



# Plastics Recycling Technology

KBR Hydro-PRT<sup>SM</sup>: An Innovative Plastics Recycling Process



KBR offers a sustainability-focused, innovative plastics recycling process, Hydro-PRT<sup>SM</sup>, in alliance with Mura Technology Ltd. Plastics recycling is a key element of a functioning circular economy.

Hydro-PRT recycles end-of-life plastic such as thin plastic packaging, which would otherwise be incinerated, sent to landfills, or leaked into the environment. Hydro-PRT converts these mixed plastics into a hydrocarbon product that can be used as a drop-in or further refined into value-added chemicals or virgin polymers. The technology is based on a patented hydrothermal upgrading process which utilizes supercritical water to produce stable hydrocarbon products from a wide range of mixed plastic waste.

## A COMMERCIALY PROVEN PROCESS

The technology has been successfully demonstrated on pilot scale since 2014. A 20 kta commercial scale plant utilizing Hydro-PRT is under design by ReNew ELP in Wilton, UK. Using end-of-life plastic as feedstock, this plant will produce liquid hydrocarbon cracker feedstock alongside intermediate products. This plant will eventually process over 80 thousand tons of plastic waste feedstock and is scheduled to start-up in 2022.

## TECHNOLOGY OVERVIEW

01  
Waste Plastic



02  
Plastic  
Cleaning



03  
Melt &  
Pressurization



04  
Mix with  
Steam



05  
Heat



06  
Hydro-PRT<sup>SM</sup>  
Reactors



07  
Depressurize



08  
Product  
Separation



09  
Product  
Storage



## PRODUCTS

Hydro-PRT produces four distinct and separate liquid hydrocarbon products for reuse in production of new plastics, chemicals, solvents, refinery feedstocks and other products.



### FEEDSTOCK FLEXIBILITY

Varying mix of waste plastics feeds that can be less dry and dirtier than competing technologies



### SCALABLE

Ability to address growing stockpiles of waste plastic in a simple, engineered design



### HIGH PRODUCT YIELDS

Focus on efficient production of valuable, usable products



### PRODUCT STABILITY, QUALITY, AND FLEXIBILITY

Wide range of clean, stable products that can be adjusted based on feedstock and product market variations

**Advantages  
of Hydro-PRT<sup>SM</sup>  
over other  
chemical recycling  
technologies**

## ABOUT KBR, INC.

We deliver science, technology and engineering solutions to governments and companies around the world. KBR employs approximately 29,000 people worldwide with customers in more than 80 countries and operations in 40 countries.

KBR is proud to work with its customers across the globe to provide technology, value-added services, and long-term operations and maintenance services to ensure consistent delivery with predictable results.

**At KBR, We Deliver.**



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