6 REACTORS PPPP

GREEN VISION CONTRACTING

Sustainable Engineering Solutions

IN PARTNERSHIP WITH

TTL USA INC

PRESENTS

PLASTIC PROCESSING POWER PLANT (PPPP)

OUR PORTFOLIO

LOVE
FOR PLASTIC

We like to use a lot of different types of plastic.

Food containers
Merchandise packaging
Electronic equipment
Furniture
Home appliances
Office equipment
Office supplies
Car, truck, train, airplane parts
Medical equipment
Sport equipment
Artificial grass
Education
Games and a lot more

Although among all materials produced by mankind, the amount of plastic towers high, no summary study of its production and post-use fate has been available so far.

To fill this serious gap, researchers at the University of California, Santa Barbara and the University of Georgia along with the Sea Education Association have teamed up to produce the first comprehensive analysis that aggregates the data scattered so far.

The research estimates that a total of 8,300 million (i.e. 8.3 billion!) tons of plastics were produced from 1950 to 2015.





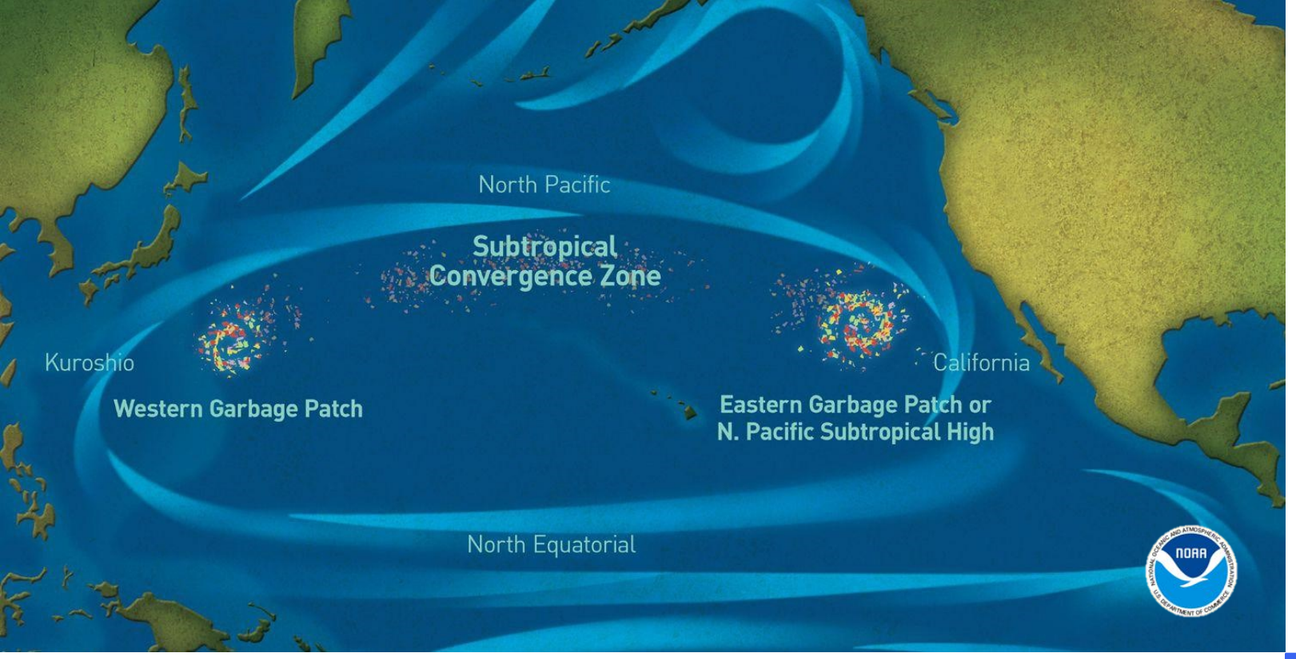

PLASTIC WASTE

Source & Photo:
National Geographic June 2018

OUR FUTURE IN JEOPARDY

More than 10 million tons of plastic waste is dumped into the world's oceans each year.

PLASTIC WASTE
IS A PROBLEM TODAY



www.marinedebris.noaa.gov

x 821,782

Eiffel-Tower

OR

x 22,739

Empire State Building

"Of the 8,300 million tons produced between 1950 and 2015, some 6,300 million tons of plastic waste has been accumulated so far, including the amount of newly produced - currently 2,500 million tons of plastics have been in use since 1950. Of the 6,300 million tons, 800 million tons (12%) have been incinerated, which - as we know – have contributed to air pollution and the greenhouse effect while only 600 million tons (9%) have been recycled.

The remaining 79%, or nearly 5,000 million tons of plastic, makes up the "global waste hill," some of which "rests" above or below ground in landfills or has landed somewhere in nature, such as in our seas and oceans!"

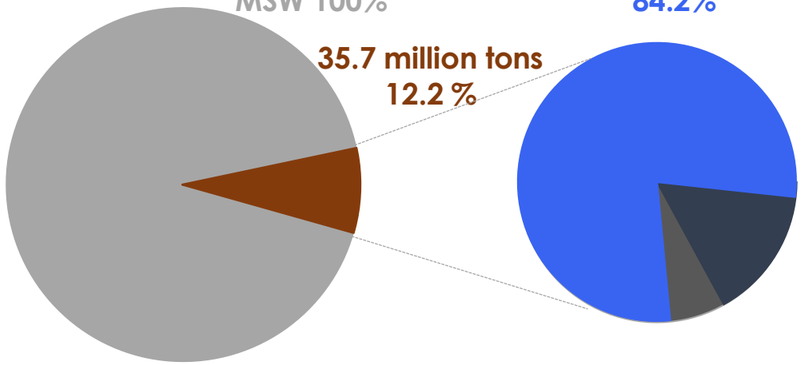
To make sense of this huge amount, we made some calculations. The 8.3 billion tons correspond to the mass of 821,782 Eiffel Towers based on estimates that the structure weighs 10,100 tons. It has the mass of 22,739 Empire State Buildings based on estimates that the building weighs 365,000 tons.

Source: University of California and University of Georgia and Sea Education Association

HOW MUCH PLASTIC IS THERE?

STATISTICS

PLASTIC WASTE
IN USA PER YEAR



Municipal solid waste (MSW) in USA/year

Mixed plastic waste depoed in USA/year

Mixed plastic waste in USA/year

Plastic waste material recycled & combusted in USA/year

Source (2018): United States Environmental Protection Agency, American Chemistry Council

Raw material - Mixed Plastic Waste
25.64 million tons/year

Business Possibilities per unit per year (0.00195%)

2,820 tons
CARBON

14,112,000 m³
(498,360,764 cu ft)
GAS

+

45,440,640 l
(12.00 million gal)
OIL

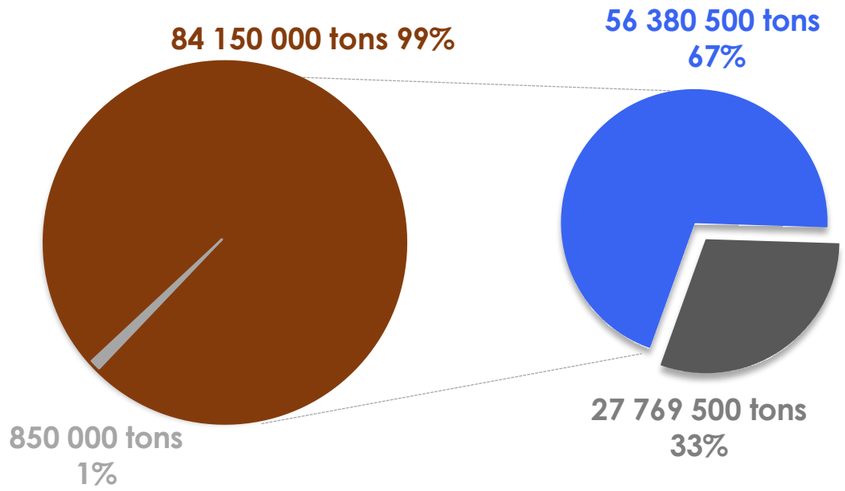
ENERGY PRODUCTION FROM PLASTIC
24 Reactors
Electricity
150 000 MWh/y
& Heat Energy
800 000
GJ/y
POWER BY PLASTIC PROCESSING POWER PLANT

Mixed
Plastic Waste
56,000 tons/year

150,000
MWh/year
ELECTRICITY

STATISTICS

PLASTIC WASTE
IN EU PER YEAR



Metal and textile pollution in EU/year

Mixed plastic waste depoed in EU/year

Mixed plastic waste in EU/year

Mixed plastic waste material recycled

EUROPEAN COMMISSION

Source: EUROPEAN COMMISSION {SWD(2018) 16 final}

Raw material - Mixed Plastic Waste
53.56 million tons/year

Business Possibilities per unit per year (0.00195%)

2,820 tons
CARBON

14,112,000 m³
(388,380 cu ft)
GAS

45,440,640 l
(12 million gal)
OIL

ENERGY PRODUCTION FROM PLASTIC
24 Reactors
Electricity
150 000MWh/y
& Heat Energy
800 000
GJ/y
POWER BY PLASTIC PROCESSING POWER PLANT

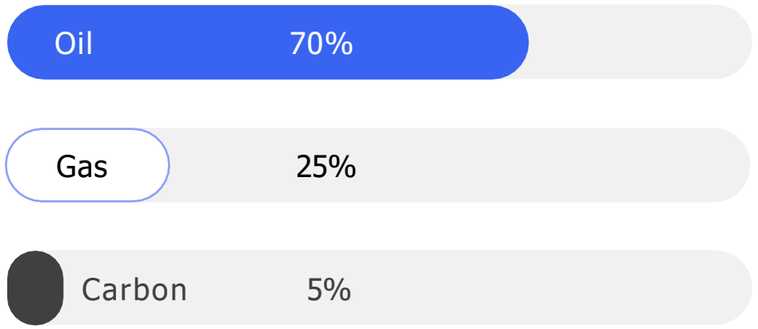
Mixed
Plastic Waste
50,000 tons/year

150,000
MWh/year
ELECTRICITY

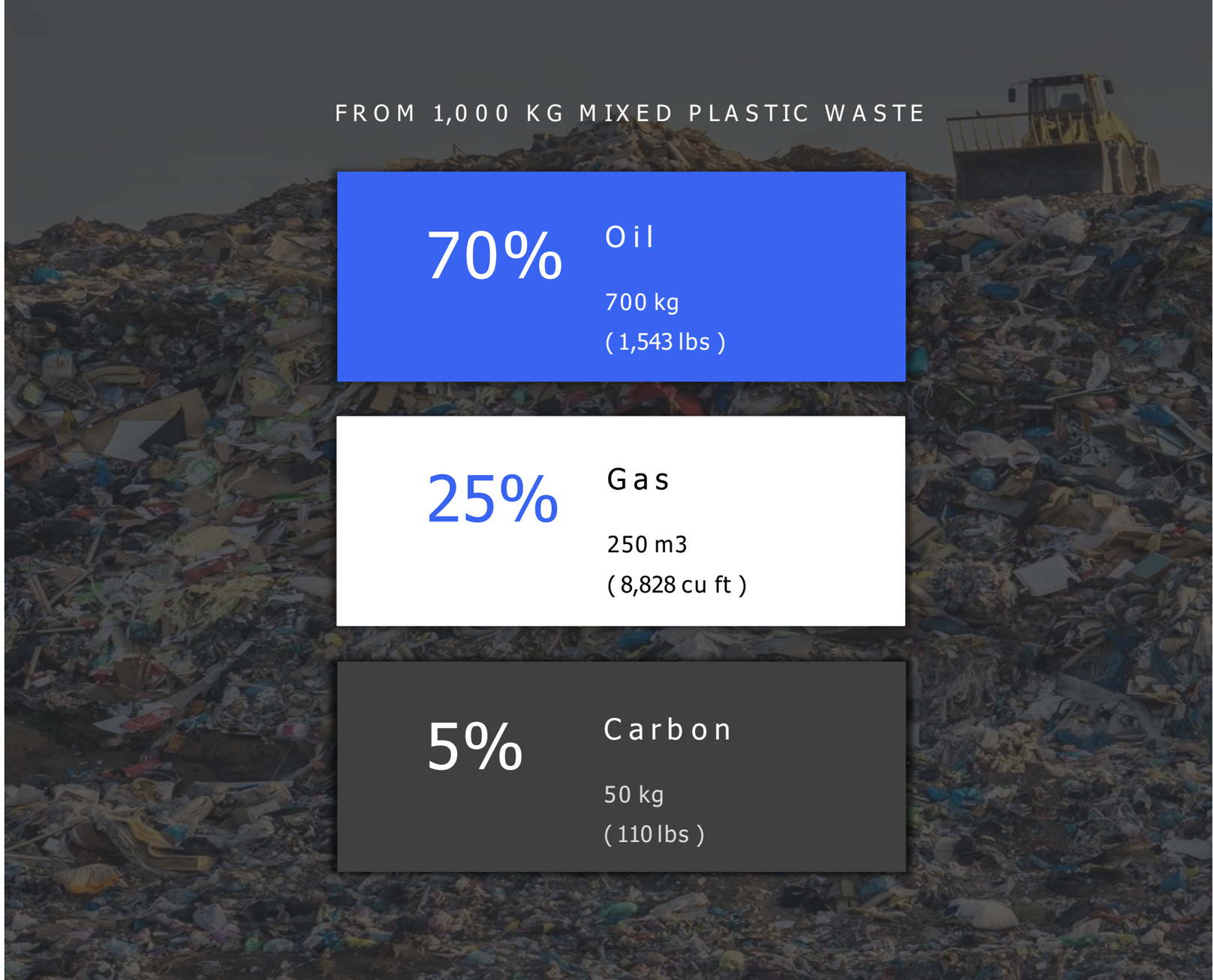
OUR TECHNOLOGY

ENERGY PRODUCTION FROM PLASTIC 1

In terms of energy, the highest efficiency is achieved with mixed plastic waste input where the yield is:



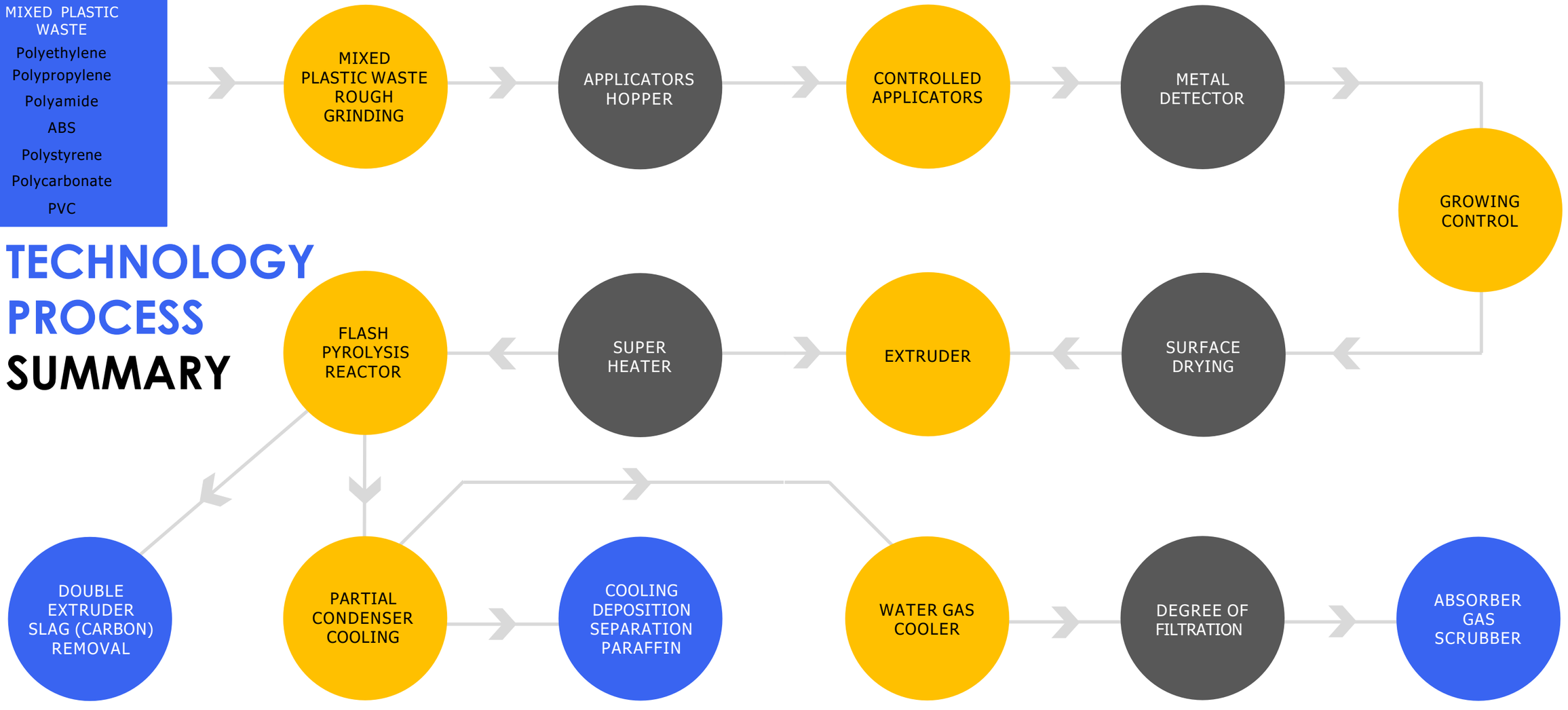
During heat decomposition, the input waste breaks down to elementary pieces and thereafter the heat builds chemical bonds and transforms the waste to oil, gas and carbon in solid phase respectively.

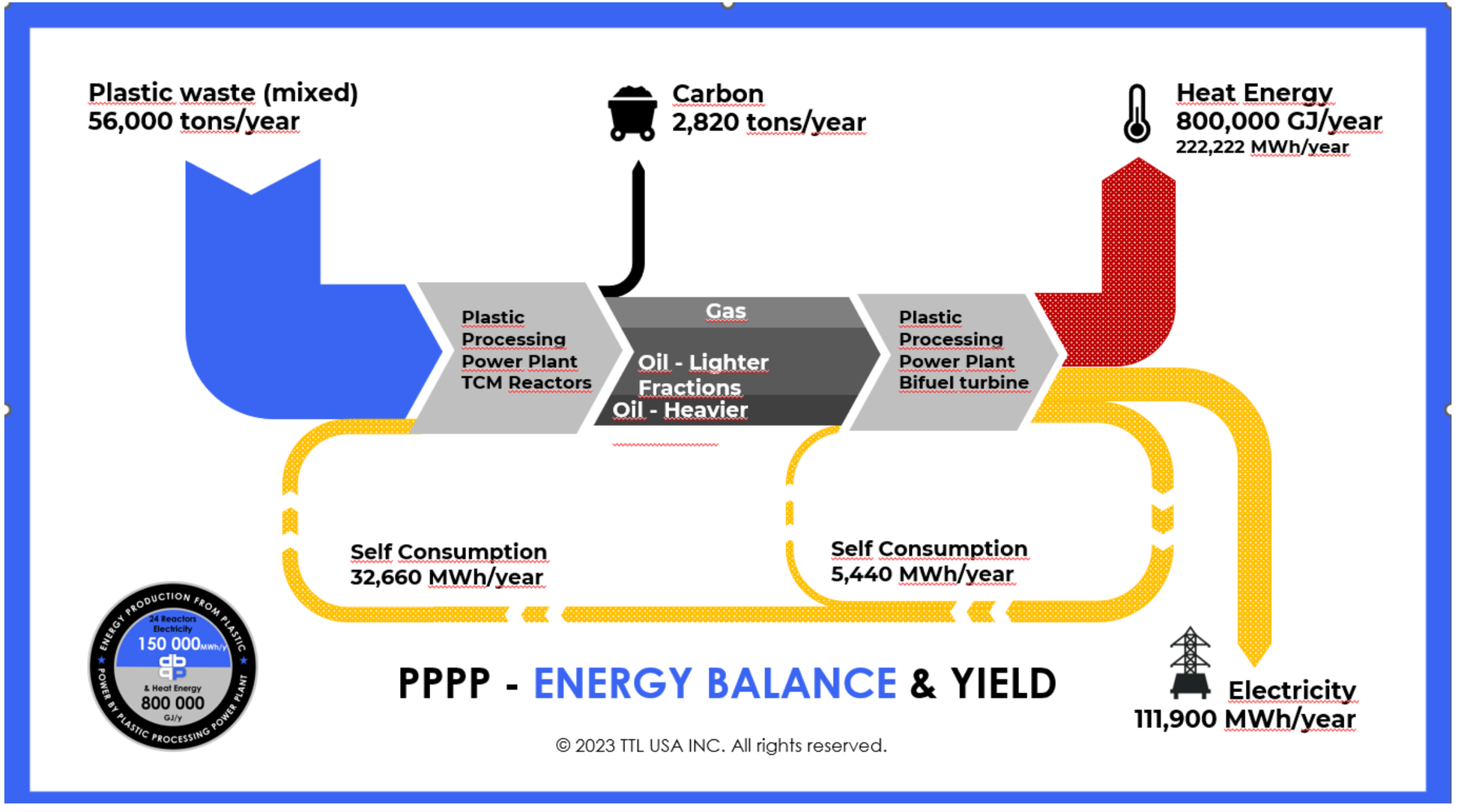


MIXED PLASTIC WASTE

Polyethylene
Polypropylene
Polyamide
ABS
Polystyrene
Polycarbonate
PVC

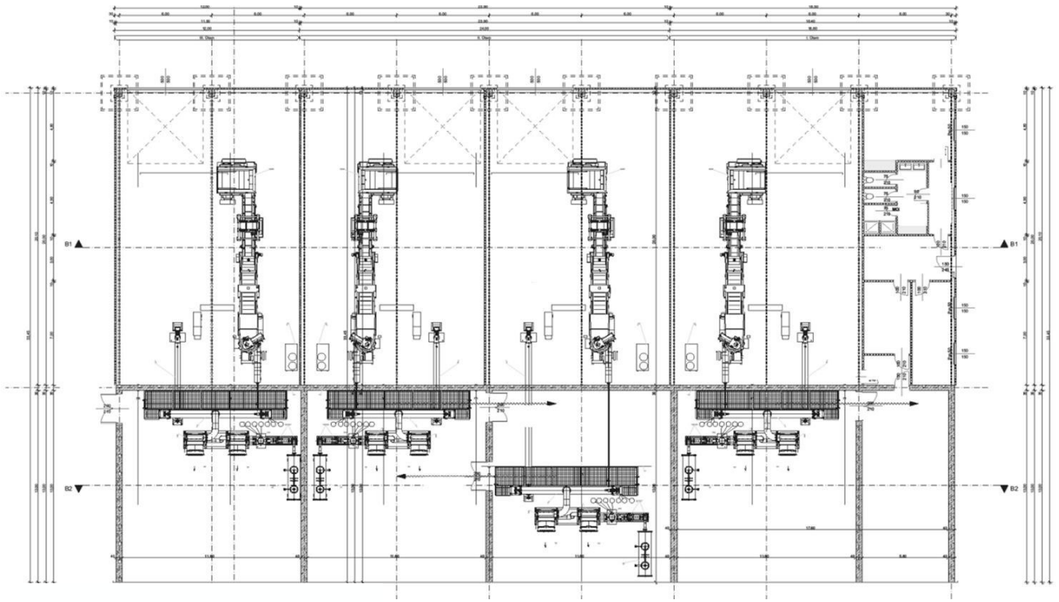
TECHNOLOGY PROCESS SUMMARY





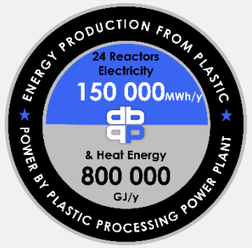
OUR PORTFOLIO

SCHEMATIC DIAGRAM OF PLASTIC PROCESSING POWER PLANT



TÜVRheinland®
Precisely Right.

CE certified



TTL WTS 250

A schematic diagram of 1 block (4 reactors), 6 blocks (24 reactors)

01. Raw material conveyor belt
02. Raw material storage silos
03. Thermochemical reactor
04. Solid fraction quenching
05. Solid fraction quenching pipe
06. Partial condensers
07. Gas chillers
08. Drop separators
09. Common gas cleaner
10. Electric heating element
11. Electricity generating units

STATISTICS

IDENTIFICATION OF COMPOUNDS

Characterization of
WTS Plastic-Oil and Char Samples

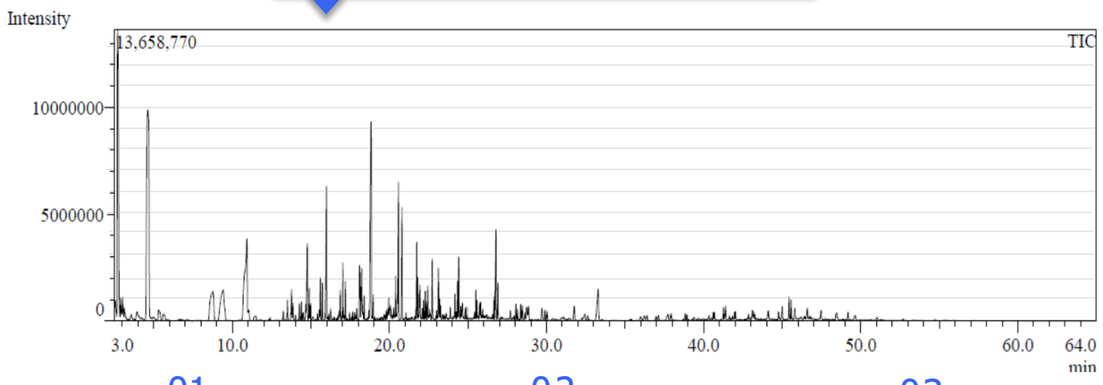
February 3, 2020

Western

icofar

icofar Institute for Chemicals and Fuels from Alternative Resources

Using GC-MS (Heavy Phase)



01

Compound Name	% Area
Benzene	11.87
Toluene	14.62
Ethylbenzene	3.14
o-Xylene	3.52
1,3,5,7-Cyclooctatetraene	6.69
Benzene, 1-ethyl-3-methyl-	1.3

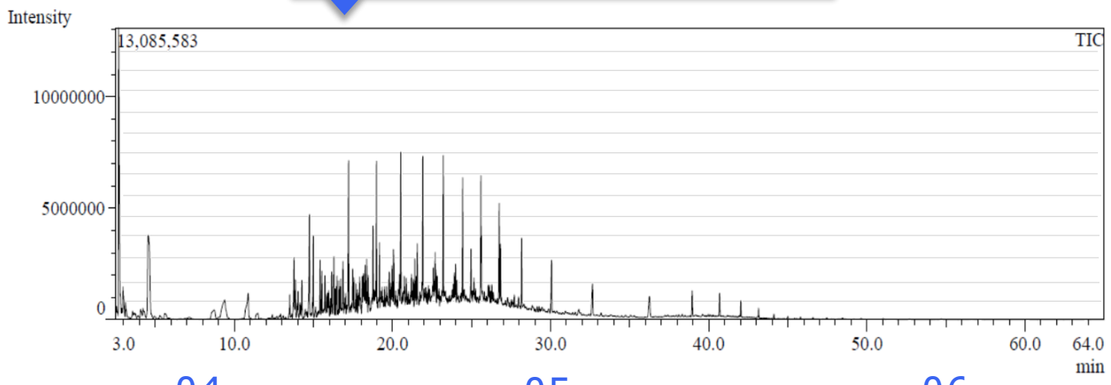
02

Compound Name	% Area
Benzene, 1-ethenyl-2-methyl-	3.05
Indene	3.2
Benzene, (1-methyl-2-cyclopropen-1-yl)-	1.64
Azulene	1.4
Dodecane	6.94
Naphthalene, 1-methyl-	5.05

03

Compound Name	% Area
Biphenyl	3.37
1-Octadecene	1.48
Anthracene	2.71
Pyrene	1.45

Using GC-MS (Light Phase)



04

Compound Name	% Area
Benzene	8.5
Hexane	1.08
Pentane	0.9
Toluene	5.8
P-Xylene	3.2
Decane	1.5

05

Compound Name	% Area
Undecane	2.63
Dodecane	2.24
Naphthalene	5.43
Cyclohexane	1.08
Tridecane	2.56
Cyclopentane	1.18

06

Compound Name	% Area
Tetradecane	2.58
2,6,10-Trimethyltridecane	1.68
Pentadecane	4.1
Octadecane	1.55
Nonadecane	2.64
Heneicosane	2.9

Characterization of
WTS Plastic-Oil and Char Samples

February 3, 2020

07

Heating Value and Water Content Analysis

	Light Phase	Heavy Phase
Heating Value (MJ/kg)	45.2	41.1
Water Content (%)	0.65	0.45

08

Elemental Analysis of Bio-Oil and Biochar Samples

Sample Name	Nitrogen (%)	Carbon (%)	Hydrogen (%)	Sulphur (%)
Light Oil	0.27	81.4	12.35	0
Heavy Oil	0.44	75.4	7.09	0
Bio-Char	0.63	61.5	3.47	0.03

COMPETITIVE ADVANTAGE

1

First Feature

We can generate 150,000 MW/year of electricity from chemically processing 56,000 tons of mixed plastic waste using environmentally friendly technology.

2

Second Feature

From 56,000 tons of mixed plastic waste, we can manufacture 25,000 tons of new plastic granules with energy produced by our plastic processing power plant.

3

Third Feature

While other technologies generate 15-20% toxic byproducts, our technology works with 100% efficiency; i.e., with no waste to be disposed of.

OUR PORTFOLIO

ENERGY CRISIS

Our patented, zero-emission technology

Converts mixed industrial and household plastic waste (polyethylene, polypropylene, polycarbonate, polystyrene, polyamide, PVC and ABS) into three types of feedstock: 70% oil, 25% gas and 5% solid carbon. Our business model proposes three different paths to utilize the feedstock: 1) establishment of a circular plastic economy, 2) generation of electricity and 3) production of eco-conscious fuel.

01

Establishment of a circular plastic economy

The feedstock can also be processed into new plastics creating a low-carbon-footprint circular plastic economy. In other words, the plastic waste that is generated during the manufacturing, consuming and discarding of plastic products can be converted into feedstock to be used in the production of new plastic goods. We are able to manufacture 25,000 tons of polyethylene and polypropylene from 56,000 tons of plastic waste.

02

Generation of electricity

Our scalable-design Plastic Processing Power Plant produces eco-conscious energy from mixed plastic waste. Depending on pre-determined capacity, the power plant processes up to 56,000 tons of plastic waste and yields up to 150,000 MW electricity per year.

03

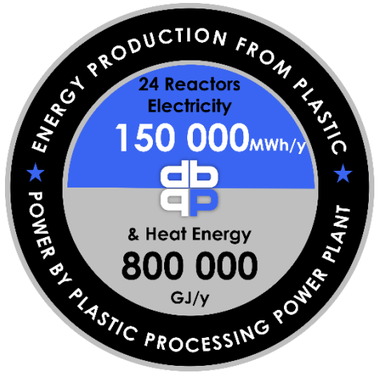
Production of eco-conscious fuel

Verified by the Institute for Chemicals and Fuels from Alternative Resources at the University of Western Ontario in Canada, the low-sulfur diesel oil our technology produces is a high-quality, low-cost, eco-conscious fuel ready to be used without the need for further refining.

Source: An eco-conscious solution for a global energy crisis

OUR TECHNOLOGY

ENERGY PRODUCTION FROM PLASTIC



Energy production

24 reactors:

6,720 kg/h (14,815 lbs/h) capacity unit provides 60,000 homes (in the EU) with electricity and heat each year.

Job creation

One waste treatment plant employs 30-36 people. Additional employment opportunities include collection, selection, storage, and transportation of plastics.

Flexible output materials

Scalable processing capacity
Adjustable power output
Stored energy
Distributed power generation
Modular design in mobile systems on 10,000 m^2 (108,000 sq ft)

TECHNOLOGYCAL ADVANTAGE

CIRCULAR PLASTIC ECONOMY SUMMARY 1

Chemical recycling, which takes a different approach to the implementation of a circular plastic economy, is an important complement to mechanical recycling. Chemical recycling converts plastic waste into secondary raw materials in a thermochemical process. The advantage of this technology is the ability to process mixed and untreated plastic waste.

By complementing the Plastic Processing Power Plant technology with the installation of an additional plastic manufacturing plant

- still operating in a closed system - we can primarily create polymers; i.e., Polyethylene and Polypropylene pellets in granular form, which any plastic factory will be able to use to manufacture products.

25,000 tons

CHEMICAL RAW MATERIALS FROM MIXED PLASTIC WASTE

Feedstock made with this technology is indistinguishable from traditional fossil feedstock, allowing it to be used in the most demanding applications requiring high-quality plastics, such as car parts, medical devices, and even food packaging.

KEY EXPERTISE

CIRCULAR PLASTIC ECONOMY SUMMARY 2

Chemical recycling converts plastic waste into secondary raw materials in a thermochemical process.

Mixed Plastic Waste 50,000 tons

Gas 25% Self- sustaining

Granular plastic 70% 25,000 tons

Feedstock made with this technology is indistinguishable from traditional fossil feedstock, allowing it to be used in the most demanding applications requiring high-quality plastics, such as car parts, medical devices, and even food packaging.

01

Small-Scale Model

Plant capacity per year

4,000 tons plastic waste

Granular Plastic

2,050 tons per year

02

Medium-Scale Model

Plant capacity per year

12,500 tons plastic waste

Granular Plastic

7,250 tons per year

03

Large-Scale Model

Plant capacity per year

50,000 tons plastic waste

Granular Plastic

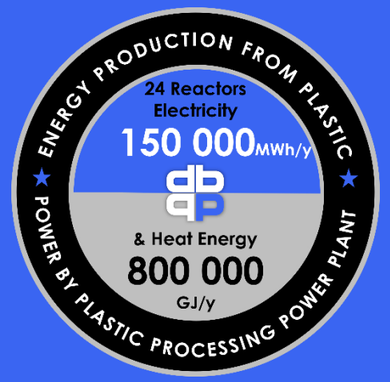
25,000 tons per year

TECHNOLOGY

USE
OF CARBON BYPRODUCT

CARBON UTILIZATION: SELECTED POSSIBILITIES

- Metallurgy: steel production
- Industrial and commercial waste water treatment
- Pharmaceutical and chemical purification
- Water filtration
- Air filtration
- Food refinery: cane and corn sugar
- Skin Care



C

CARBON

TECHNOLOGY

USE
OF HEAT BYPRODUCT

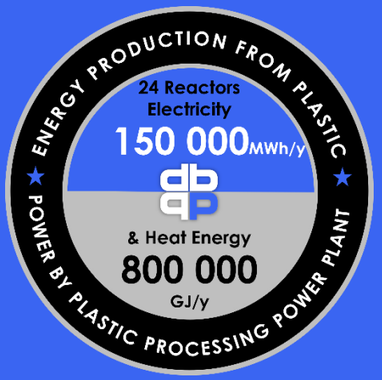
THERMAL ENERGY UTILIZATION: SELECTED POSSIBILITIES

District heating

Chemical industry

Grain drying

Pharmaceutical industry



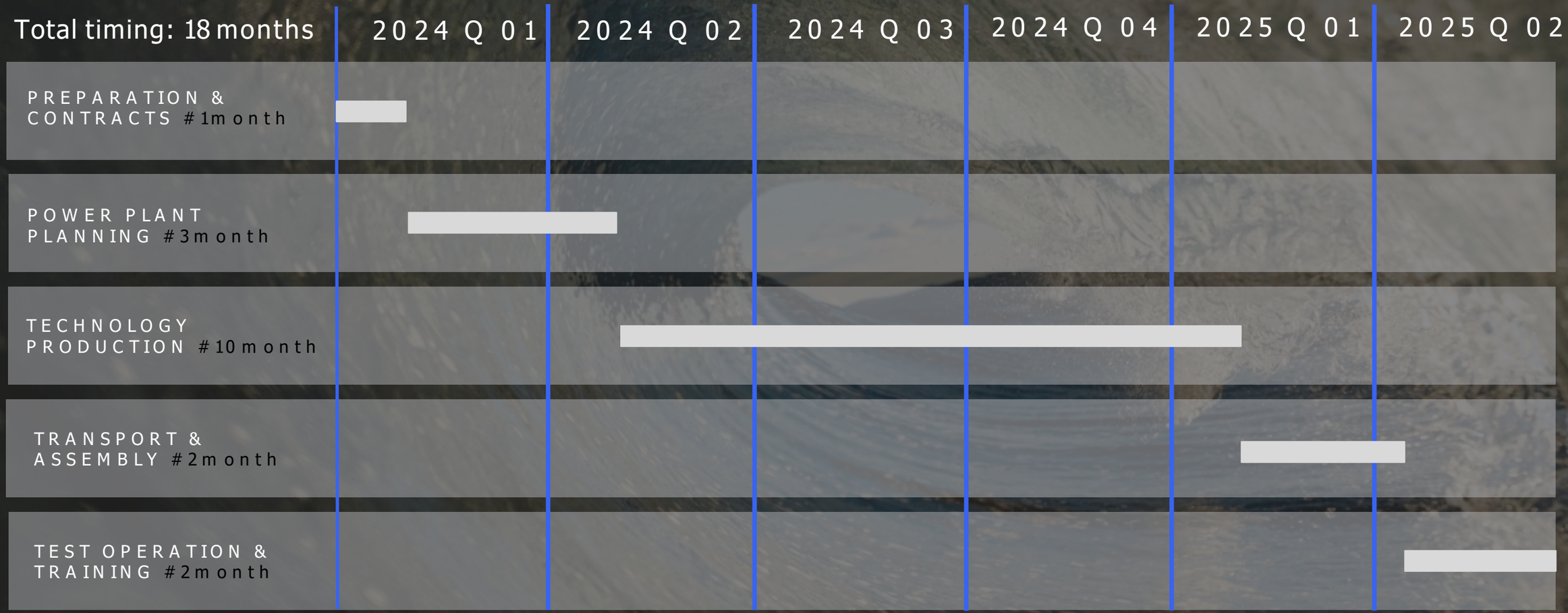
OUTPUT

/ year:

800 000 GJ

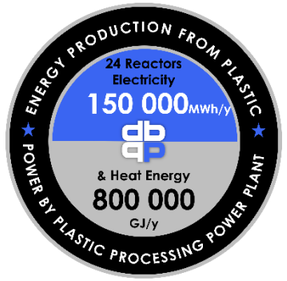
SCHEDULE

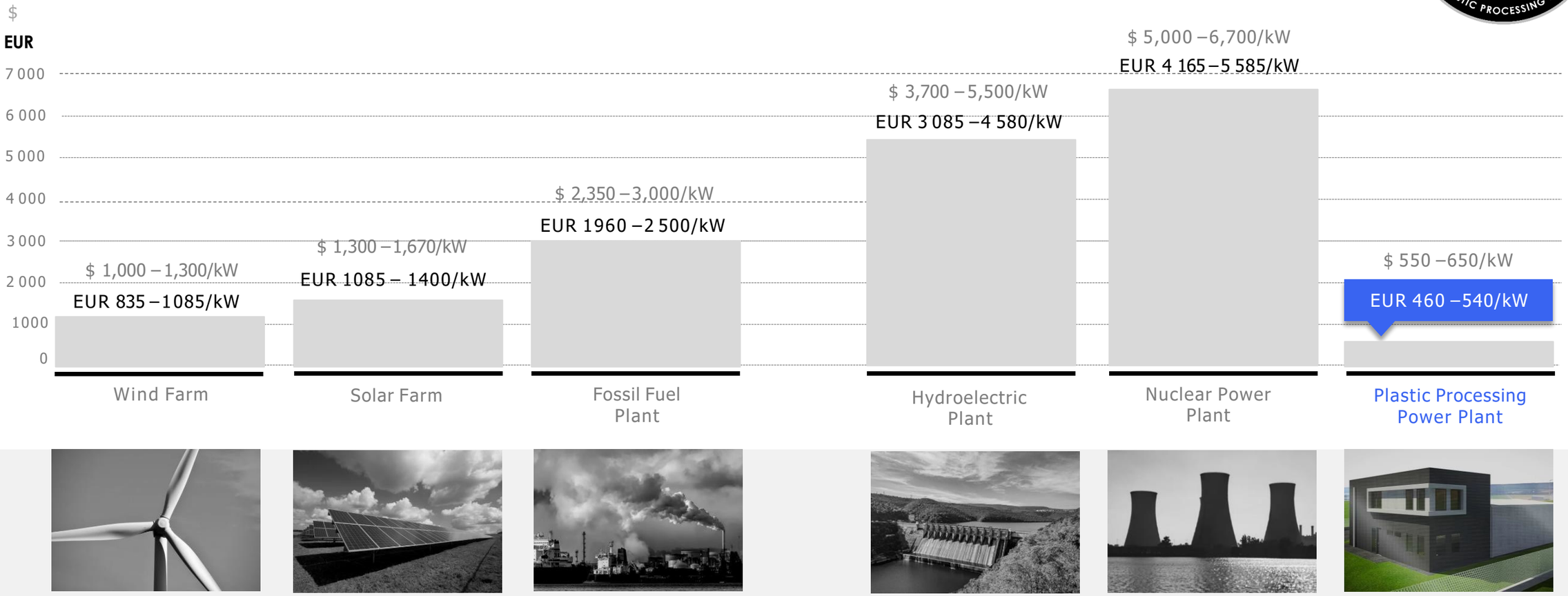
PROJECT TIMELINE



STATISTICS

INVESTMENT COMPARISON





MEET OUR LEADERSHIP

Staff Members

Louis Toth
FOUNDER, PRESIDENT

George Rado
CHIEF EXECUTIVE OFFICER

PROFESSIONAL EXPERIENCE

Agnes Cave, Ph.D.
VICE PRESIDENT OF COMMUNICATIONS AND TRAINING

Bence Toth
CHIEF TECHNOLOGY OFFICER

Zsombor Keri
CHIEF DEVELOPMENT OFFICER

TTL USA INC
THE POWER OF PROGRESS

Our management team includes the following professionals

CEO, Chemical engineer, Electrical engineer, General engineer, High - voltage electrical engineer, Mechanical engineer, Plastic industrial engineer, Software engineer, Architect, City builder, Business analyst, Communication expert, Legal counsel and Market researcher

EFFICIENT ENERGY PRODUCTION

The plant produces 1kw of electricity at the best price.

LOW INVESTMENT BUDGET

The plant costs between $15 million and $139 million, depending on capacity.

QUICK IMPLEMENTATION

The "turnkey" plant will be installed in 18 months.

RENEWABLE ENERGY

The plant processes mixed plastic waste and converts it into energy.

CIRCULAR PLASTIC ECONOMY

The plant yields 25,000 tons of feedstock per year.

QUICK RETURN ON INVESTMENT

Depending on capacity, the investment will pay for itself in 4 to 6 years.

FLEXIBLE PERFORMANCE

The plant has quickly adjustable electricity generation capacity.

CLEAN ENERGY

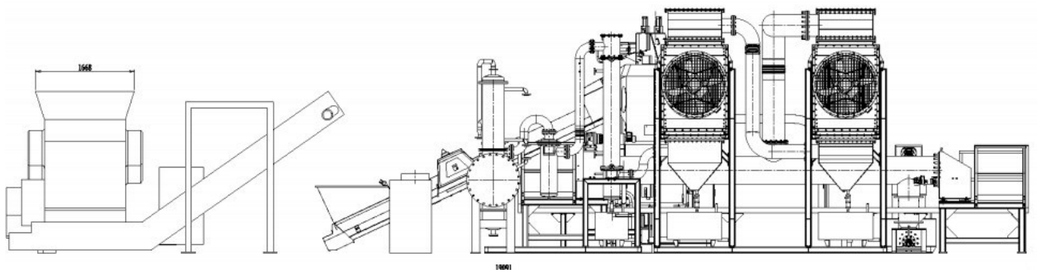
The plant has hermetically sealed technology: no chimney, no pollution.

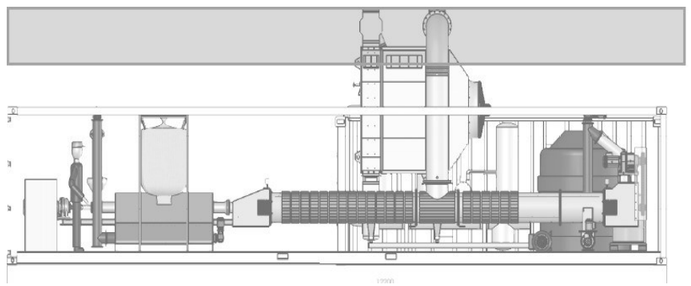
DISPOSAL OF PLASTIC WASTE

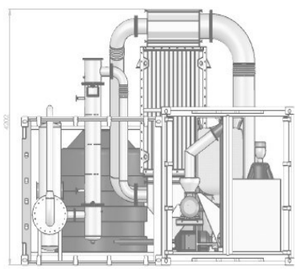
Depending on capacity, the plant can process 4,000 to 50,000 tons of plastic per year.

ADVANTAGE
RECAP

Our technology does not require cleaned plastic and works as a closed system without harmful emissions.

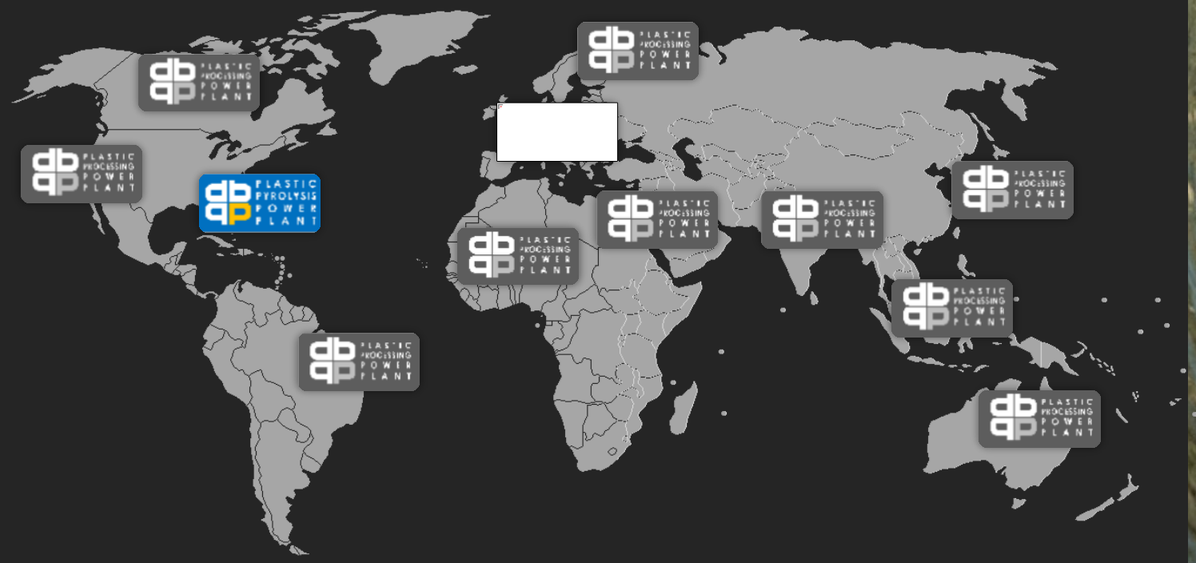






OUR NETWORK

WE ARE LOOKING FOR PARTNERS



Thank you!

OUR ENVIRONMENTALLY FRIENDLY
AND STATE -OF-THE-ART TECHNOLOGY
OFFERS A SOLUTION
TO THE GLOBAL PROBLEM OF PLASTIC WASTE.