

Sewage sludge Management in the Republic of Lithuania

Waste Policy Group
Ministry of Environment of
the Republic of Lithuania
2021-09-27



Main Actors of Sewage Sludge Management System

**Managers of
sewage sludge
treatment**

**Final users of treated
sewage sludge**

**Wastewater
treatment plants**

**Environmental
Protection Agency**

**Department of
Environmental
Protection**

**Ministry of
Environment**



Sewage sludge treatment and usage

Sewage sludge treatment in Lithuania	Open composting with the green biodegradable waste (used shredder, turner and sieves).
	Long term storage (at least 12 months).
	Fermentation to produce biogas (dewatering of digestate and then its' composting with other biodegradable waste).
	Fermentation to produce biogas (dewatering and drying of digestate. Pollutants caught in biofilters).
	Pyrolysis (of dried sewage sludge).
	Incineration in cogeneration plants (of dried sewage sludge).

Usage on land

Energy



Legal framework

Under Waste Management law, sewage sludge is considered as biodegradable waste.

- The National Waste Prevention and Management Plan;
- Requirements for the treatment and use of sewage sludge:

The purpose is to regulate sewage sludge treatment, usage in agriculture, the cultivation of plantations of raw trees and shrubs, plantations of forest plantations or greenery planted on former agricultural land, remediation of damaged areas (such as quarries, exploited peatlands, closed landfills, road embankments, etc.), urban green spaces without adversely affecting surface and groundwater, soil, vegetation, animals and humans.



Legislation (I)

Classification of treated sludge according to microbiological-parasitological parameters:

Class of sewage sludge	Escherichia coli, CFU/g	Clostridium perfringens, CFU/g	Helminth eggs and larvae, Units/kg	Pathogenic enterobacteria, Units/g
A	≤ 1000	$\leq 100\ 000$	0	0
B	1001–100 000	100 001–10 000 000	1–100	0
C	$> 100\ 000$	$>10\ 000\ 000$	> 100	≥ 1

- The use of the treated sludge classified as **class C** for fertilization and recultivation of damaged areas, urban green spaces or roadsides **is prohibited**.
- **Only** treated sludge classified as **class A** may be used on areas intended for growing vegetables and grassland or greenery.



Legislation (II)

Classification of treated sludge according to concentration of heavy metals:

Category of treated sludge	Concentration of heavy metals, mg/kg (year 2021)													
	Pb	Cd	Cr	Cu	Ni	Zn	Hg							
I	<140	<1,5	<140	<300	<50	<800	<1,0							
II	140–750	1,5-20	140–400	300-1000	50-300	800-2500	1,0-8,0							
III	>750	>20	>400	>1000	>300	>2500	>8,0							
Concentration of heavy metals, mg/kg (year 2022)														
	LT	EU	LT	EU	LT	EU	LT	EU	LT	EU	LT	EU	LT	EU
I	<140	750 – 1 200	<1,5	20 – 40	<140	-	<300	1 000 – 1 750	<50	300 – 400	<800	2 500 – 4 000	<1,0	16 – 25
II	140–150		1,5–5		140–170		300–500		50–70		<800– 1500		1–1,5	
III	>150		>5		>170		>500		>70		>1500		>1,5	

Legislation (III)

- Only treated sewage sludge of Ist and IInd categories may be used **in agriculture**.
- **It is prohibited** to use sewage sludge of IIIrd category for fertilization and recultivation of damaged areas, urban green spaces and roadsides.
- Treated sludge is used for fertilization, reclamation of damaged areas or for obtaining energy (except for sewage sludge compost) in accordance with the procedure established in the Requirements. Treated sludge of IIIrd category may only be used for the energy recovery or filling in non-hazardous landfills in accordance with the requirements of waste legislation.



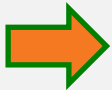
Sewage sludge report

- Sewage sludge managers must report via **Environmental Information Management Integrated Computer System (AIVIKS)** about sewage sludge that is used as fertilizer.



Reported data: amount of treated sludge, sludge treatment technologies, treated sludge class and category, dry matter content, organic matter content, pH, total nitrogen and phosphorus, heavy metal concentrations.

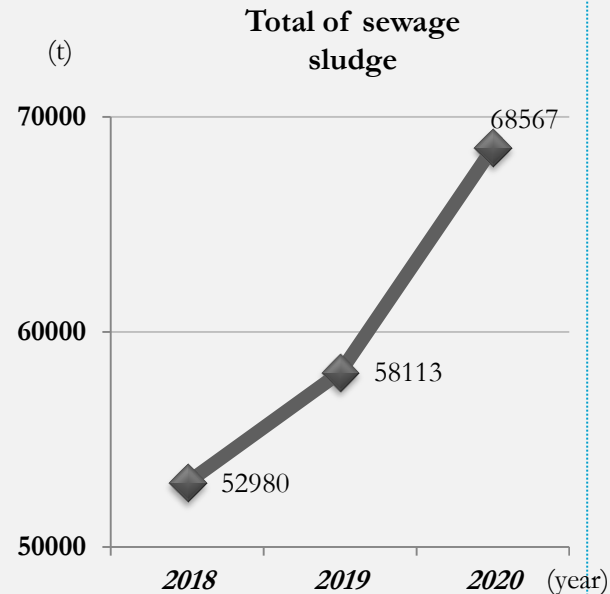
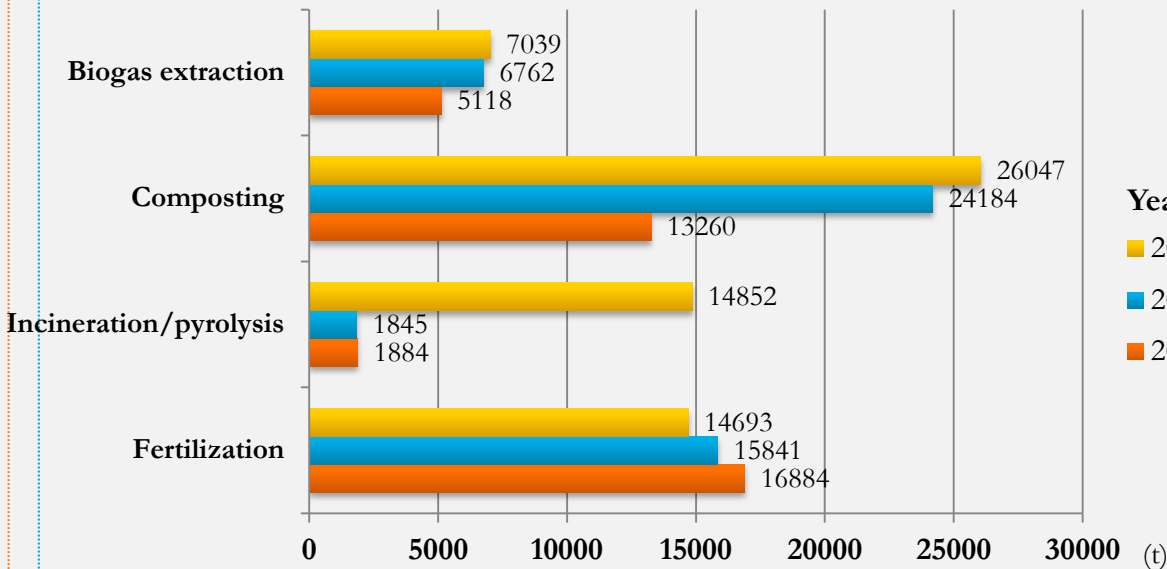
- Sewage sludge managers must report via **Unified Product, Packaging and Waste Accounting Information System (GPAIS)**.



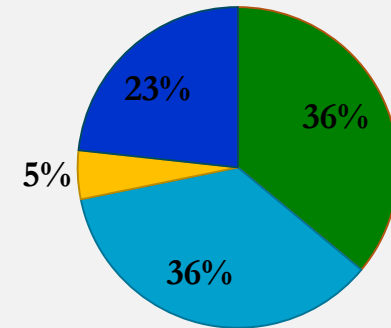
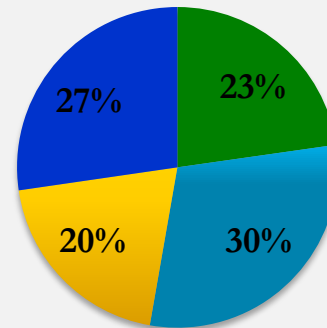
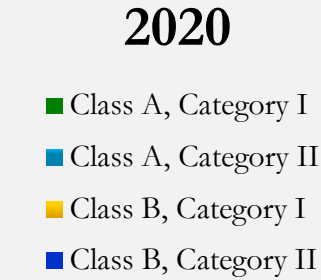
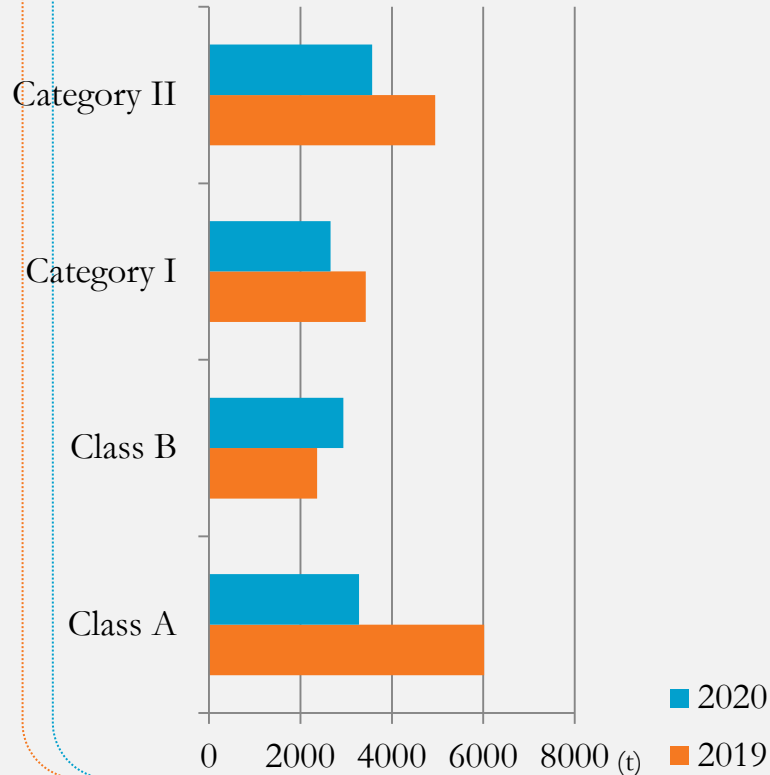
Reported data: amount of sewage sludge, waste code, codes and names of waste recovery activities, codes and names of waste disposal activities.



The use of sewage sludge



The use of sewage sludge in agriculture



Challenges

Farmers hesitate to take treated sewage sludge to fertilize lands for agriculture.

Previous legislation made it difficult for sewage sludge holders to use the unwanted sewage sludge.

Strict allowed concentrations of heavy metals limit the usage of sewage sludge in agriculture.

Accumulated sewage sludge in previous years.



Thank you

