

# The WASTX Plastic P2.5

NEXT GENERATION CHEMICAL  
RECYCLING PLANT

# THE FUTURE OF RECYCLING IS CHEMICAL

## THE GENERATION OF PLASTIC WASTE IS INCREASING RAPIDLY

Plastic has become an indispensable part of our world. It is irreplaceable for too many important applications, e.g. in food and medicine, and production continues to rise sharply. What remains are the challenges in disposal and recycling.



## IN THE CENTER OF FOCUS: RECYCLING POSSIBILITIES AND CIRCULAR ECONOMY

Chemical recycling by thermolysis is one of the solutions to produce virgin plastic from mixed and contaminated waste. In our process synthetic crude oil is produced in a continuous and automated way to get closer to the goal of a circular economy.

# THE WASTX PLASTIC - Converting plastic waste into synthetic crude oil



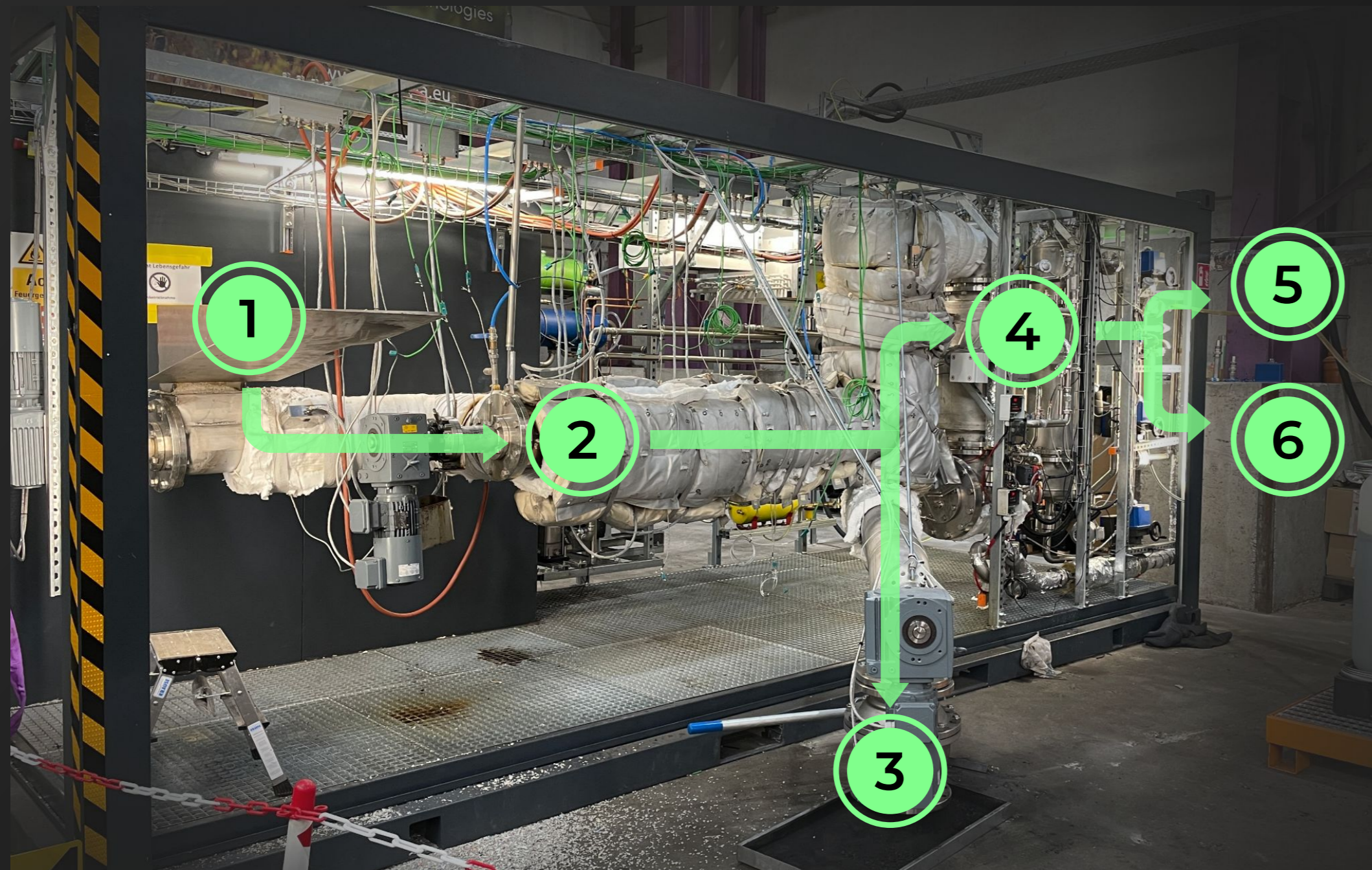
## Key facts

- Throughput: 100 kg/h
- Average power consumption: 60 kWh
- Dimensions: 6055 x 2435 x 2850 mm
- Fully automatic process operation
- Input: Polyolefins (PE, PP, HDPE, LDPE)
- Output: High viscosity oil 30-60%, Low viscosity oil, 10-30%, Pyrolysis gas 10-20% (depending on input material), ~ 3% Carbon black



The plant is in the final stages of its development and is subject to further improvements, therefore the values and information given in this handout should not yet be considered as binding and need to be confirmed.

# PROCESS AND TECH DATA



The plant is expandable by means of various modules. Among them, there is a pre-treatment plant for preparing the waste for the pyrolysis process, tank systems for the final products, generators and silos of various sizes. More information can be found in separate handouts.

1

**Substrate entry:** By means of a stuffing screw, the material is introduced into the pyrolysis reactor in an airtight, demand-driven manner and melted.

2

**Pyrolysis reactor:** The material is heated with constant movement. At temperatures of up to 500 °C, depolymerisation occurs, cracking of the long hydrocarbon chains into liquid and gaseous products.

3

**Residue discharge:** The residues are separated from the pyrolysis gas in the separator and continuously discharged by means of a tamping screw.

4

**Stepped condensation:** In several temperature stages, the condensable components of the pyrolysis vapors are recovered as oil or waxy products.

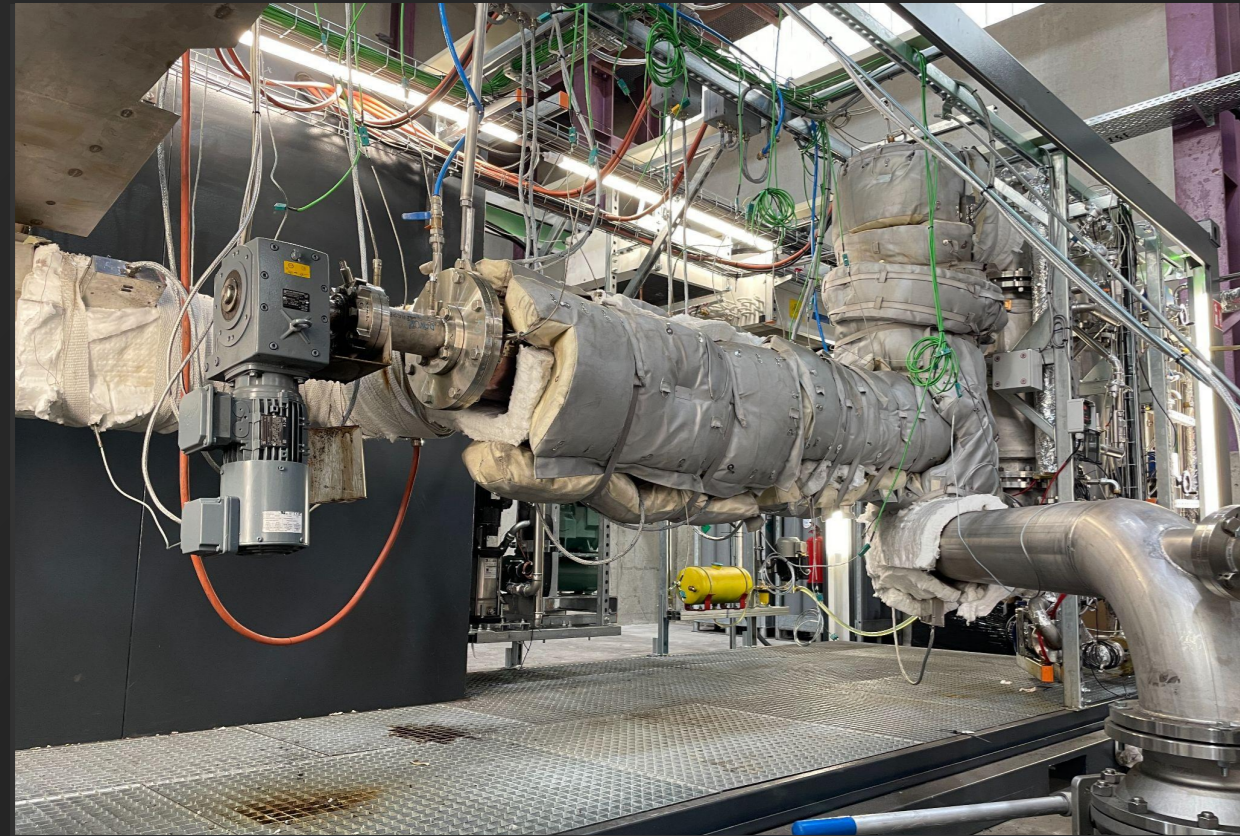
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**Pyrolysis gas:** The gas is processed using an integrated gas washer before being used in a generator to power the plant. Thus, the plant supplies itself with electricity.

6

**Pyrolysis oil:** The extracted oil can be profitably sold to the petrochemical industry as the main ingredient of production or converted into energy by a special and optionally available generator.

# TECHNICAL HIGHLIGHTS - Designed for maximum performance



Linear and hanging design system for increased throughput and maintainability.



Fully automatic and continuous discharge for higher uptime and better ash quality.



Integrated drip pan with tap allows mobile installation and environmental safety.



Integrated cooling systems and secondary systems to fully automate the plant.



## DIGITALLY MONITORED AND REMOTELY CONTROLLABLE

Plant status and process parameters can be monitored on the panel and also controlled remotely. All plant data is stored in a central database and used for optimization of process parameters and predictive maintenance by means of machine learning.

# POSSIBLE FEEDSTOCK

This is the current version of the feedstock requirements dated 20.12.2021. Due to the pre-treatment of the material, a large part of the requirements can already be met. In exceptional cases, a chemical analysis of the plastic waste may be necessary.



Plastic foils



Hard plastic



## Currently processable materials

<b>PE</b>	Polyethylene
<b>PP</b>	Polypropylene
<b>HDPE</b>	High Density Polyethylene
<b>LDPE</b>	Low Density Polyethylene
<b>LLDP</b>	Linear Low Density Polyethylene
<b>PP+C</b>	Polypropylene with C adherence

## You have other kinds of plastic waste?

We offer a Feedstock Analysis, where you can test the processability of your feedstock accordingly to the process of the WASTX Plastic. If you are interested, please contact your Biofabrik contact person.

Get your feedstock analyzed

# Contact us now!

For more information and answers to your specific questions, please do not hesitate to contact us!

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