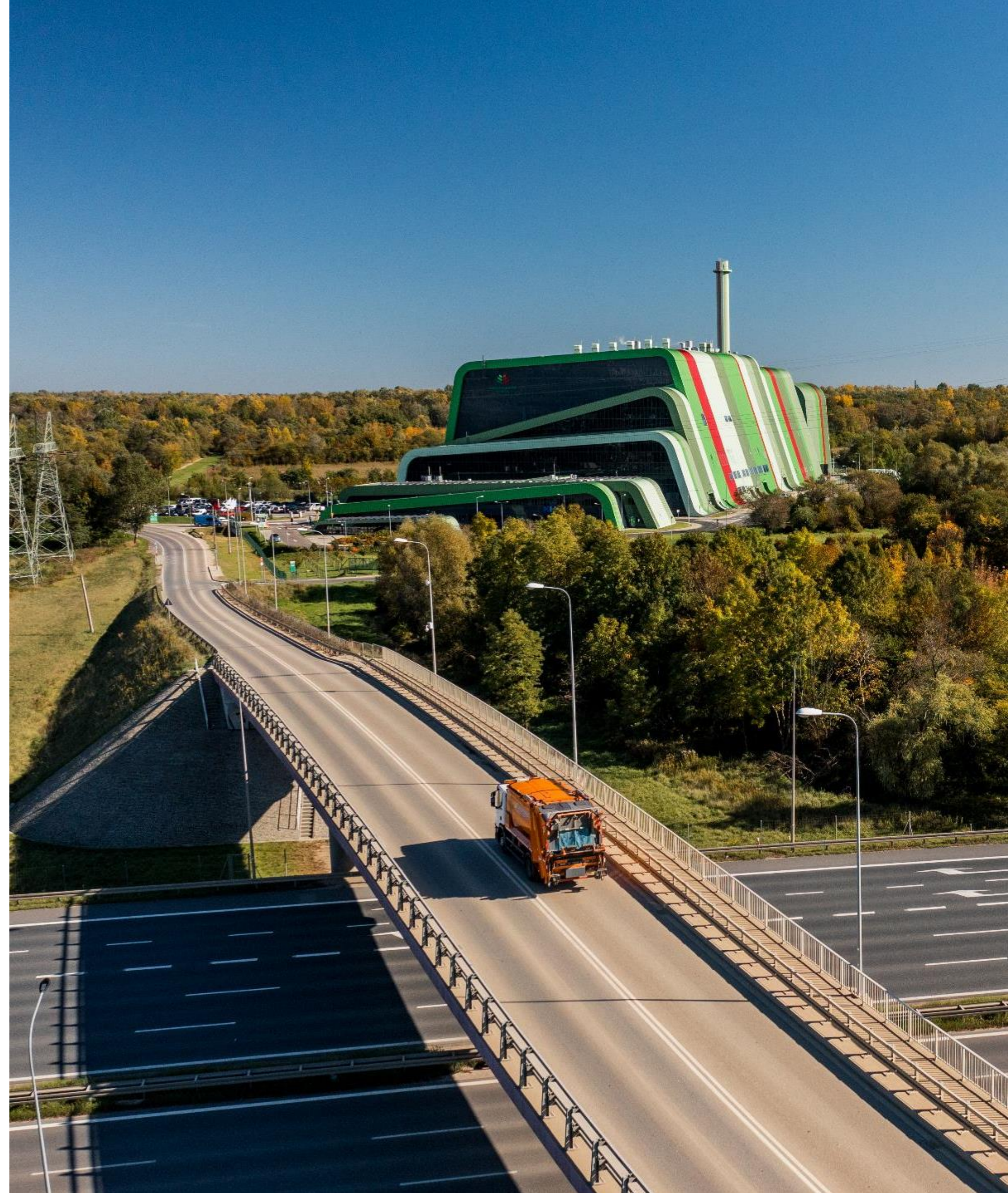





**Ekospalarnia
KRAKÓW**

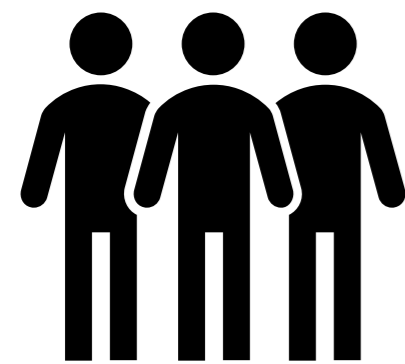
Poland

2024



POLANDS WASTE STATUS - GENERATED WASTE IN 2022

128,4 million tonnes of waste  **13,4 million tonnes is municipal waste**
10,4%




355 kg – the average amount of waste generated per capita in Poland in 2022 -
this is 158 kg less than the European average of 513 kg

WASTE SITUATION IN POLAND - LANDFILLING

 Polish target for maximum amount of landfilled waste:

- 1) 30% by weight - 2025-2029
- 2) 20% by weight - 2030-2034
- 3) 10% by weight - 2035

 38.7% today

- Currently, according to the Central Statistical Office (GUS), 38.7% of waste is landfilled per year in Poland.



RECYCLING LEVELS IN KRAKOW

- 🌱 By requirement the recycling level for municipal waste in 2023 is to reach at least 35%.
- 🌱 Recycling rate achieved in Kraków by far - 46,10%.
- 🌱 The landfill level Municipalities in Poland from 2025 -2029 cannot exceed 30% for each year.
- 🌱 The landfill level achieved in Krakow by far - 1,70%.

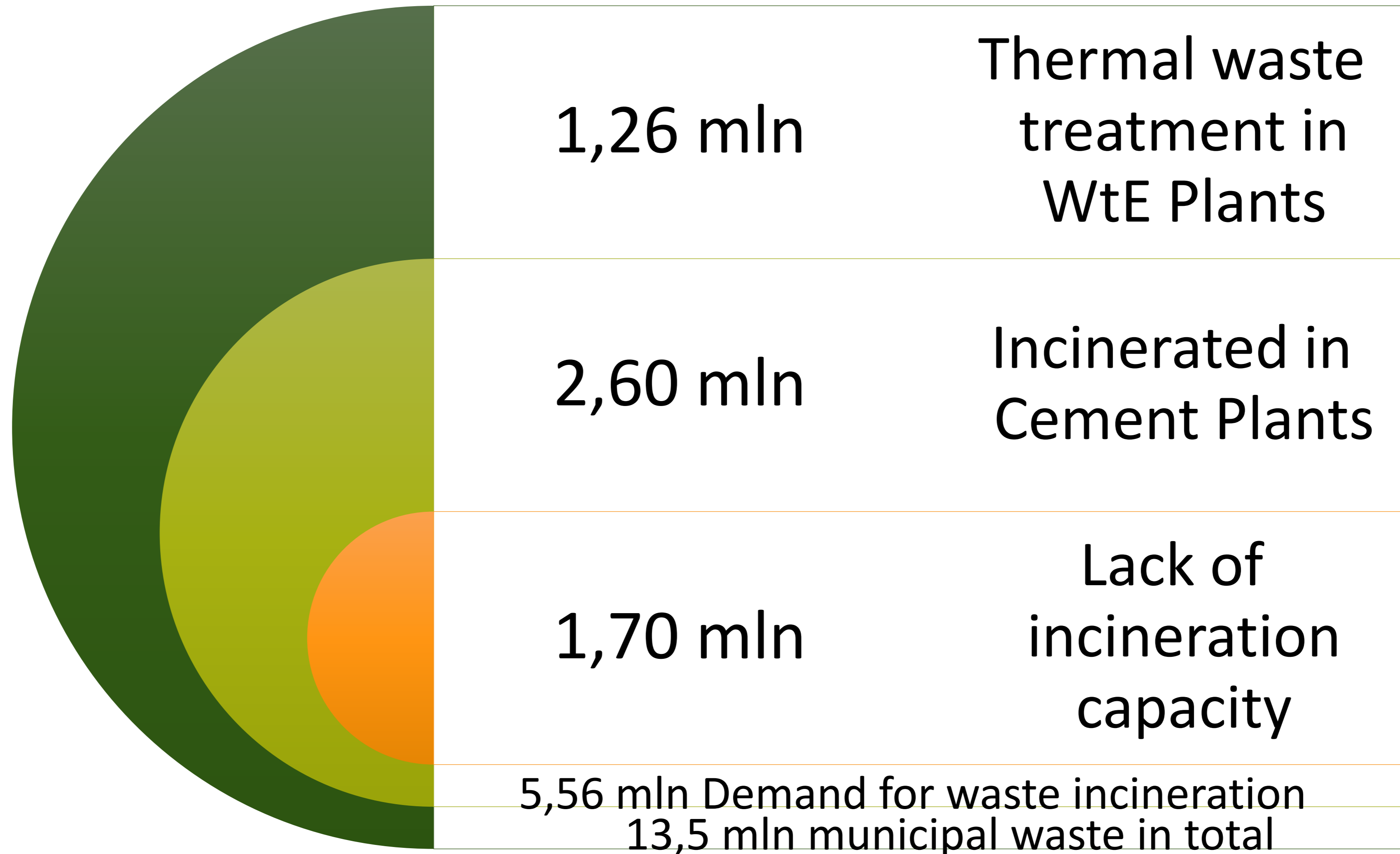


Krakowskie centrum recyklingu

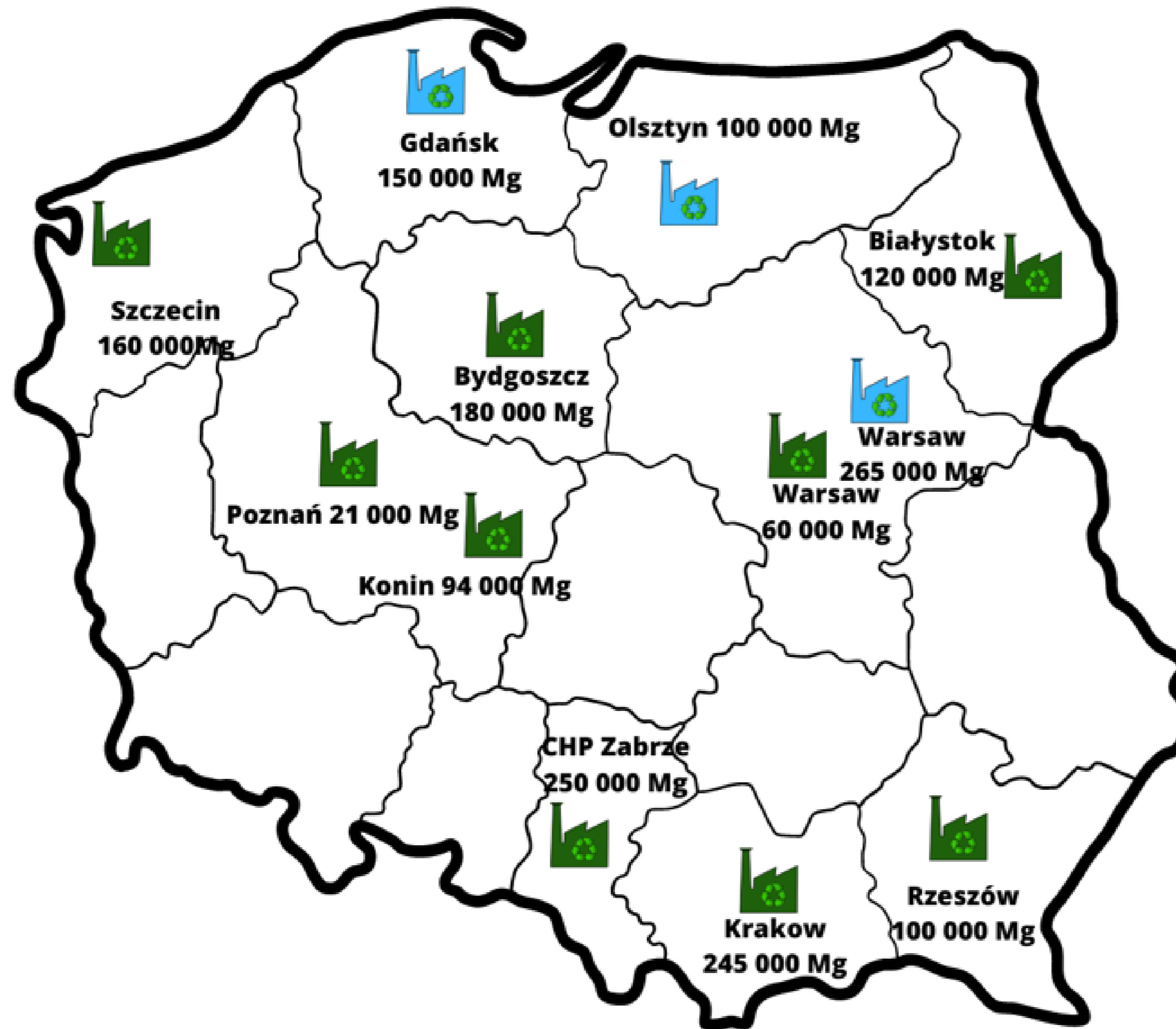
We love expensive electricity/waste bills!!!





HOW MUCH IS TOO MUCH



WASTE TO ENERGY IN POLAND



-  1. WtE in operation
1 415 000 ton
-  2. WtE under construction
682 000 ton

SUBSIDY PROGRAMME FOR NEW PLANTS



National Fund
for Environmental Protection
and Water Management

- Up to EUR 15 million in subsidies
- Up to EUR 43 million in subsidised loans




By 2024, signed contracts for the co-financing of additional
768 145 tons

ARE WE CIRCULAR?

ARE WE FRIENDS OR ENEMIES?



WASTE HEAT

-  The recovery of heat in Poland's Incineration Plants is more than 4.5 million GJ per year.
-  All Plants are connected to the district heating network.
-  Led by example of France, Austria and Germany The incinerator association in Poland is in discussion with the Ministry of Climate and Environment about considering heat from incinerators as waste heat.



SLAG RECOVERY

 Slag from the incineration plant is processed:

- R5* (recycling or recovery of other non-organic materials)
- R12* (exchange of waste for submission to any of the processes R1-R11)

And used, for example, as a building material in road construction.

 Poland's incinerators request the possibility to count the product that is produced from slag in the above-mentioned processes into recycling levels

AMENDMENT BY THE POLISH MEP TO 2008/98 - EN - Waste framework directive

Art. 11 paragraph 6a (new)	
Present text	Amendment proposal
	<i>6a. For the purposes of calculating whether the targets laid down in points (c), (d) and (e) of Article 11(2) and in Article 11(3) have been attained, Member States may take into account the recycling of minerals separated after incineration of municipal waste provided that the recovered aggregates meet certain quality criteria laid down in the implementing act adopted pursuant to paragraph 10a of this Article.</i>

CCS IN POLAND

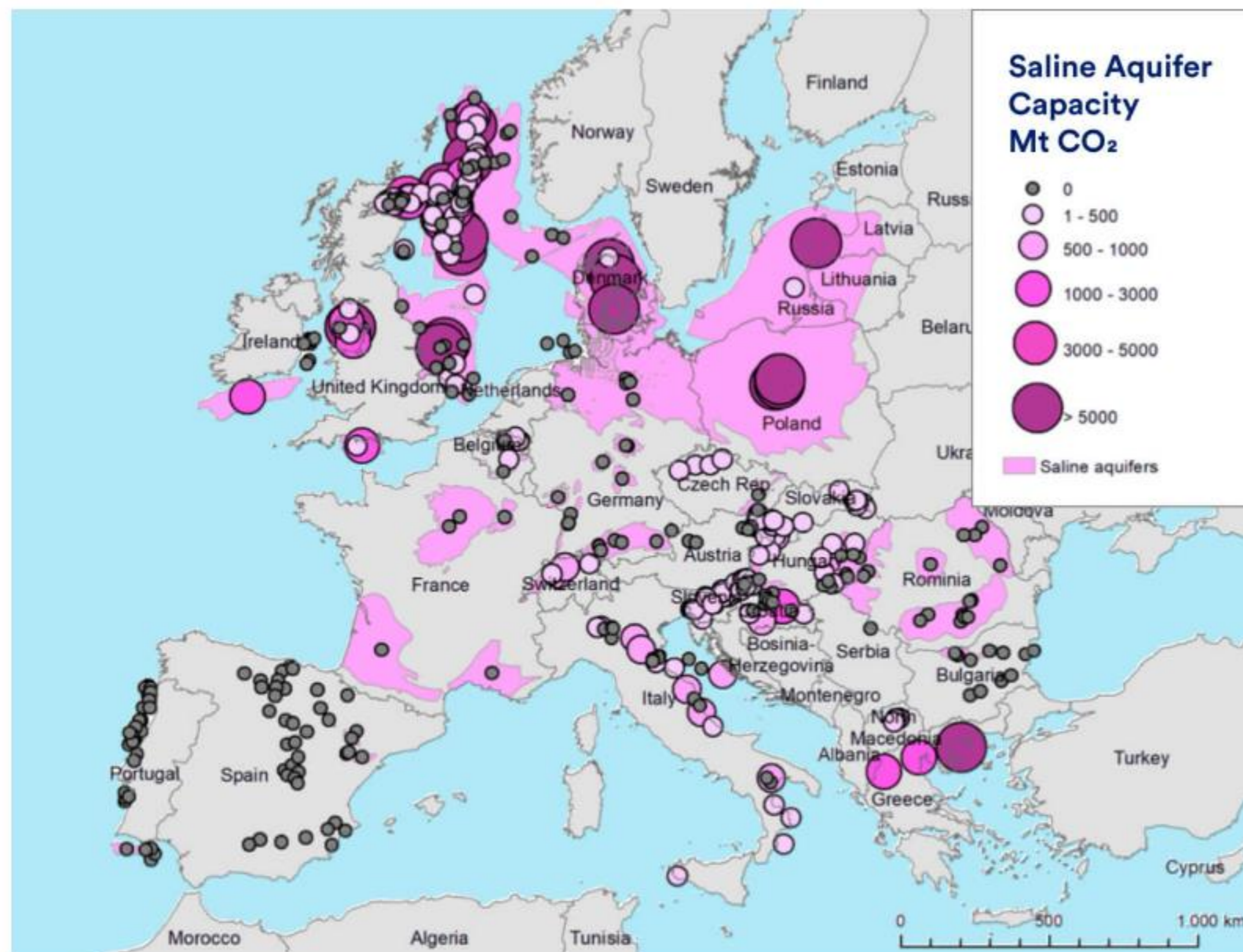
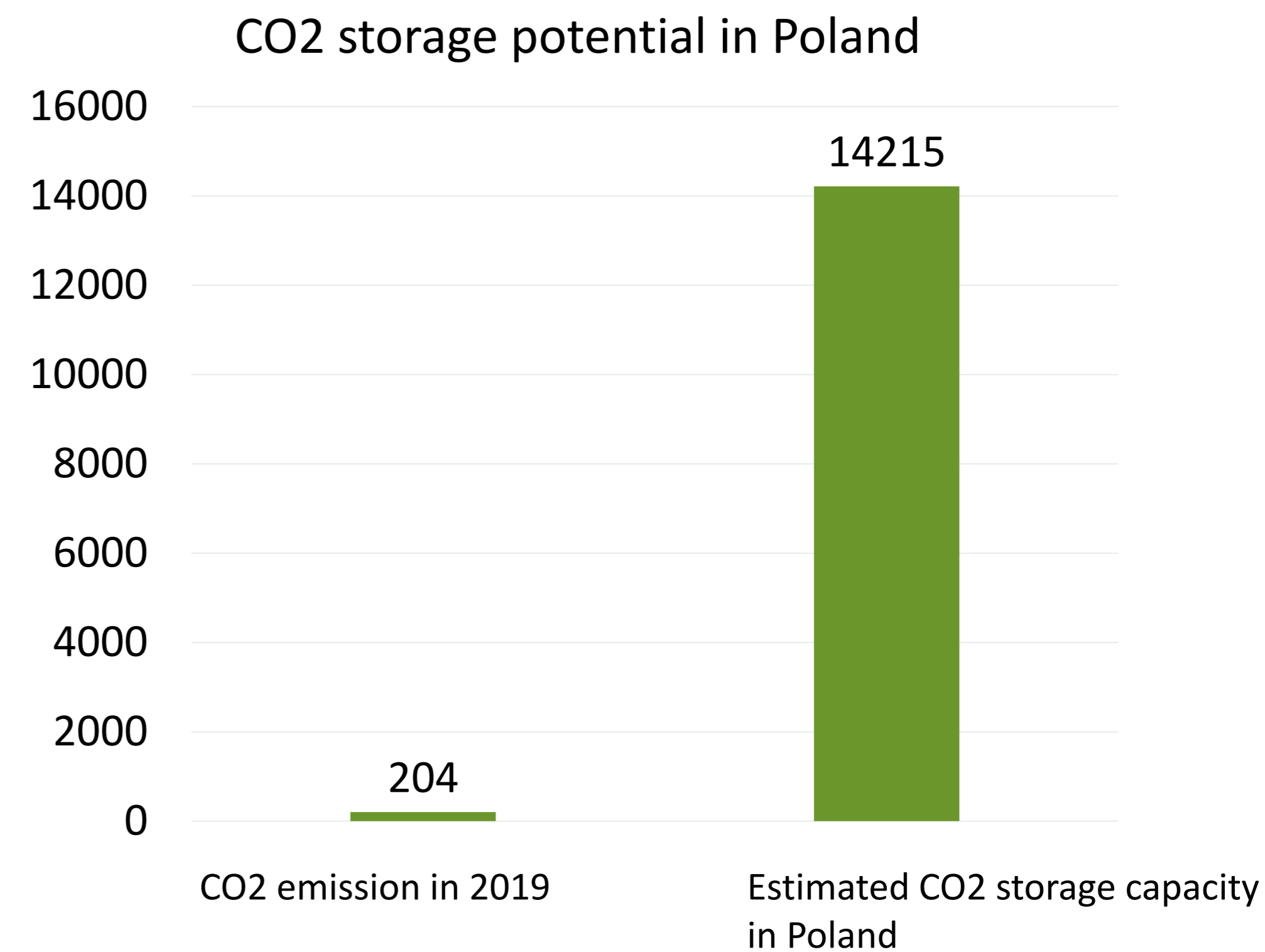


Figure 1: Location of storage areas and associated capacities across Europe. Source: GEUS, 2021

High potential for underground carbon storage, estimated at 10.1-15.5 Gt.



CCS PROJECTS IN POLAND

Orlen

Intends to capture CO₂ from its power plants. Use of land in the Baltic Sea for CO₂ storage Lotos Petrobaltic- the potential of the Lotos Petrobaltic concession is up to 133 million tonnes of storage capacity.

KUJAWY GEO4ECOPLANET

The Lafarge Cement Plant in Piechcin, Kujawy, has received EU funding for the construction of a fully commercial carbon capture plant. The construction phase will begin in 2026. - 1.2 million tonnes of CO₂ per year (10 % of the cement sector's emissions)


Góraźdże cementownia

Is testing an investment in carbon capture as part of the ACCESS project

CO₂ transport (capacity of 2.7 to 8.7 million tonnes of CO₂ per year), start-up: 06.2026.

POLSKA EU CCS INTERCONNECTOR

CCS4KRAKOW – PROJECT IN WTE IN KRAKOW

-  KHK has received funding from the Bilateral Cooperation Fund, EEA and Norwegian funds for the project 'CCS 4 Krakow Gain insight and know-how from Norway on CCS and CCU solutions for Waste Thermal Plant Incinerator in Krakow'.



VINCO



CO2 MANAGEMENT AS



KHK
Krakowski Holding Komunalny SA



Dziękuję za uwagę!

Thank you for your attention!

Jakub Bator

Member of the Management Board

Krakowski Holding Komunalny

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