

**Pyrolytic Waste Processing Technology:
Setup Of A Plastic Waste Pyrolysis Operation In Hong Kong**

Innovative Approach To Sustainable Environmental Solutions

Executive Summary

- ***The Project.*** We plan to build and operate a plastic waste pyrolysis operation to process plastic wastes in Hong Kong.
- ***State-of-the-Art Technology.*** Our pyrolysis technology is environmental-friendly with minimal emission and state-of-the-art processing.
- ***Recycling Hub.*** Establish our plant as a plastic waste recycling hub in Hong Kong.
- ***Minimize Carbon Emission.*** Create carbon credits for Hong Kong and contribute to circular economy.
- ***Show-Case.*** Establish a show-case plastic waste recycling model for Hong Kong as a viable solution to the world crisis on plastic wastes.
- ***Range of WPPPO.*** Utilize waste plastics to produce a range of crude waste plastics pyrolytic oil (“WPPPO”)

The Company

Who We Are We are an innovative sustainable environmental solutions company, managed by a group of professionals. We are based in Hong Kong.

100% Clean We make use of our Japan/ China developed proprietary pyrolysis technology to process plastic wastes. The process is 100% clean with minimal pollution.

100% Reused Plastic wastes are converted into crude oil and char that can be reused as energy sources.

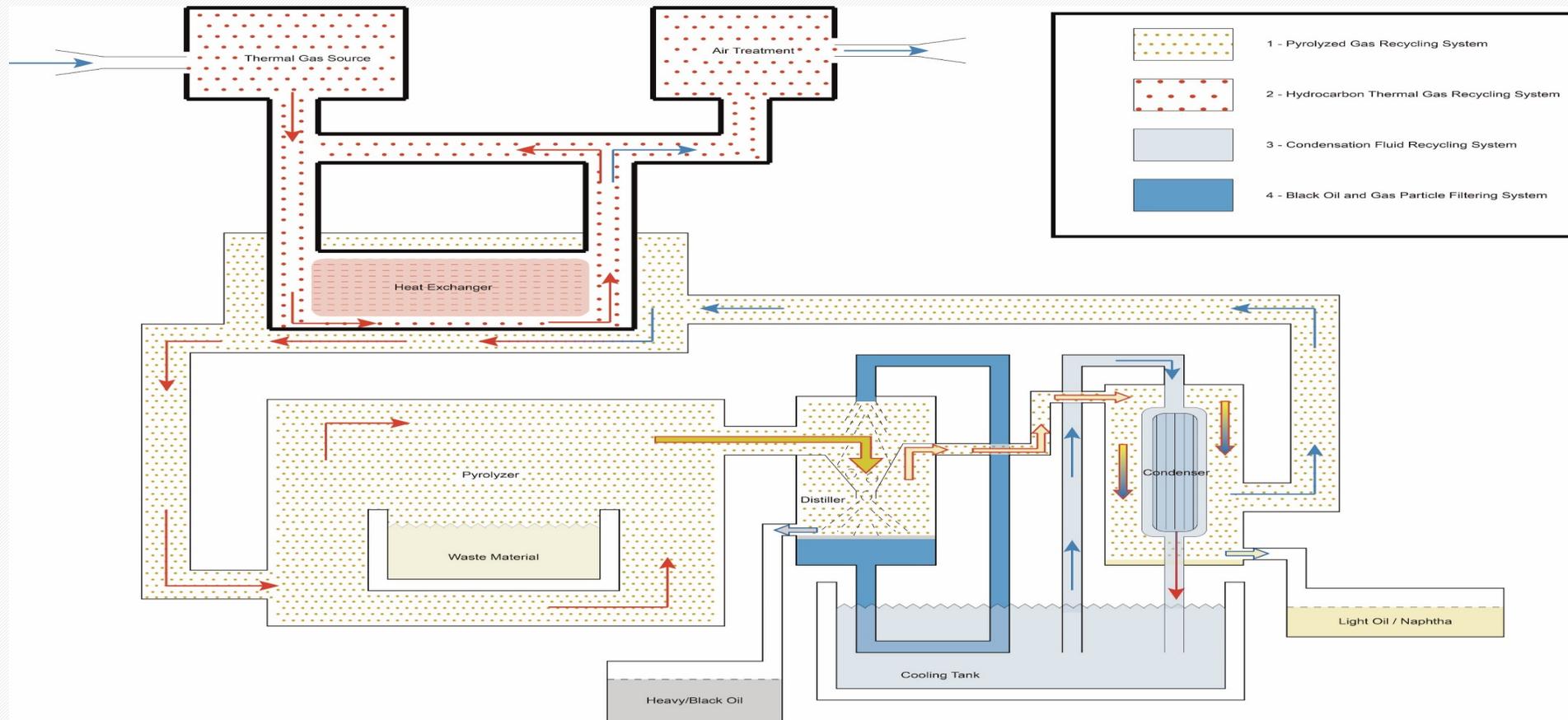


Our Technology



Our apparatus utilizes high heat in an inert, oxygen-free environment to convert plastic wastes into energy sources such as crude oil, char, and gases

Our apparatus operates in two gas cycles. One is a sealed pyrolytic cycle to convert plastic wastes into crude oil, char, and gases. The other is from the burner that starts the pyrolytic cycle.



Key Characteristics

Energy
Efficient

High efficiency with low energy consumption

No
Separation

Requiring only “one-step” processing. No separation required

Safety

Does not create acidic substance, no explosion issues

0%
Emission

No smell, no dioxin, no smoke with minimal pollution

Resources
Utilization

Ability to produce oil and char. Oil production can reach up to 90%

Automated

Highly automated with minimal labor

Plastic Wastes to Crude Oil Conversion Can Reach as High as 90%



WPPO: Applications

- ***We adopt the utilization of waste plastics to produce a range of crude waste plastics pyrolytic oil (“WPPO”).***
- ***WPPO can be further processed to valuable chemicals, as well as drop-in fuel for diesel and the likes of transportation fuel.***

We promote the concept of 3Rs - Reduce, Recycle, and Reuse

Our initial studies on WPPPO products derived from PS, PP, LDPE, HDPE processed at our Zhongshan facility

Property	WPPPO-PS	WPPPO-PP	WPPPO-LDPE	WPPPO-HDPE
CV MJ/Kg	48.9	49.8	47.6	48.1
Density g/cm ³	0.91	0.89	0.91	0.91
Viscosity cP	1.8	1.9	2.1	2.1
Flash point °C	<32	<32	<32	<32
Pour point °C	<3.0	<3.0	3.0	<3.0
Sulphur wt %	0.01	0.01	0.01	0.01
Water content ppm	0.13	0.12	0.14	0.13
Ash wt %	0.008	0.01	0.01	0.01
Colour	Brown	Yellow	Yellow	Yellow

At the R&D center, we will conduct continuous testing on a wide range of plastic wastes, including single-type categories, as well as mixtures.

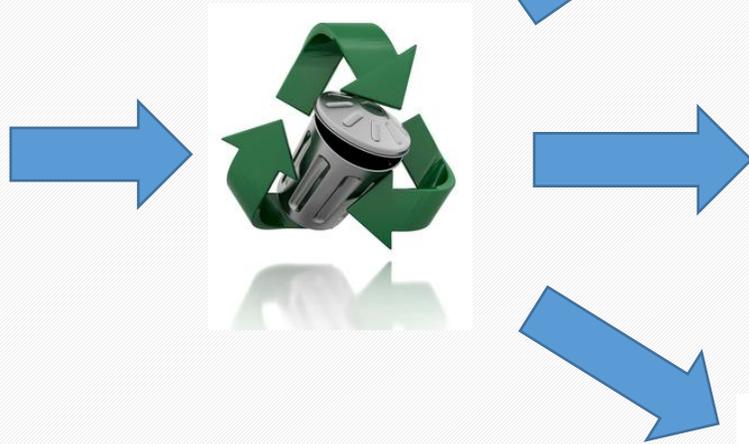
Category	Disintegration Temperature (Celsius)	Oil (%)	Char (%)	Gas (%)
PVC	280	15	52	33
PS	170	95	0	5
PP	300	97	0	3
PE	270	60	0	40
PET	270	38	0	62
PVC, PP, PE, PS, HIPS, ABS, PET	250	64	16	20

****The above is a snapshot of some of the preliminary tests we conducted on product yield at our Zhongshan facility.***

Pyrolysis Ecosystem



Plastic wastes



Our Pyrolytic Technology



Crude Oil



Chemicals



Char



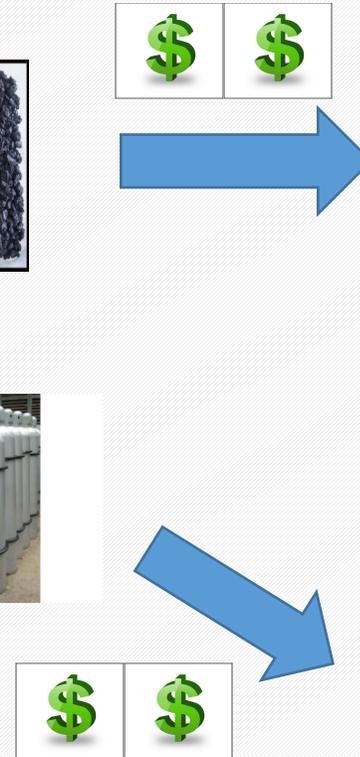
Transportation



Gas



Commodity Traders



Initial Machine's Specifications

Machine's Specs

Processing Daily Capacity: 50-tons

Time required for cycle: Continuous (24/7)

Required area: 3,000sqm

Manufacturing & Installation: 3 months

Electricity required: 125KWH

Fuel required: 0.033 tons

Water required : 50 cubic meters (Can be recycled continuously)



Intellectual Properties

We developed our expertise with our Japan and China partners holding a number of invention and utility patents



Our Project In Hong Kong



Each year, around 6 million tons of municipal solid waste (MSW) are generated, over half of which is disposed of in the two strategic landfills. The generation of MSW has been growing at a much faster rate than expected, and Hong Kong's consumption-led lifestyle is putting enormous pressure on these landfills. At the current rate, the landfills will be full by end of 2020. If the waste loads continue to increase, there will be a need to allocate an additional 400 hectares of land to develop new landfill sites to meet its waste disposal needs up to 2030.

Hong Kong needs a more environmental sustainable way to treat waste

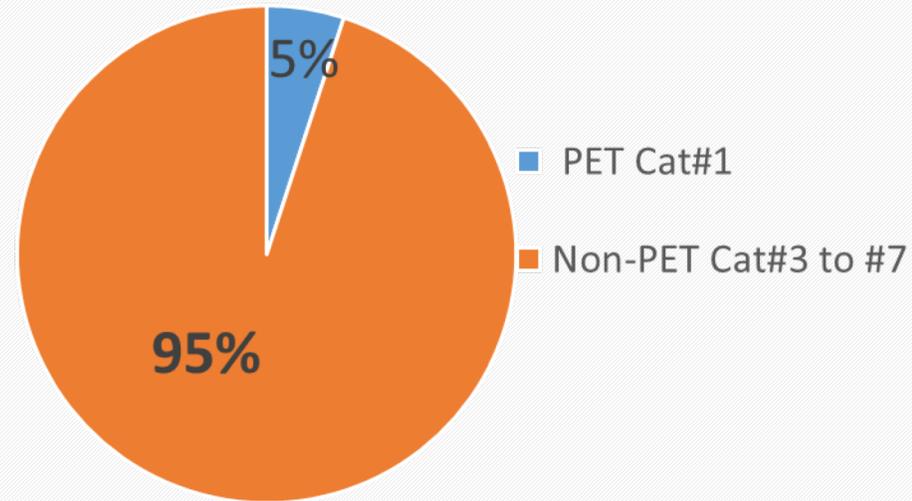


Stats on Hong Kong plastic wastes:

- 3,000 tons of plastic wastes are generated every day.
- China banned imported plastic waste in 2018.
- ***Hong Kong only recycles Cat #1 and Cat #2 plastic wastes (PET & HDPE). There are 50,000 tons of PET generated every year. Only 8.5% is recycled.***
- ***The rest of the plastic wastes Cat #3 to Cat #7 are sent to landfills totalled 1.045m tons per year.***

Market Size

2018
Plastic Wastes Breakdown By
Composition In Hong Kong



Total Plastic wastes = 1.1million tons per year

Non-PET represents 95% of the plastic wastes in Hong Kong worth HKD3.5 billion in the oil recycling market

Our Hong Kong Project

- We plan to build and operate a plastic wastes recycling operation in Hong Kong by using our state-of-the-art pyrolysis technology.
- We will focus on processing Cat #2 (HDPE) to Cat#7 (other plastic types) plastic wastes.
- We received full support from the Hong Kong Environmental Protection Department that will facilitate on all license issuances and EIA approvals. EPD will further provide us with HKD15m financing.
- For phase 1 of the project, we will have a daily capacity of 50 metric tons running 24/7.
- For phase 2 (the 6th year), we plan to expand the processing capacity to 100 metric tons per day.
- Crude oil and char generated from our pyrolysis process can be re-utilized as energy sources and fed back to the Hong Kong economy, creating a circular economy and minimizing carbon footprint.

Our aim is to be the centralized plastic wastes recycling hub in Hong Kong

- Our facility will provide plastic wastes storage, plastic wastes processing, and oil/ char storage. We will have a fleet of trucks for plastic waste collection.
- We will focus on certain districts in Hong Kong (of the 18 districts) specified by EPD for plastic wastes processing.
- Oil/ char generated from the processed plastic wastes will be sold to third parties such as electricity companies for power generation and transportation companies to support their respective sustainable environmental programs. They will also be sold to commodity traders for direct resale.
- We currently have commitment from a 3rd party Shanghai-based conglomerate with an oil-trading business to purchase our WPPO. A LOI was signed on April 2, 2020.
- In the medium to long term, we will be working with EPD on the new “Lantau Tomorrow” city development scheme (to be built out over 20 to 30 years) and integrate our facilities into this project.

Our main revenue sources will be from the sale of oil and char