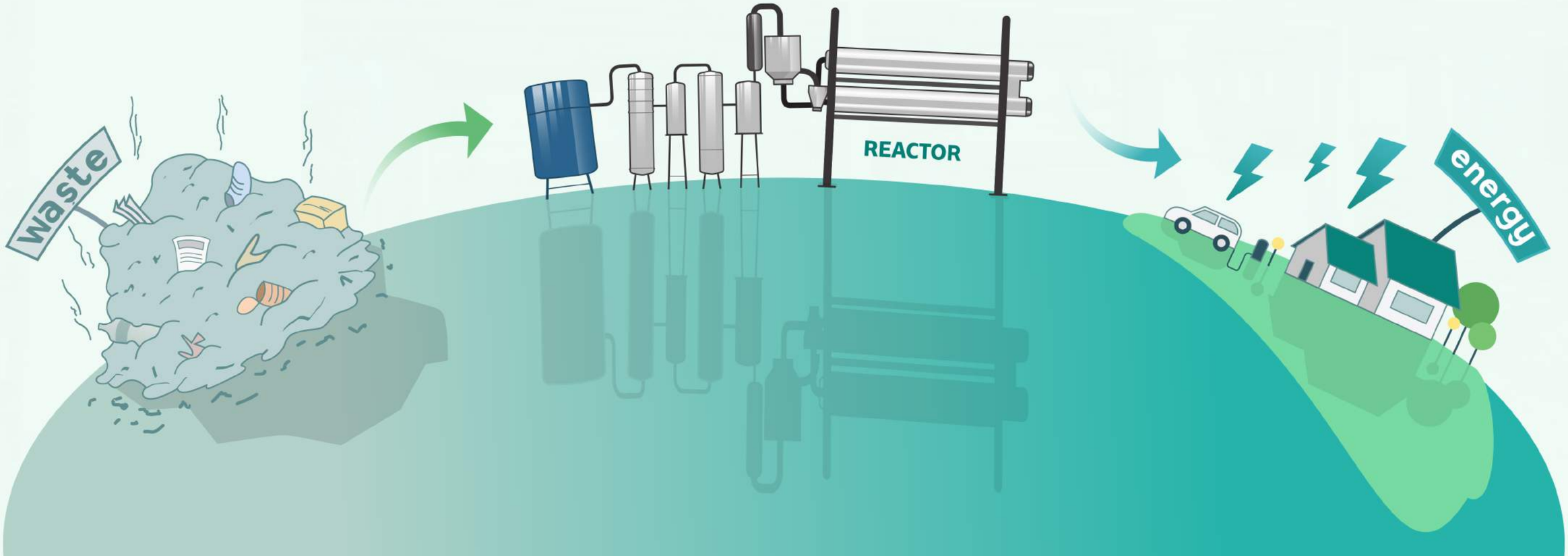
WPowertech™

SYSTEM

WASTE2ENERGY MACHINE

AFTER 12 YEARS OF RESEARCH. ROMANIAN PATENT.



DISCOVER OUR STORY

Welcome to the future of waste management and energy production with our cutting-edge WP 1000.
We are committed to revolutionizing the way we handle waste while contributing to a cleaner and more sustainable world.

1 TON / hour
DRY WASTE

OUR VISION

We envision a future where waste becomes a resource, powering clean energy solutions.

By converting waste into sustainable energy, we're reshaping waste's role, fighting climate change, and securing a better future for all.

OUR GREEN COMMITMENT

We're dedicated to the environment in all we do. Urgently reducing waste, curbing pollution, and conserving resources drive us.

Through our closed-loop waste-to-energy system, we cut carbon emissions and preserve the planet.

WPowertech™
SYSTEM

EUROPEAN STANDARDS

CE

CEPROM

WHY WASTE 2 ENERGY MACHINE?

ZERO CARBON DIOXIDE EMISSIONS

Entire waste disintegration will have ZERO CARBON DIOXIDE EMISSIONS during process with no smoke or smell of any kind released in atmosphere.

REMOTE INSTALLATION

Our Waste2Energy plant can be installed anywhere including remote and/or isolated locations because NO connection for gas or electricity is required.

NO GAS

The system is powered only by electricity from its own production therefore NO GAS is required to process the waste at anytime.

NO CHEMICALS

NO chemicals of any kind are needed during process and also NO chemicals are generated during or after process as being a true clean procedure.

24/7 USAGE

8100 HRS OF FUNCTIONALITY / YEAR

Our plant is professional built to be used 24/7 and the waste process is not being affected by any outside temperatures

1000m² TOTAL PLANT AREA

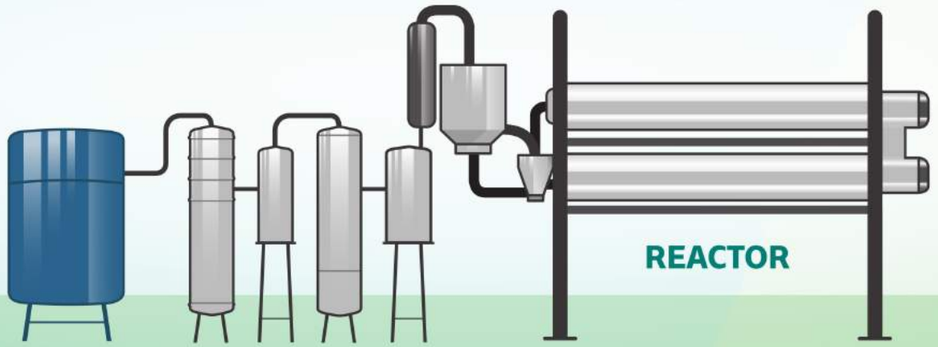
Each plat unit of 1MWh size will require max 1000 sqm to function. This area includes the machinery as well as the waste storage area.

OPTIMAL SLUDGE CONVERSION

Our plant can also process and transforms SLUGE from SEWAGE BLACK WATERS into electricity at the ratio 1:1

FAST ROI

Our Waste2Energy plant solution will make possible 1-4 years return of investment to our clients.



PRODUCT PRESENTATION

1 TON/hour PROCESSED DRY WASTE

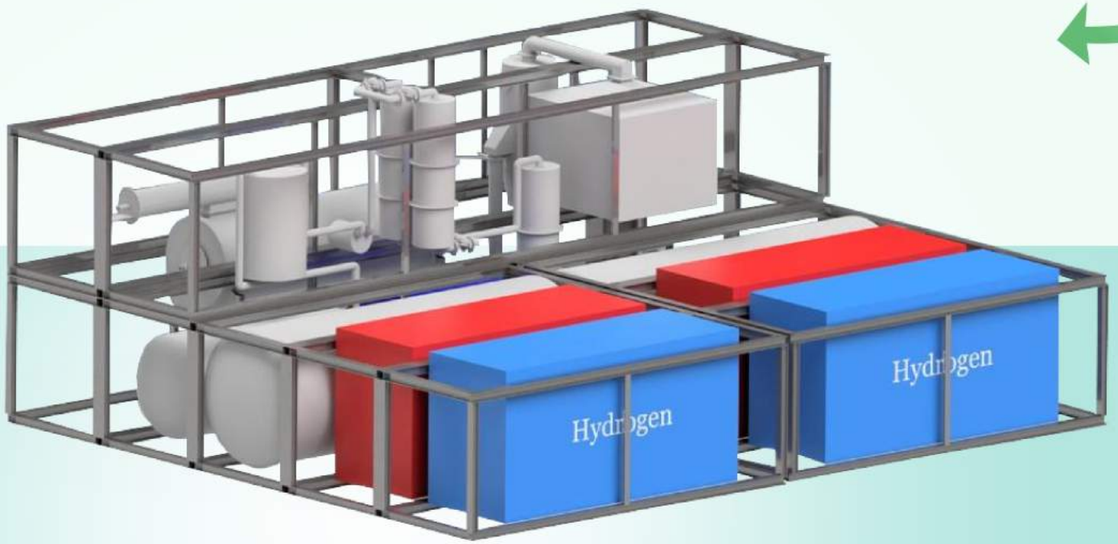
1 TON SLUDGE WATER TREATMENT

1 TON PETROLEUM SLUDGE

1 TON USED TYRES

1.5 TON BIOMASS

1 TON/hour COAL



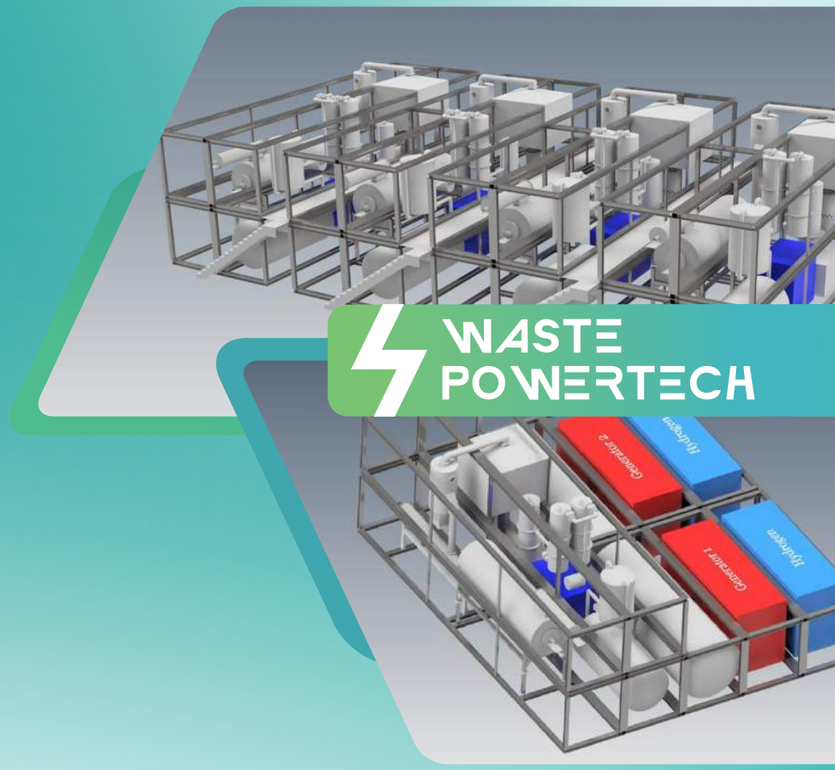
SYNGAS approx. 400 m³

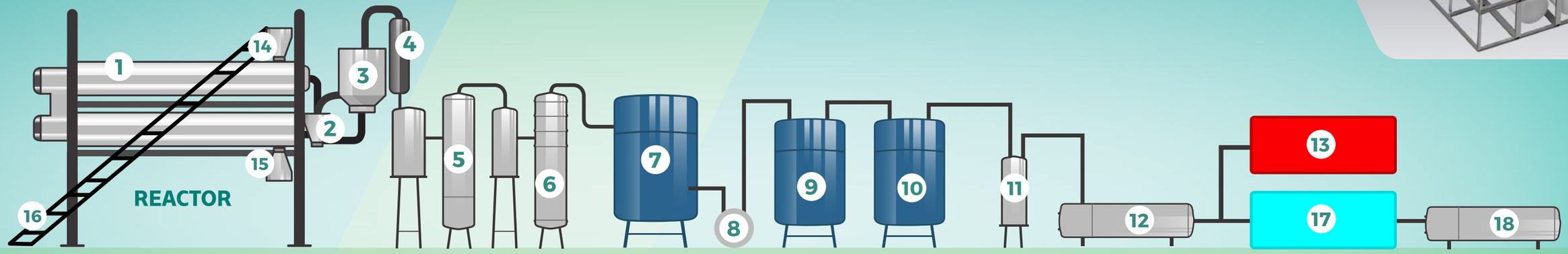
ELECTRICITY 1 MWh

H_2 **HYDROGEN** 160 m³

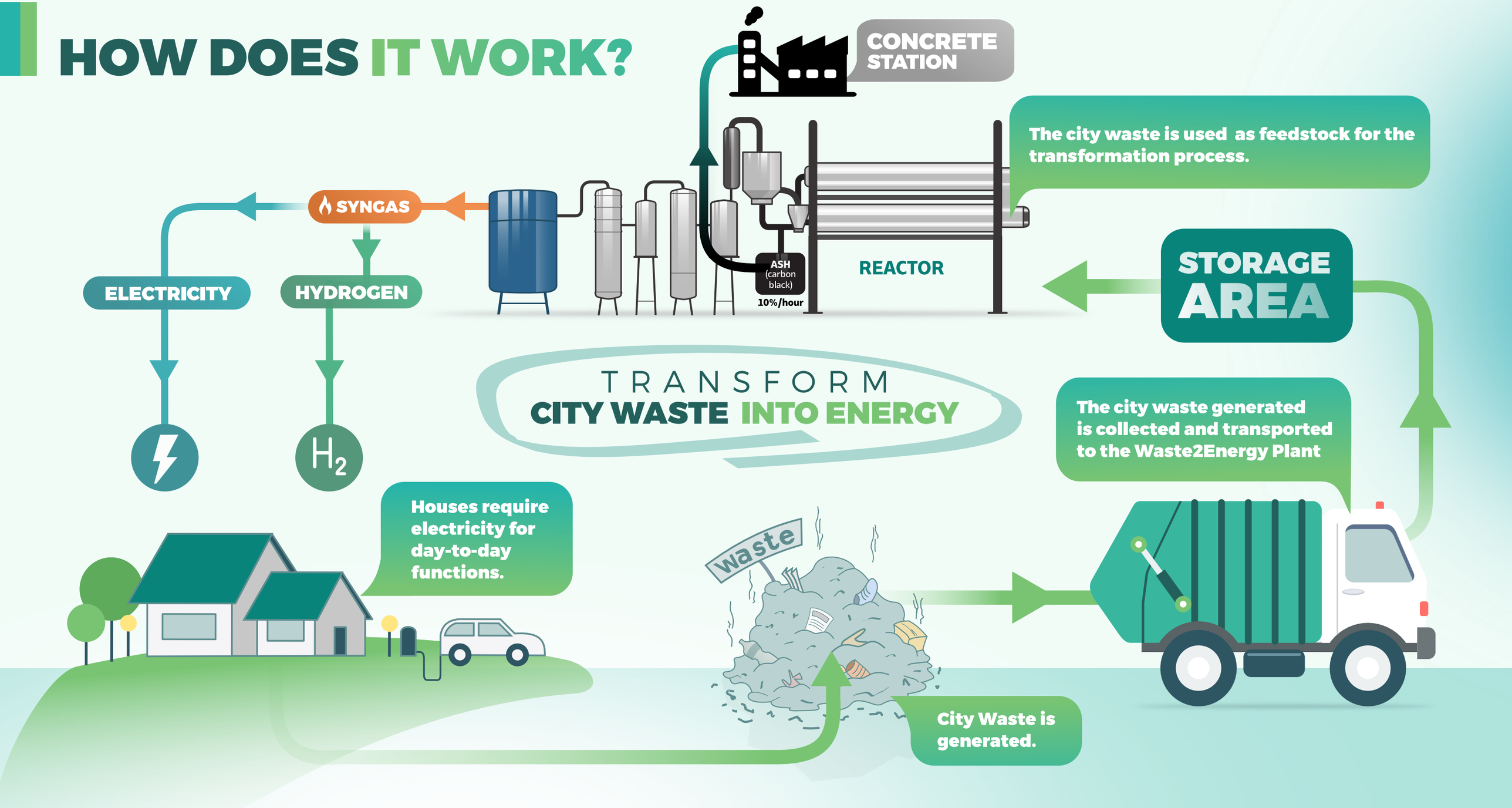
WPOWERTECH PRODUCTION PLANT

1. MOLECULAR DISINTEGRATION REACTOR
2. SEPARATION CYCLE
3. TAR FILTER
4. HEAT EXCHANGER
5. SULFUR COMPOUND FILTER
6. HEAVY METAL FILTER
7. HEAT EXCHANGER
8. VACUUM PUMP
9. GAS FILTER
10. GAS FILTER
11. COMPRESSOR
12. GAS TANK
13. ELECTRICITY GENERATOR
14. REACTOR SUPPLY
15. ASH DRAIN TANK
16. CONVEYOR BELT
17. ELECTROLISER
18. HYDROGEN TANK





HOW DOES IT WORK?



SLUDGE 2 ENERGY

TRANSFORM
SLUDGE **FROM BLACK WATERS**
TO ELECTRICITY

Sludge from Sewage treatment plant is transported.

CONCRETE STATION

HYDROGEN H_2

HYDROGEN POWERED TRUCK

SYNGAS

ELECTRICITY

Sludge Dryer

ASH (Carbon Black)

REACTOR

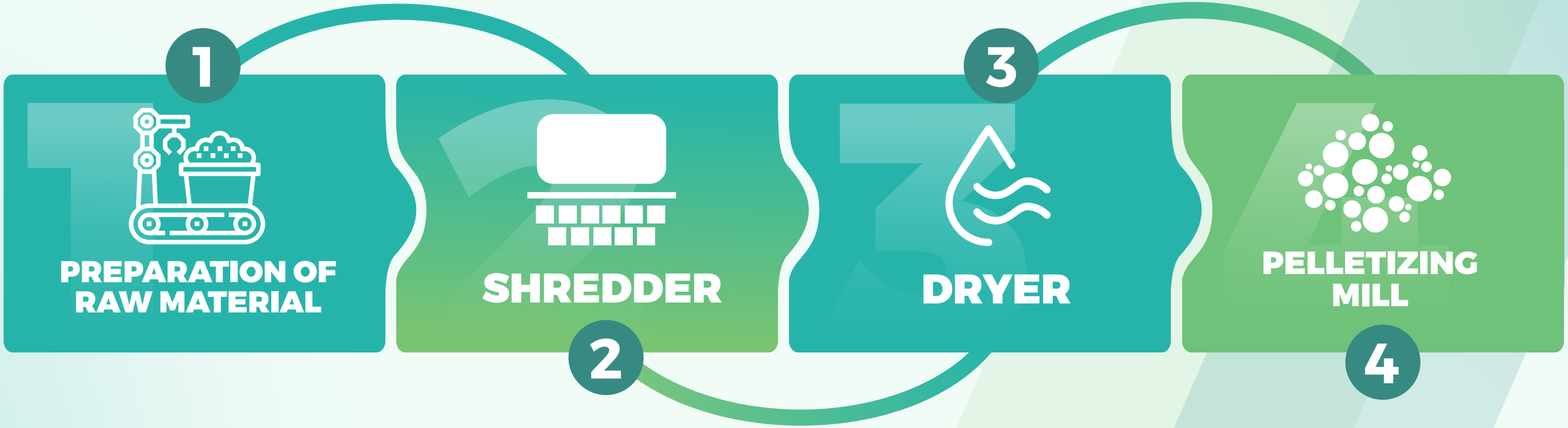
10%/hour

Sewage Treatment Plant

Black Water Pipe

STAGE 1: PREPARATION

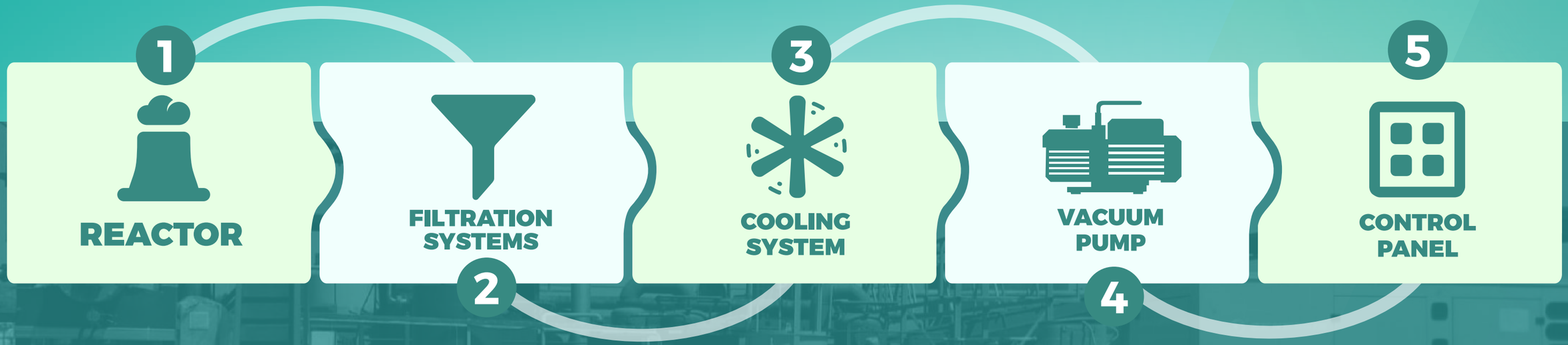
The journey to cleaner energy begins with precise preparation.
Raw materials are meticulously processed, undergoing drying, shredding, and pelletizing.
This stage ensures that waste is transformed into a highly efficient feedstock,
ready to be converted into valuable energy. By optimizing this initial step,
we set the stage for a streamlined and eco-friendly waste2energy process.



STAGE 2: PROCESSING

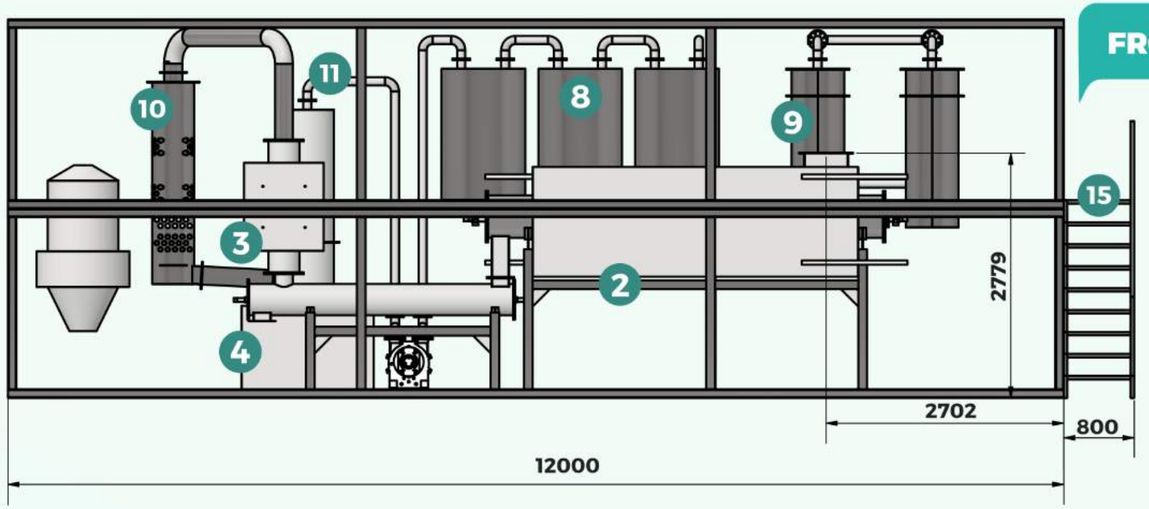
In this pivotal stage, our advanced technology takes center stage.
The waste undergoes a transformation process involving high-temperature pyrolysis and mixed gasification.

As a result, we generate clean and versatile syngas, opening doors to electricity, hydrogen, and valuable chemical production. Our meticulous approach ensures maximum efficiency and minimal environmental impact throughout this vital processing phase.

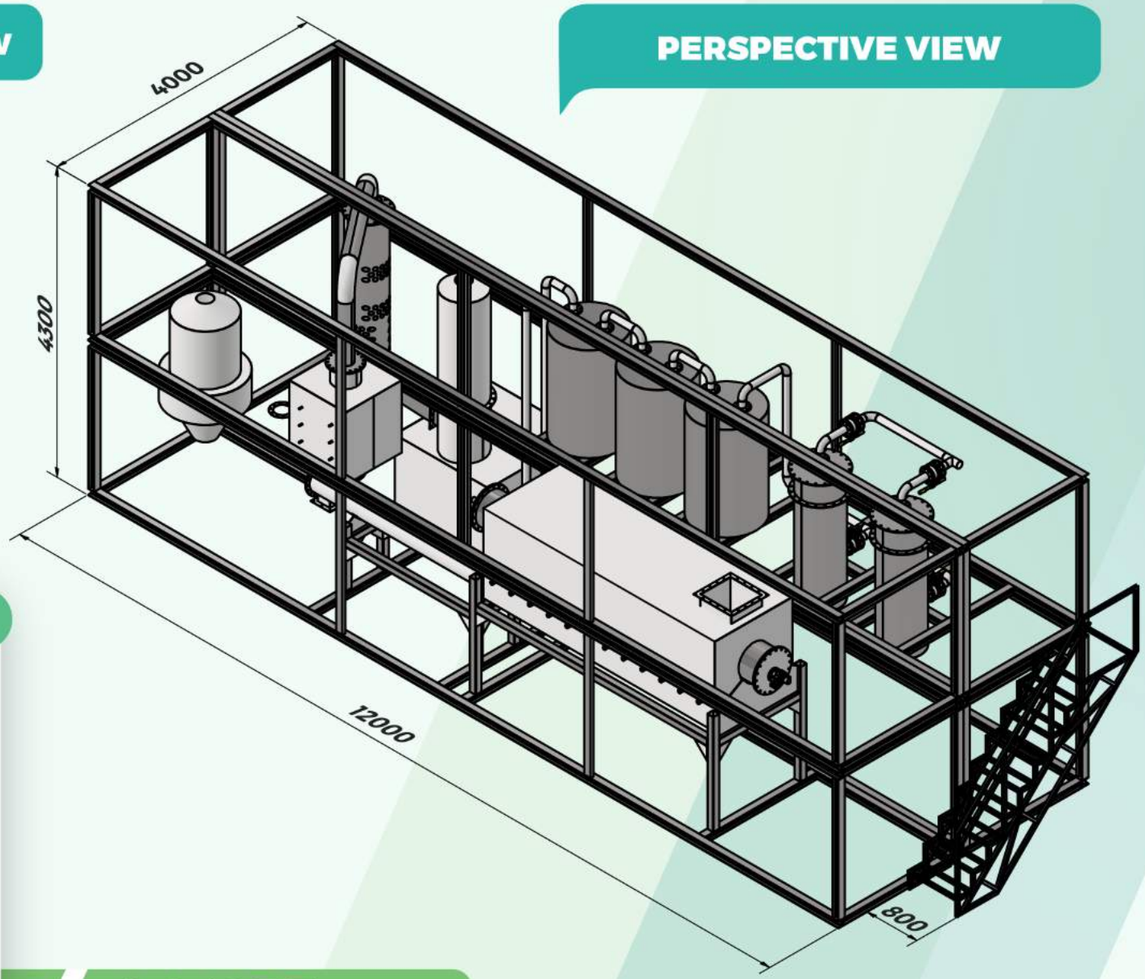


MACHINE TECHNICAL INFORMATION

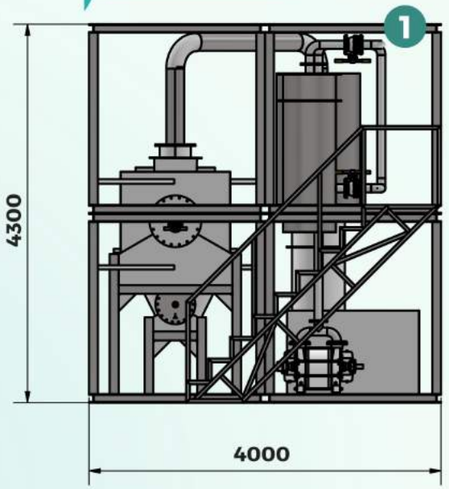
FRONT VIEW



PERSPECTIVE VIEW



SIDE VIEW

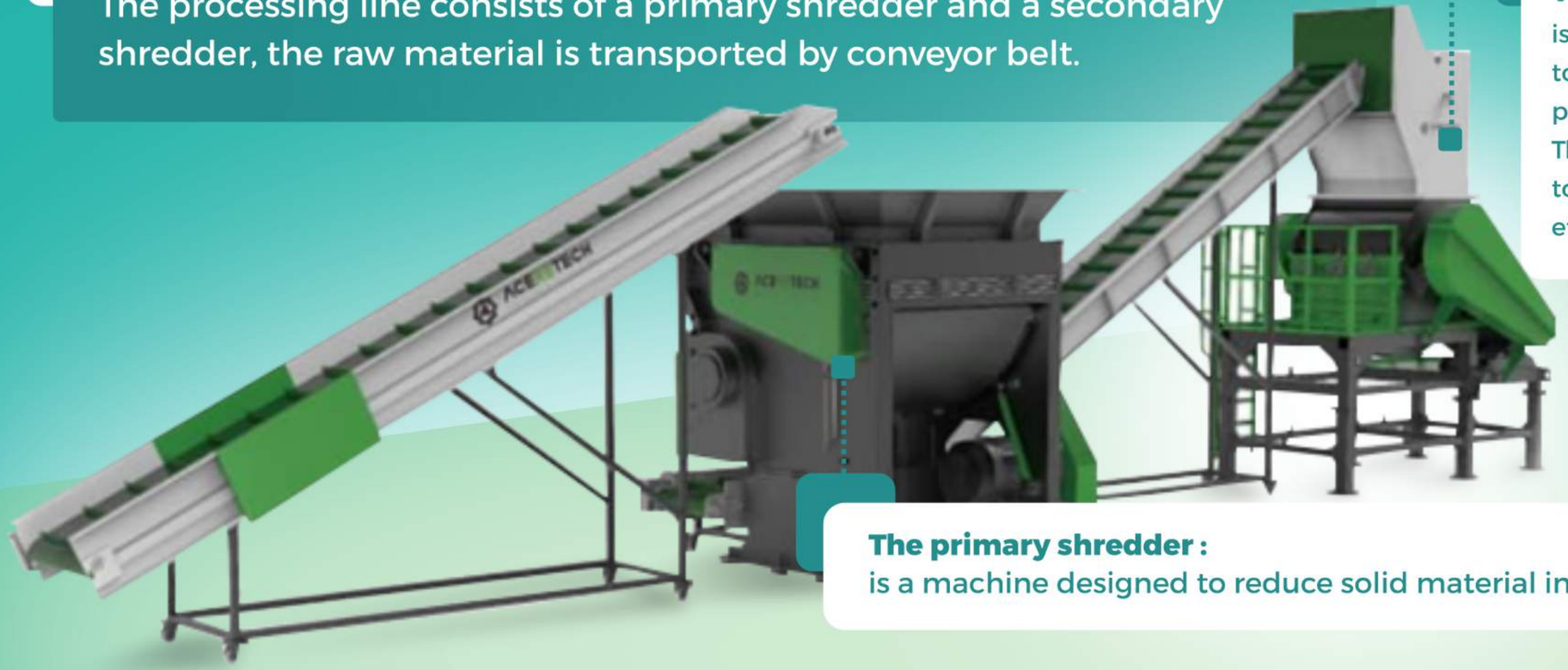


ITEM	QTY	DESCRIPTION
1	1	Metal structure
2	1	Molecular disintegration reactor
3	1	Tar filter
4	1	2 m³ tank
8	3	Filters
9	2	Filters
10	1	Venturi Scrubber
11	1	Pipe Assembly
15	1	Ladder

WASTE POWERTECH

PROCESSING LINE

The processing line consists of a primary shredder and a secondary shredder, the raw material is transported by conveyor belt.



The secondary shredder:
is designed to shred household waste to the sizes required by the subsequent processing technology.
The shredder has a very large hopper to greatly increase shredding efficiency and facilitates easy loading.

The primary shredder :
is a machine designed to reduce solid material into smaller components.

A press can be inserted to achieve a moisture content of approx. 20% and a pelletiser can be inserted if the desired density is not achieved.

The capacity of the line is sized according to the customer's requirements, depending on the shift and according to the capacity of the molecular disintegration plant (1-1,5 to/hour).

GAS TANKS

They are used to intermediately store the gases for later injection at a constant flow rate into the generators.
Two tanks will be used with dimensions D2300x5980 with a capacity of 24m3.
The tanks are designed for storage of liquefied gas,
according to DIN 51622/ EN 589.

Operating parameters:

- Syngas
- Operating pressure: max 1,765 MPa;
- Operating temperature: -20 ÷ +50 C;
- Category of vessel: IV, according to Directive 97/23

The tanks are horizontal or vertical cylindrical vessels with elliptical bottoms.

POWER GENERATOR 5 x 350kva

For more than 30 years, AKSA Power Generation has been producing industrial generating sets with a compact and innovative design and excellence in quality.
For each machine we operate 5 generators to produce 1MW of electricity per hour.

GENERAL CHARACTERISTICS	
Model Name	ADG 350
Frequency (Hz)	50
Fuel Type	Natural Gas (Pipeline)
Engine Made and Model	DOOSAN GV180TI
Alternator	Mecc Alte
Control Panel Model	DSE 7320
Canopy	MS 80 NG
Genset Gas Inlet Pressure	300mbar

ENGINE SPECIFICATIONS	
Engine	DOOSAN
Engine Model	GV180TI
Number of Cylinder	10V
Bore (mm)	128
Stroke (mm)	142
Displacement (L)	18.3
Aspiration	Turbo Charged and Intercooled
Compression Ratio	10.5:1
Engine Speed (rpm)	1500
Oil Capacity (with filter) (L)	35
Standby Power (kWm / HP) 1,2,3,4 Per ISO 3046	319 / 434
Prime Power (kWm / HP) 1,2,3,4 Per ISO 3046	290 / 394
Max. Operating pressure to EPR, mbar	68.94
Block Heater QTY	1
Fuel Type	Natural Gas (Pipeline)

ALTERNATOR CHARACTERISTICS	
Manufacturer	Mecc Alte
Alternator Made and Model	ECO 38 2L/4C
Frequency (Hz)	50
Power (kVA)	350
Voltage (V)	400
Phase	3
A.V.R.	DSR
Voltage Regulation	(+/-)1%
Insulation System	H
Protection	IP23
Rated Power Factor	0.8
Weight Comp. Generator (kg)	895
Cooling Air (m³/min)	32

DIMENSIONS	
Canopy Dimensions Length (mm)	4750
Width (mm)	1606
Height (mm)	2359
Canopy Dimensions Length (mm)	4750
Width (mm)	1606
Height (mm)	2359

REAL USE CASE

The system complies with the following EU regulations:

- EU Directive: 2000/76 EG 2014/35/EU 2014/30/EU 2006/42/EC
- SR EN ISO12100:2011
- SR EN 60204 1:2007
- SR EN 62061:2005
- SR EN 842+A1:2009
- CEPROM-CERT
- ISO 14001
- ISO 9001

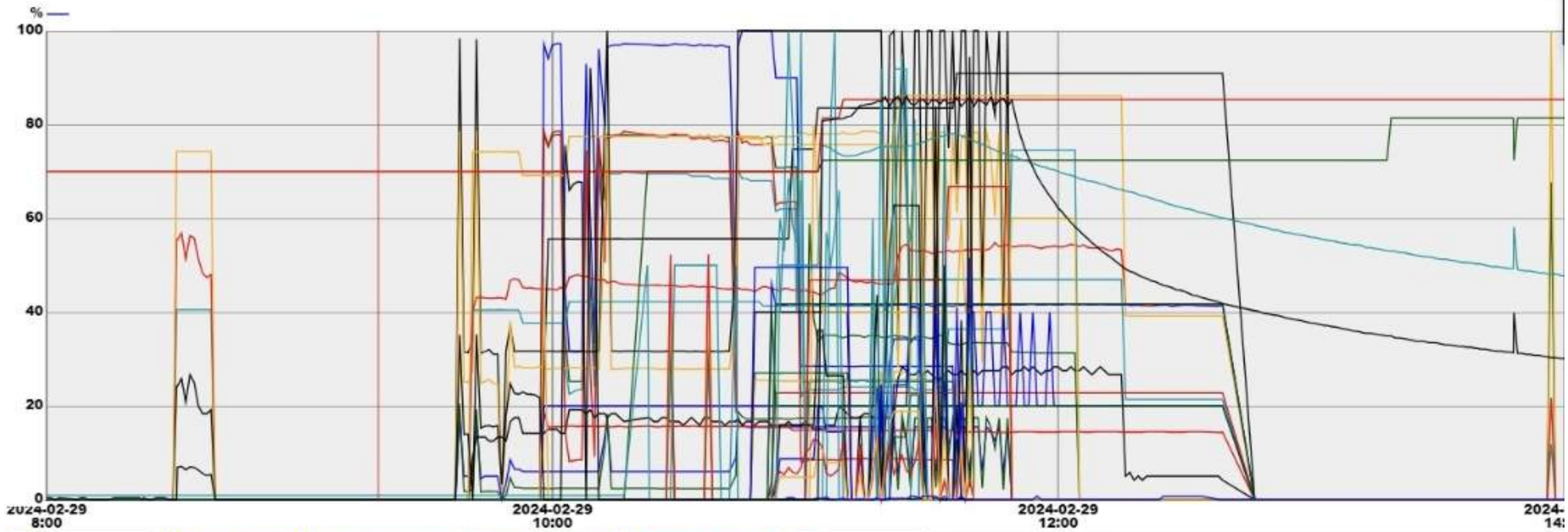
EUROPEAN STANDARDS

CE

CEPROM

Raport grafic - Test_Tarnaveni

2024-02-29 08:00 - 2024-03-03 00:00

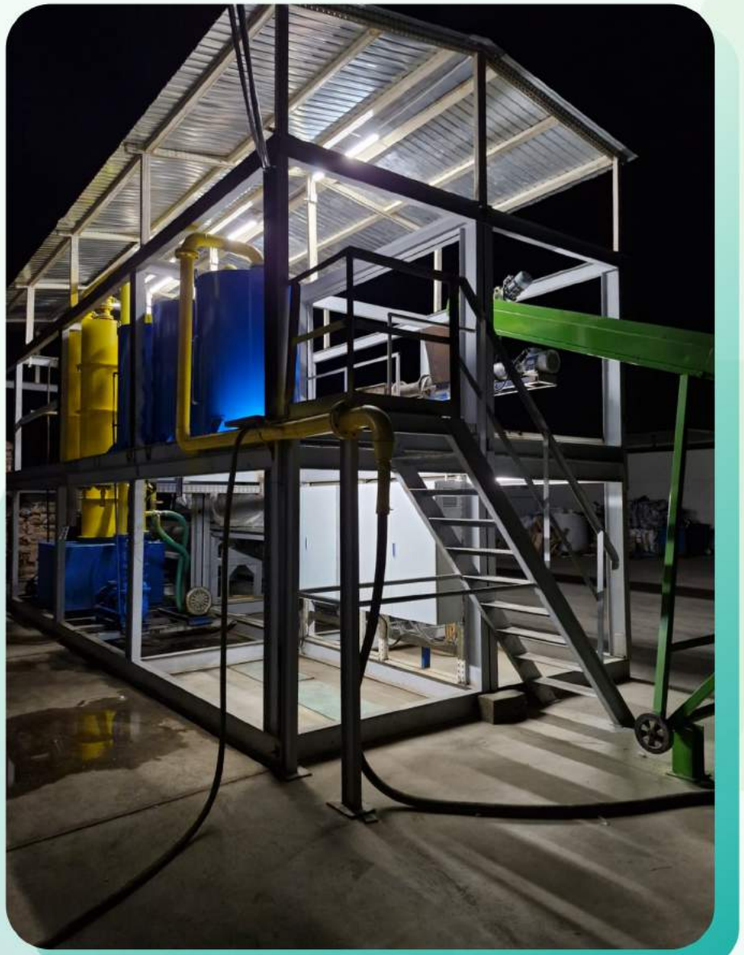


Data	Heat R1 %	Heat R1 tensiune	Heat R1 curent	Heat R1 putere	Heat R2 %
2024-02-29 09:19:00	0.00%	0.00V	0.00A	0.00kW	0.00%

Heat R2 tensiune	Heat R2 curent	Heat R2 putere	Pompa vid frecventa	Pompa vid curent	Pompa vid putere
0.00V	0.00A	0.00kW	0.00Hz	0.00A	0.00kW

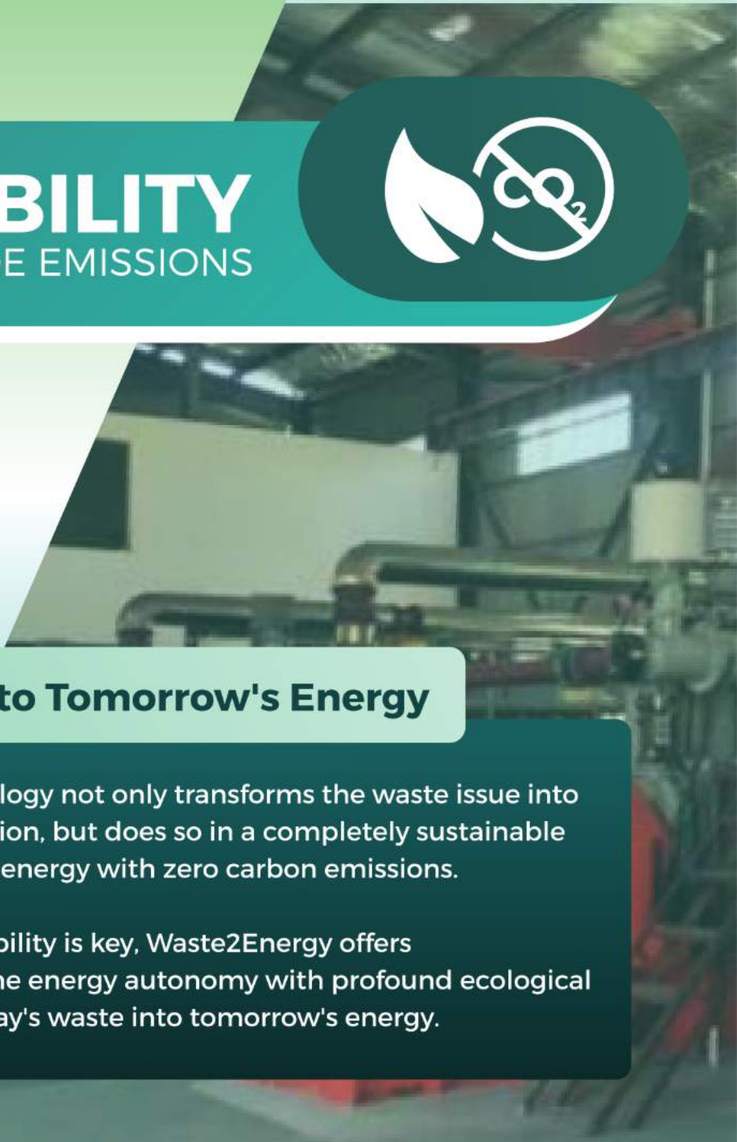
Pompa vid RPM	Bunker frecventa	Banda frecventa	SNEK2 frecventa	Evacuare	SNEK1 frecventa

Deselectează tot



THE PROCESS

SUSTAINABILITY
ZERO CARBON DIOXIDE EMISSIONS



1

Gasification: Transforming Waste into Valuable Syngas

Gasification is a revolutionary waste transformation process.
Unlike incineration, it converts waste into syngas, a versatile resource.

This shift turns waste into a high-temperature chemical feedstock, offering possibilities like heat, electricity, and valuable products such as fuels, chemicals, and more.

2

The Advantages of Gasification Over Incineration

Gasification surpasses incineration in many ways.
While incineration releases harmful compounds, gasification produces cleaner syngas.

The refined syngas removes contaminants, erasing the need for extensive post-combustion controls. Gasification's adaptable, cleaned syngas powers engines or undergoes further processing for hydrogen, natural gas, and more, making it a robust solution for waste-to-energy conversion and sustainable resource use.

3

Turning Waste into Tomorrow's Energy

Our Waste2Energy technology not only transforms the waste issue into an innovative energy solution, but does so in a completely sustainable manner, generating clean energy with zero carbon emissions.

In a world where sustainability is key, Waste2Energy offers the opportunity to combine energy autonomy with profound ecological responsibility, turning today's waste into tomorrow's energy.

CERTIFICATES

CEPROM

PRODUCT CERTIFICATION BODY
CEPROM-CERT

CEPROM ® S.A.
440240 Satu Mare, Str. Fântânele, 23/A, Romania
tel. +40.0361.804795; fax +40.0361.804796
www.ceprom.ro; e-mail: ceprom@ceprom.ro

CERTIFICATE OF CONFORMITY
No. 2480-CT-32022

Technical File no. *2480-CT-32022*

Applicant:	**Manufacturer:**
S.C. WASTE POWERTECH S.R.L. *547581 Idrifaia, no. 72, com. Suplac, jud. Mureș, Romania*	*S.C. WASTE POWERTECH S.R.L.* *547581 Idrifaia, no. 72, com. Suplac, jud. Mureș, Romania*

Description of product:

Product: ***MOLECULAR DISINTEGRATION AND ENERGY RECOVERY OF WASTE PLANT***

Model: ***WP 500***

Certification procedure: ***TYPE CERTIFICATION (Scheme 1a, cf. EN ISO/CEI 17067:2013)***

Reference standards: ***SR EN ISO 12100:2011, SR EN 60204-1:2019, SR EN ISO 11161:2007+A1:2010***

Based on our assessment we confirm that the product is in accordance with the technical requirements of the above standards and hence fulfils the technical requirements of the
Machinery Directive 2006/42/EC
Low Voltage Directive 2014/35/EU
The CE mark as show joined can be used, under the responsibility of the manufacturer or the importer, after completion of the CE Declaration of Conformity and in accordance with the above directives.

CE

This certificate is only valid for the product and configuration described (annex), in conjunction with the detailed test data and with all applicable legal requirement for the product.
Maintaining certification is based on compliance with the requirements of certification contract.

Annex: ***Product identification – 2 pages***

Issuing Date: *16.05.2022*
Expiry Date: *15.05.2027*

EUROPEAN UNION
Satu Mare, Romania

GENERAL MANAGER
eng. Cristian SOPONOS

CEPROM–CERT Manager
eng. Vasile ZELE

E.S.

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SYSTEMA

CERTIFICĂM PERFORMANȚA

Certificat de înregistrare

Acest certificat se acordă organizației

WASTE POWERTECH SRL

Loc. Idrifaia, Nr. 72, Jud. Mureș, CP 547581, România

pentru recunoașterea
Sistemului de Management al Calității
în conformitate cu cerințele

ISO 9001:2015

Domeniul de activitate acoperit de acest certificat este

Proiectare și producție instalații de dezintegrare moleculară și valorificare energetică a deșeurilor

Coduri IAF conform IAF ID 1: 18, 34

Data emiterii:
10 octombrie 2023

Data eliberării: (Original)
10 octombrie 2023

Data expirării:
09 octombrie 2026

Numărul de înregistrare al clientului: **C230579/01/RO**

Număr ediție: **001**

Eliberat în numele directorului general, de:

Data limită a primului audit anual de supraveghere
09 octombrie 2024

Data limită pentru al doilea audit anual de supraveghere
09 octombrie 2025

ISO 9001 IAF IAS ACCREDITED

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CERTIFICĂM PERFORMANȚA

Certificat de înregistrare

Acest certificat se acordă organizației

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Loc. Idrifaia, Nr. 72, Jud. Mureș, CP 547581, România

pentru recunoașterea
Sistemului de Management de Mediu
în conformitate cu cerințele

ISO 14001:2015

Domeniul de activitate acoperit de acest certificat este

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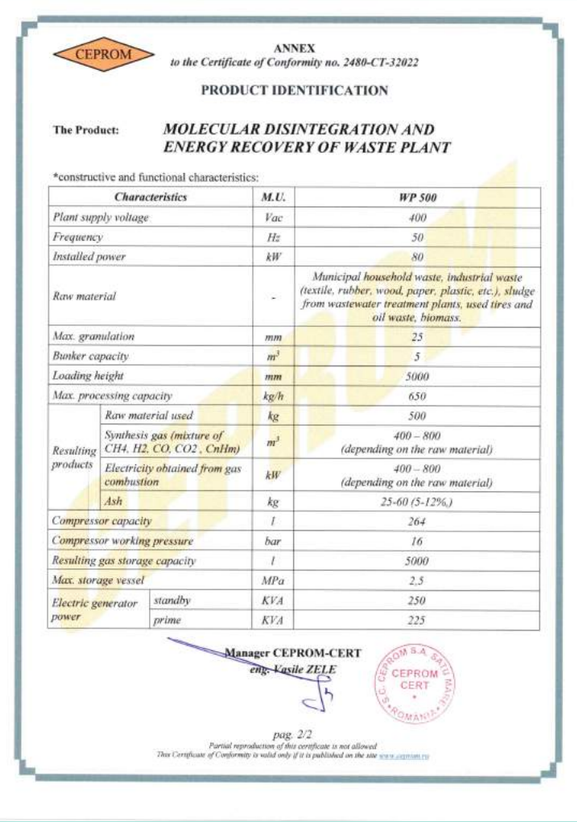
ISO 14001 IAF IAS ACCREDITED



CEPROM

ANNEX
to the Certificate of Conformity no. 2480-CT-32022

PRODUCT IDENTIFICATION

The Product: ***MOLECULAR DISINTEGRATION AND ENERGY RECOVERY OF WASTE PLANT***

*constructive and functional characteristics:

Characteristics		***M.U.***	***WP 500***
Plant supply voltage		*Vac*	*400*
Frequency		*Hz*	*50*
Installed power		*kW*	*80*
Raw material		-	*Municipal household waste, industrial waste (textile, rubber, wood, paper, plastic, etc.), sludge from wastewater treatment plants, used tires and oil waste, biomass.*
Max. granulation		*mm*	*25*
Bunker capacity		*m³*	*5*
Loading height		*mm*	*5000*
Max. processing capacity		*kg/h*	*650*
Resulting products	*Raw material used*	*kg*	*500*
	Synthesis gas (mixture of CH4, H2, CO, CO2 , CnHm)	*m³*	*400 – 800 (depending on the raw material)*
	Electricity obtained from gas combustion	*kW*	*400 – 800 (depending on the raw material)*
	Ash	*kg*	*25-60 (5-12%.)*
Compressor capacity		*l*	*264*
Compressor working pressure		*bar*	*16*
Resulting gas storage capacity		*l*	*5000*
Max. storage vessel		*MPa*	*2,5*
Electric generator power	*standby*	*KVA*	*250*
	prime	*KVA*	*225*

Manager CEPROM-CERT
eng. Vasile ZELE

pag. 2/2
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