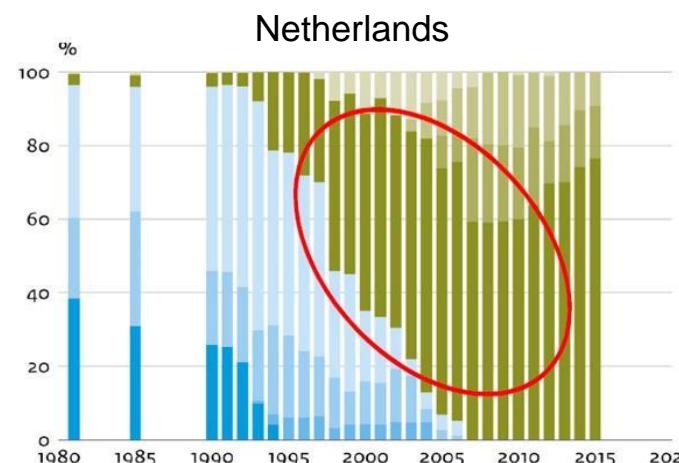
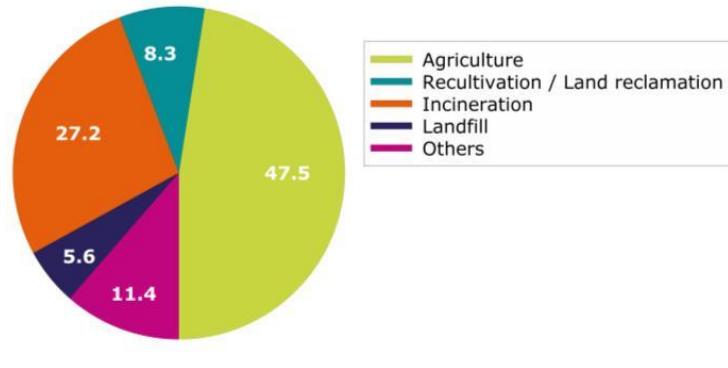
NASA, Singapore, etc.

Korce, Durres, Velipoje, Pogradec WWTPs

Sludge Management: Sweden, Netherlands, Germany

2020

Total European sludge production: 8.7 million tons DS/year.



Others
Energy plants
Cement
Incineration
Disposal
Composting
Wet oxidation
agriculture

Sewage sludge disposal in Germany

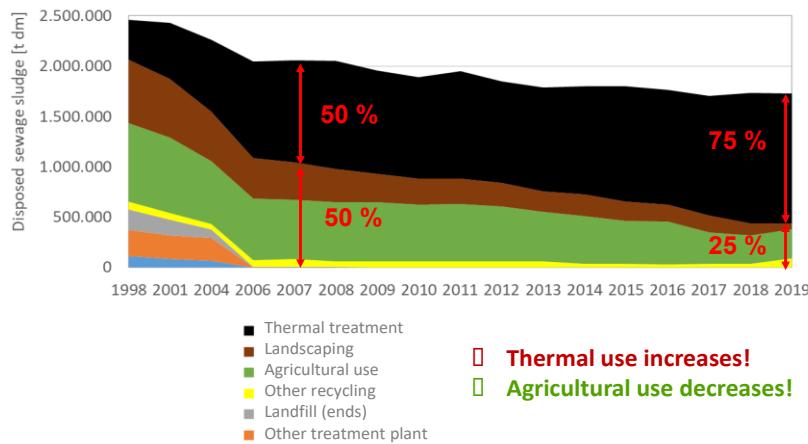


Photo: Sunita Hallgren

Sweden, 2021 Cleaner Water – Better Recycling

Examples: Reuse, Recirculation, Replenishment of Water Resources (1)

➤ International Space Station

Wastewater is recycled and astronauts drink the clean fluid that emerges at the end of the process

➤ EU

In 2006, 2.4% of treated wastewater effluents reuse. Spain – 374 Mm³/year; Italy – 233 Mm³/year;

➤ Orange County, California, USA

Groundwater replenishment system for indirect potable use

➤ Windhoek, Namibia

Wastewater reclamation plant in the world for direct potable use.

Examples: Reuse, Recirculation, Replenishment of Water Resources (2)

➤ Israel

As of 2010, treats 80% of its sewage (400 billion liters/year), and 100% of the sewage from the Tel Aviv's is treated and reused as irrigation water in agriculture and public works.

➤ Berlin, Germany

248,000 m³ of wastewater recharge surface water lakes, which artificially recharge aquifers through artificial infiltration ponds. The groundwater is then abstracted to supply 3.4 million people in Berlin with drinking water without chlorination.

➤ Singapore

1%-2.5% used for consumption

[NEWater: A Singapore Success Story - Bing video](#)

Aquacycl - Generating Electricity Directly From Waste Water

https://www.youtube.com/watch?v=4mWixInhRyc&feature=emb_logo

"Orchard" based on the sludge of Korça WWTP, 2021



Source: WWTP Korçë, 2021

Study Tour, Durrës WWTP

Pjesa e parë: ITUN

- Tretesit anaerobic per prodhimin e bio-gazit,
- Co-gjenerimi bio-gaz dhe energji elektrike nga rrjeti
- Shtretërit e tharjes së llumit
- Testimi / laboratori
- Eksperiençë tek Kulla e vrojtimit të zogjve
- Vrojtimi i Habitave te flores dhe faunës



References

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