



### **Green Freight Movement: Webinar 3 Report**

*This webinar is part of the Green Freight Movement, a series of events that aims to equip companies with valuable industry insights to drive greener freight choices. The webinar took place on 19<sup>th</sup> January 2023 at 2pm SGT.*

#### **Transforming Waste: Plastics-to-fuel solutions**

*Purnima Ralhan, Kaltimex Energy (KE)*

Purnima shared about the waste-to-fuel solutions that KE employs to reduce its carbon emissions.

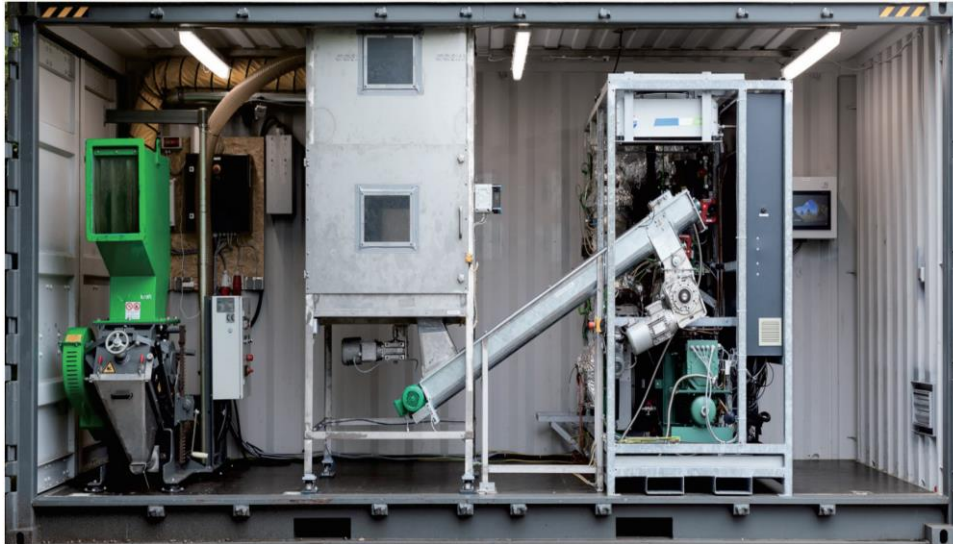
140 million tons of post-consumer waste is generated every year, serving as the main cause of plastic pollution in the world. This brings significant harm to the environment and many coastal communities affected by the plastic crisis.

As the official distributor for Biofabrik, KE's solution to managing this problem within Southeast Asia is to provide a scalable, decentralised way to process plastic waste and contribute to a circular economy through 2 types of waste technologies.

The first is Biofabrik's WASTX PLASTIC P1000, which converts 1000kg of plastic waste into syncrude oil in a day. The plant processes materials such as HDPE, LDPE, PP plastics to generate:

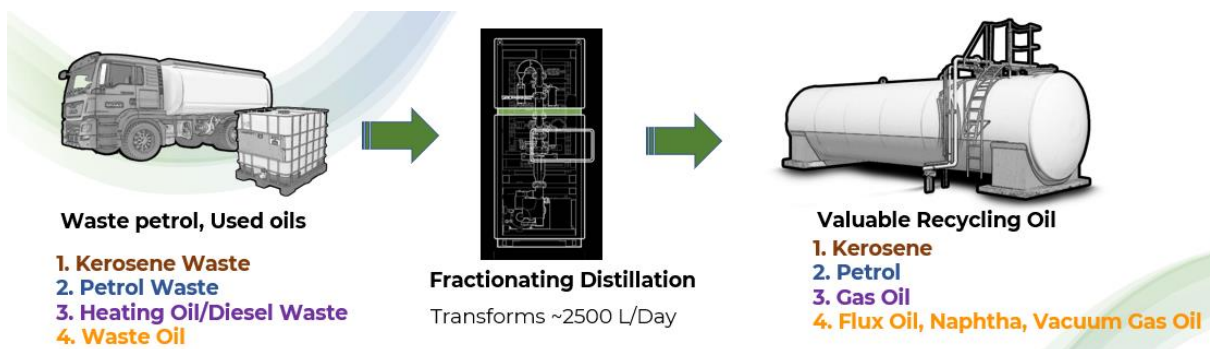
- Carbon black, which can immediately be sold on the market.
- Syngas, which can power the generator that provides the plant with electricity (its emissions are equivalent to U.S. EPA Tier 3).
- Syncrude oil, which can immediately be used in construction equipment and boilers, and sold to petrochemical companies.

The plants are stored in 20ft or 40ft containers, making the waste treatment process highly decentralised. Currently, newer models like the P2500 and P5000 are being developed, which would be able to process 2500kg and 5000kg of plastic waste a day respectively.



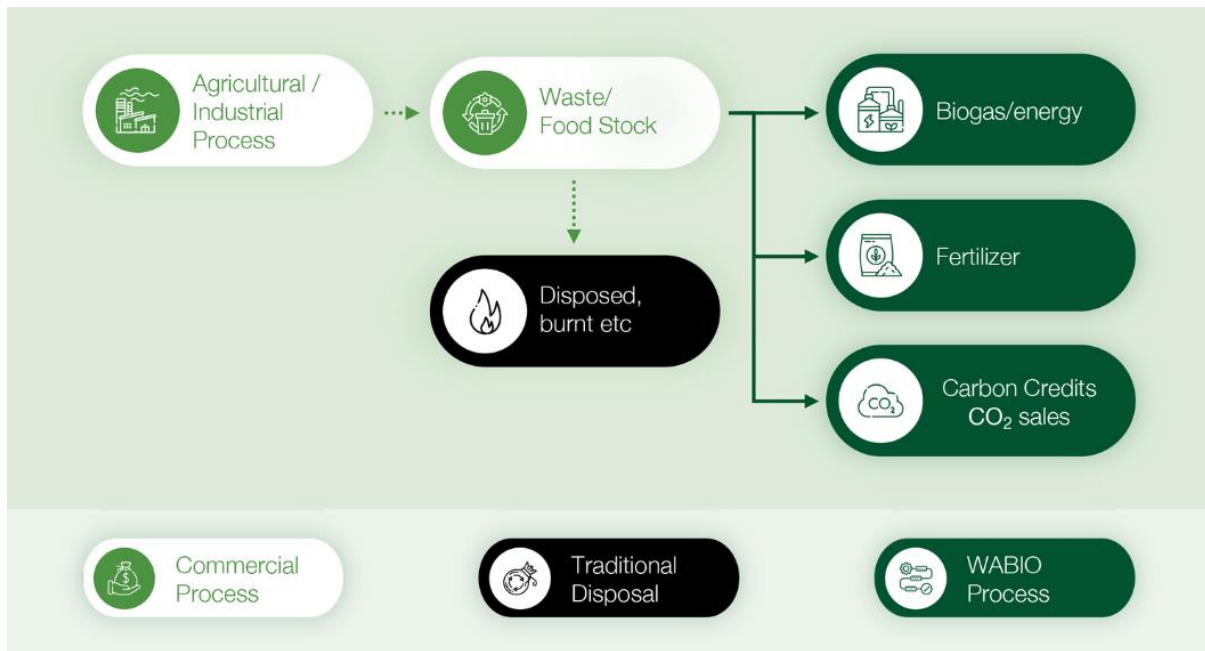
WASTX PLASTIC P1000

Next, Biofabrik's WASTX OIL GO2000 transforms approximately 2500 litres of waste oil/fuel a day into recycling oil/fuel via fractional distillation. Feeding kerosene waste, petrol waste, heating oil/diesel waste and waste oil into the plant would yield kerosene, petrol, gas oil, flux oil, naphtha and vacuum gas oil respectively after processing. Studies have shown that when 1 litre of waste oil contaminates a body of water, 1 million litres of drinking water can be contaminated. It is therefore crucial for waste oil to be recycled as much as possible. The WASTX OIL GO2000 is an extremely efficient method of doing so, due to its automated, decentralised and scalable nature. As its products can be traded in the market at competitive prices, this waste treatment solution is also highly profitable.



WASTX OIL GO2000 treatment process

WABIO's bio-CNG converts agriculture or food waste into bio-CNG, which significantly reduces the amount of methane released by decomposing organic waste. Additionally, any solid output generated by the plant can be used as fertiliser. With its high yield, increased efficiency and low land use, this technology creates a good opportunity for the sale of carbon credits, making it an extremely scalable emissions reduction solution.



The WABIO process

KE's upcoming project in Indonesia uses WABIO's bio-CNG to convert corn cob feedstock into bio-CNG, removing approximately 90,000 tonnes of CO<sub>2</sub> from the atmosphere in a year.

## Q&A

*What does the future landscape of the alternative energy market look like for APAC?*

Amongst its many benefits, the greatest advantage of renewable energy (RE) is its ability to reduce countries' dependency on the global supply chain for power. The global energy market is highly volatile – for example, the war in Ukraine caused an immense disruption to the global supply chain, and the resultant increase in fuel prices impacted almost all business operations globally. Thus, if a business could obtain energy from local plastic waste, the risks associated with heavy dependence on external energy sources are greatly reduced. Furthermore, given that waste disposal itself incurs costs in many countries, the ability to transform waste into a source of energy would also save costs for businesses.

*What is the first step that companies can take if they are starting out on implementing RE solutions?*

The first step is reflection. When KE made its ESG report, this gave the team an opportunity to reflect on what they had accomplished so far, and how they could move forward from there. Given the critical role that RE plays in future energy markets, companies must ask themselves: What are the benefits of using RE for my business? Next, a broader question: How can I make sustainability work for me?

To answer these questions, companies should conduct research on local environmental regulations, available green technologies, and sustainability initiatives that other companies

are engaging in. This would give companies a more complete picture of how they can improve their operations in a sustainable way without compromising on profitability.



Green Freight Asia

80 Robinson Road, #02-00, Singapore 068898

<https://www.greenfreightasia.org/> | [info@greenfreightasia.org](mailto:info@greenfreightasia.org)