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Waste to Energy 2022/2023

Technologies, plants, projects, players and backgrounds of the global thermal waste treatment business

Extract

15th edition, 2022

ecoprogram GmbH

Waste to Energy 2022/2023

The leading standard reference in the WtE industry. The 15th edition includes:

- Detailed and comprehensive forecast of the global market development by country until 2031
- Evaluation of annual new constructions and extensions, capacities, shut downs and investment volumes
- Overview of more than 2,600 waste treatment plants and about 1,100 projects on a country-by-country basis
- Analysis of different treatment technologies
- Description and market shares of all important operators and technology providers
- Market factors and the analysis of current trends and challenges
- Investment and operational costs and revenues with exemplary calculations
- Explanation of backgrounds and operating modes of thermal waste treatment

In addition to the market report, you will get free access to our infrastructure database waste & bio Data (WtE module) for 1 year.

The database contains information on all plants and projects, including capacity, status, start of operation, technology, flue gas cleaning, manufacturer, operator, and more. This also includes our weekly updated Project Tracker.

Please find a trial version of waste & bio Data [here](#).

The study is available starting from 4,200.- €*. Subscribers to our waste & bio Infrastructure Monitor receive a discount starting from 600.- €.

Further price reductions are possible with a regular subscription to the study. **Please find detailed price and product information at the end of this extract.**

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Poland

Last update: 10-2022

Inhabitants [million]	38.4	Number of waste incineration plants	[...]
Municipal waste [1,000 t]	13,118	Incineration capacity [1,000 Mg/a]	[...]
of which thermally treated [1,000 t]	[...]	Average age of incineration lines	7
Electricity from waste 2020 [GWh]	661	Share of total electricity production 2020 [%]	0.4
Heat from waste 2020 [TJ]	5,571	Share of total heat production 2020 [%]	2.0

Management summary

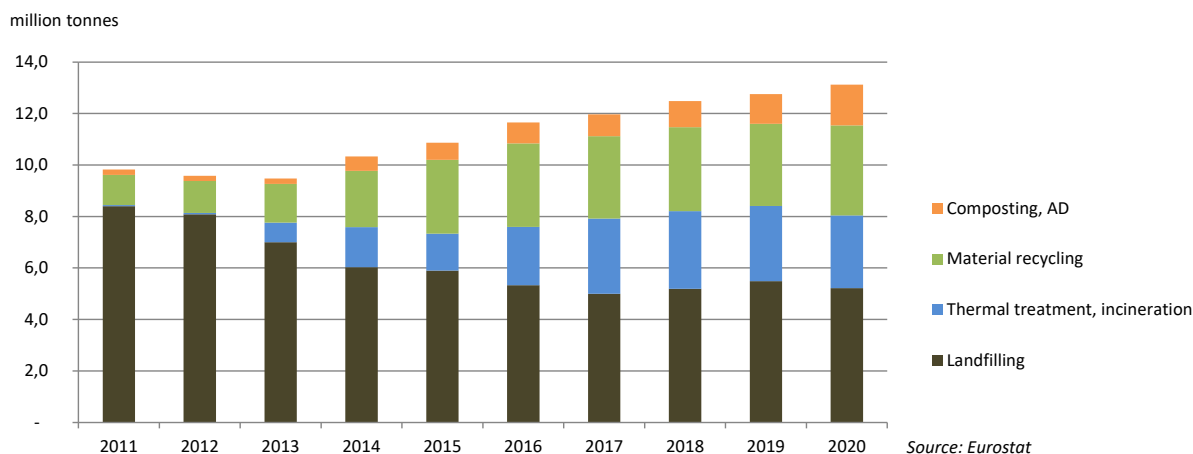
Poland remains a promising WtE market. We expect further capacities to be added in the years to come, following a lack of capacities caused by landfill bans and increased landfill fees. Due to a strong regulation of the market for mixed MSW, RDF combustion will likely be the preferred choice in the future. However, the time schedule of this boom is quite uncertain due to political influence, an unstable legal framework, a lack of experience and also financing problems.

Background / market factors / legal framework

Even before Poland joined the EU in 2004, closing dumpsites and small landfills was a major effort in recent years, as in many Central and Eastern European countries. While several thousand landfills had existed in the 1990s, in 2017 less than 320 were open for MSW landfilling. [...]

More information is provided in the report

Figure 179: Shares of incineration, recycling and landfilling of municipal solid waste in Poland



Plants

In 2022, [...] WtE plants with a capacity of at least [...] mtpy were operational. These plants can be differentiated into 3 groups:

- The Warsaw plant that already started operations in 1996. This is the only plant that was constructed before Poland joined the EU. As of June 2021, groundworks for the expansion of the plant from 70,000 tpy to 300,000 tpy have started.
- [...]

More information is provided in the report

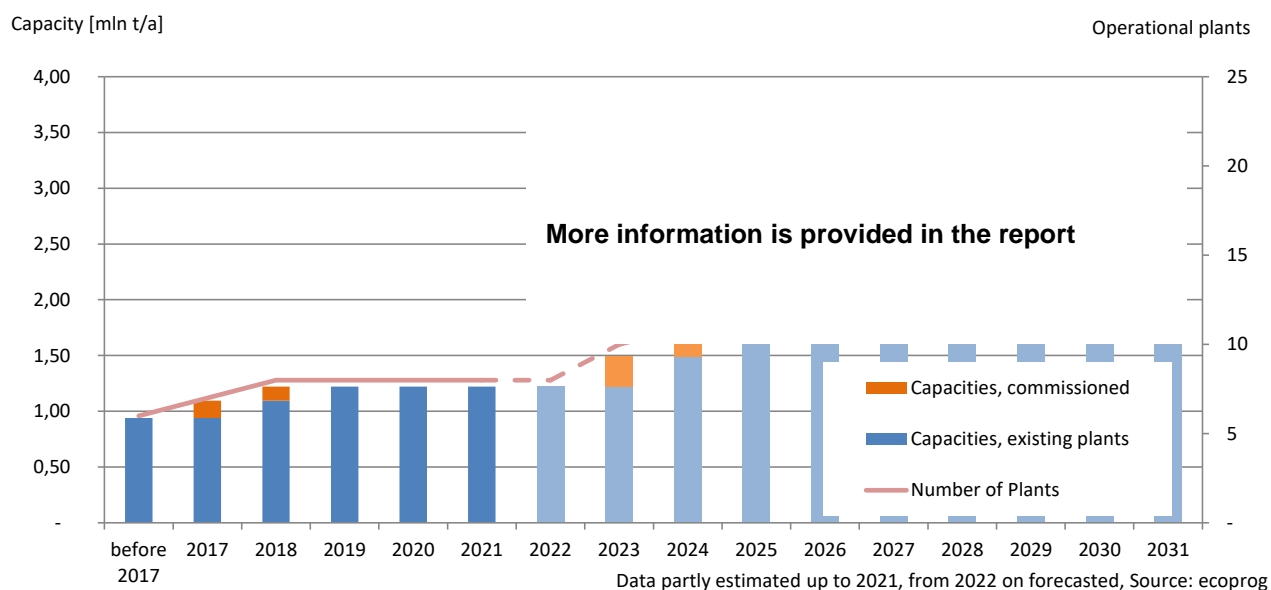
Market development

The WtE planning boom in Poland continues, still mainly driven by further increasing landfill taxes, a stricter control of the existing landfill ban and the shortening of allowable storage time for MSW treatment by-products from 3 years to 1 year. This has resulted in a bottleneck, especially for the disposal of the output of MBT plants.

The projects in Gdansk and Warsaw belong to the last of the projects that will be funded with EU funds allocated by the national level. [...]

More information is provided in the report

Figure 180: Development of plants and capacities in Poland



Ever since our last year’s report, we have tracked [...] new projects in Poland. This includes a large WtE proposal for Tarnobrzeg, new WtE plans in [...] or RDF combustion proposals in [...].

Building works at the second unit of the [...] WtE plant have begun in mid-2022. The WtE project in [...] has entered design and analysis stages. Several other projects again experienced setbacks and delays. For instance, the tender for a WtE project [...] has been cancelled. [...]

More information is provided in the report

Figure 181: Project outlook Poland

#	Project	Unit / plant*	Capacity (t/a)	Start	Status
1	Gdansk	plant	160,000	2023	under construction
2	Olsztyn RDF	plant	110,000	2023	under construction
3	Rzeszów	unit	84,240	2024	under construction
4	Warszawa	unit	139,320	2024	under construction
5	Warszawa	unit	139,320	2024	under construction
6	Starachowice RDF	plant	More information is provided in the report		
7	Tychy Wilkowyje RDF	plant			
8	Krosno RDF	plant			
9	Lodz RDF	plant			
10	Bielsko-Biala	plant			
[...]	[...]	[...]	[...]	[...]	[...]

As of October 2022

* "Plant" refers to a completely new facility to be built while unit refers to a new unit to be installed at an existing plant. More details for all projects and weekly updates are provided in our database waste & bio Data to which you have access.

Competition

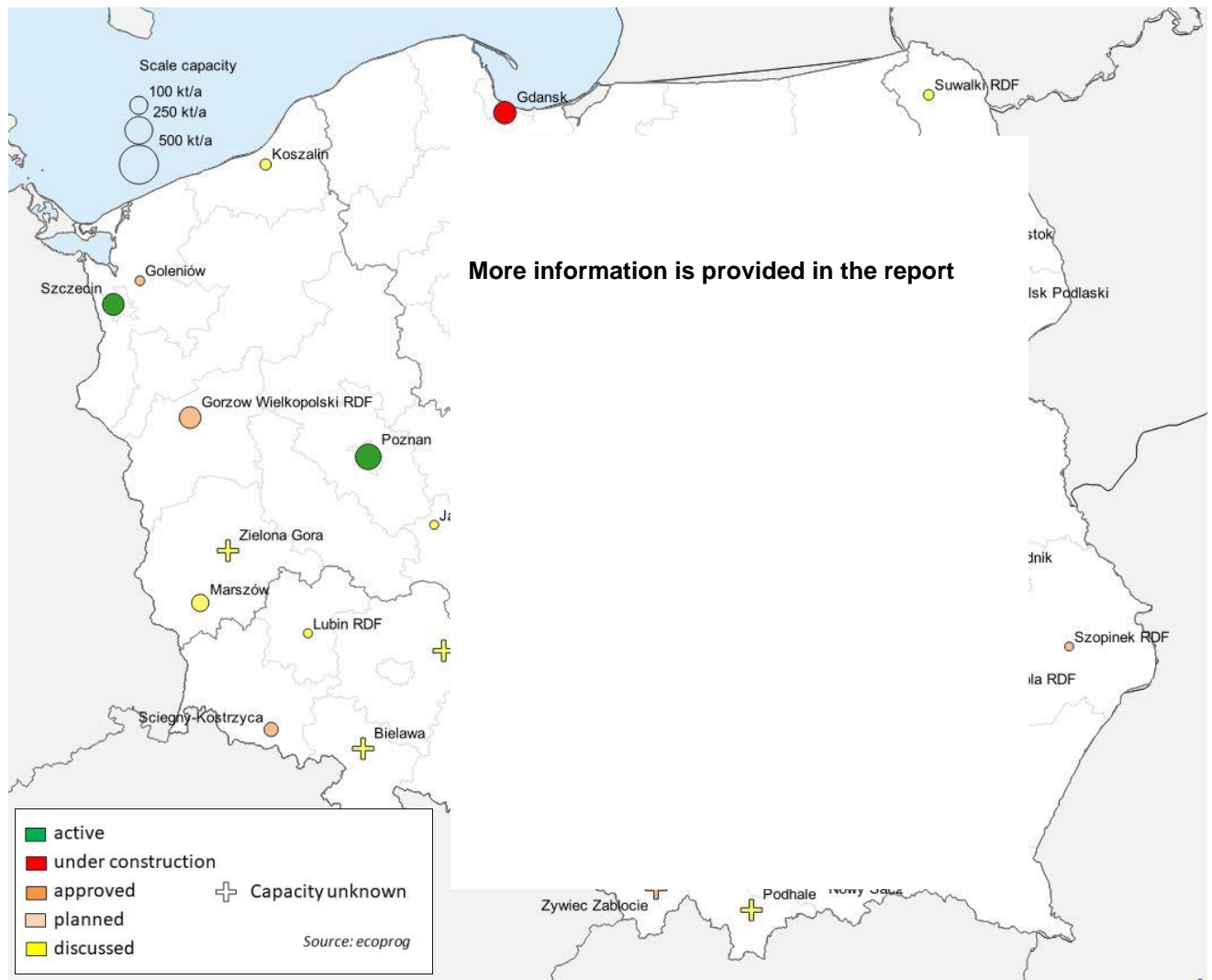
The competitive landscape in the Polish WtE business is currently changing.

The existing plants as well as the projects in Warsaw and Gdansk are dominated by municipalities, even though the Poznan facility is operated by a PPP (with Suez) and Gdansk will be as well (mainly with Dalkia Wastenergy [now Paprec]).

Most of the RDF combustion plants that are currently being planned will be operated by private companies – which also includes some players with a large public ownership such as Finland's Fortum or Poland-based Tauron.

More information is provided in the report

Figure 182: Locations of plants and projects in Poland

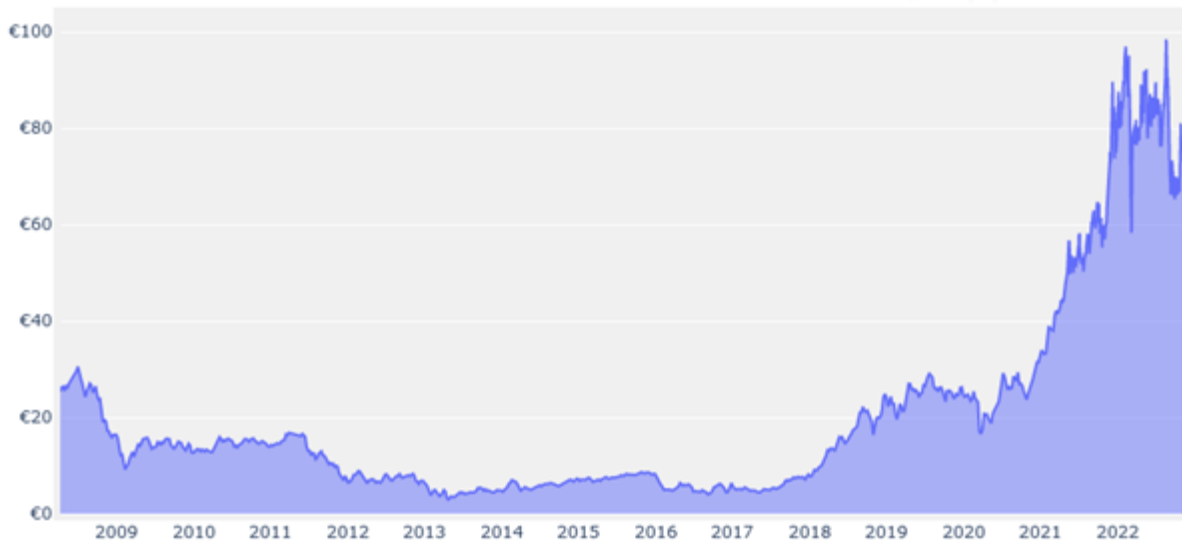


Active Plants

You can find further details for all plants, such as technical equipment, manufacturer or address for 12 months at: <https://data.ecoprolog.com/ecopr/>. This data is updated weekly. Please use the username and password that have been provided by email.

#	Name	Operator	Start	Capacity [t/a]	Units
1	Bialystok	Przedsiębiorstwo Usługowo-Handlowo-Produkcyjne "LECH" S.p.z.o.o	2015	120,000	1
2	Bydgoszcz-Torun	ProNatura	2015	180,000	2
3	Konin	More information is provided in the report			
4	Krakow				
5	Poznan				
6	Rzeszów				
[...]	[...]	[...]	[...]	[...]	[...]

Figure 272: Price development of EUA futures (EUR/t of CO₂)



Source: sandbag.be, retrieved 01.12.2022

Operators of covered facilities that emit CO₂ must provide valid CO₂ certificates. A cap is in place for the total amount of greenhouse gases that can be emitted by the installations covered by the system and only a limited quantity of new certificates is available per year, which is also reduced over time. In 2013, the cap was 2,084 million certificates. This amount decreased by 1.74% annually until 2020 and by 2.2% annually since 2021. Installations receive or buy certificates, which they can also trade with other operators. As a result of a shortening of certificates, the price per certificate (or ton of CO₂ emitted) increased from EUR 7 in 2018 to about EUR 80 in late 2022.

So far, WtE facilities are exempted from most ETS worldwide. The main reasons for doing so were:

- WtE plants can already be seen as savers of greenhouse gases as they prevent the emission of methane from landfilling. [...]
- The steering effect of an ETS does not work for the waste business. Within the energy market, CO₂ is priced, and prices are increased to make energy producers shift from fossil fuels (e.g. coal or gas) to renewable energy sources such as wind or solar. However, [...]
- Waste consists of an organic share. The CO₂ that arises from this organic share is renewable just like any other biomass. Using waste instead of fossil fuels [...]

Nevertheless, of course, there are also reasons for including WtE in ETS systems. [...]

More information is provided in the report



- 1 Waste-to-Energy
- 2 MBT plants (u.p.)
- 3 Sorting Plants
 3. 1 Dry Recyclables (u.p.)
 3. 2 Plastic (u.p.)
 3. 3 Paper (u.p.)
- 4 Recycling plants
 4. 1 Plastic (u.p.)
 4. 2 Paper (u.p.)
- 5 Biomass-to-Power
- 6 Biogas / Anaerobic digestion

Search		Country Filter	
<input type="text" value="Cheneviers Aire-la-Ville"/>		<input type="text" value="None"/>	
Plant			
Name	Cheneviers Aire-la-Ville		
Country	Switzerland		
Province/Region	Geneva		
Status	active		
Start of operation	1978		
Input, capacity [t/a]	276.000		
Gross heat production [MW]	n.a.		
Power generation capacity [MW]	31,0		
Heat production capacity [MW]	17,2		
Heat use category	district heating CHP		
Remarks: The electricity output covers up to 16% of Geneva's demand. Steam is sold to Cadom SA for district heating. This plant will be replaced with the new facility Cheneviers 2 at the same location (for further information see data entry Cheneviers 2). According to a planning paper of the Swiss association of WtE operators VBSA from mid 2020, the plants capacity will be reduced by about 90,000 t/a due to a plant renewal. The commissioning is planned for 2024.			
Unit 1			
Status	shut down		
Year of Awarding	n.a.		
Start of operation	1978		
Type of thermal process	Grate		
Technology	horizontal grate		
Technology provider	Martin, Enertech, Von Roll		
Power generation technology (PGT)	n.a.		
PGT provider	n.a.		
Flue gas cleaning technology(FGC)	Wet Scrubbing / Selective Catalytic Reduction		
FGCT provider	Lurgi, CTU		
Gross heat production [MW]	n.a.		
Power generation capacity [MW]	n.a.		
Heat production capacity[MW]	n.a.		
Remarks:	n.a.		

Downloads

- WtE Project Tracker
 -  701.50 KB
- WtE_List Of Active Plants
 -  848.00 KB

Infrastructure database waste & bio Data

In addition to the report, you will get access to ecoprogram's waste & bio Data (WtE module) for 1 year.

The weekly updated database includes detailed information on all WtE plants and projects related to capacity, status, start of operation, technology, flue gas cleaning, plant manufacturer, operator, and more.

waste & bio Data also includes a weekly updated WtE Project Tracker in MS Excel.

Please find a [trial version](#) of waste & bio Data on our website.

Price and product information

You can order the market report here:

<https://www.ecoprolog.com/publikationen/abfallwirtschaft/waste-to-energy/order-waste-to-energy.htm>

Pricing model: One-time purchase

- Single-user version: 4,200.- €*
- Company version: 8,400.- €*
- Corporate version: Price on request

Product information:

Single-user copy: personal copy (personalised and password-protected PDF file, sent via email)

Company version: company-wide copy (legal entity), PDF file, sent via email

Corporate version: for different, legally connected companies (e.g. sister companies, subsidiaries abroad). The price depends on the number of companies and employees.

Includes 12-month access to waste & bio Data (WtE module) and WtE Project Tracker.

Subscribers to our weekly published waste & bio Infrastructure Monitor ([info](#) | [order](#)) will receive a discount of 600.- € (1,200.- € in case of a company version).

Pricing model: WtE Package (subscription)

- Single-user version: 3,300.- €* per year
- Company version: 6,600.- €* per year
- Corporate version: Price on request

The WtE Package includes:

- a. Market study "Waste to Energy", updated annually
- b. w&b Monitor (sent weekly) plus access to the w&b online archive with more than 47,000 news items
- c. Access to waste & bio Data (WtE module) including WtE Project Tracker

The minimum subscription period is 2 years. The subscription will be renewed for another year if it is not cancelled at least 4 weeks before the expiration date.

Options (for both pricing models): Additionally, you can order all data on plants and projects in MS Excel (only in combination with a company or corporate version): 4,200.- €*

Additionally, you can order a printed copy of the study: 150.- €*

* plus 19% VAT for customers within Germany and EU customers without a VAT ID.