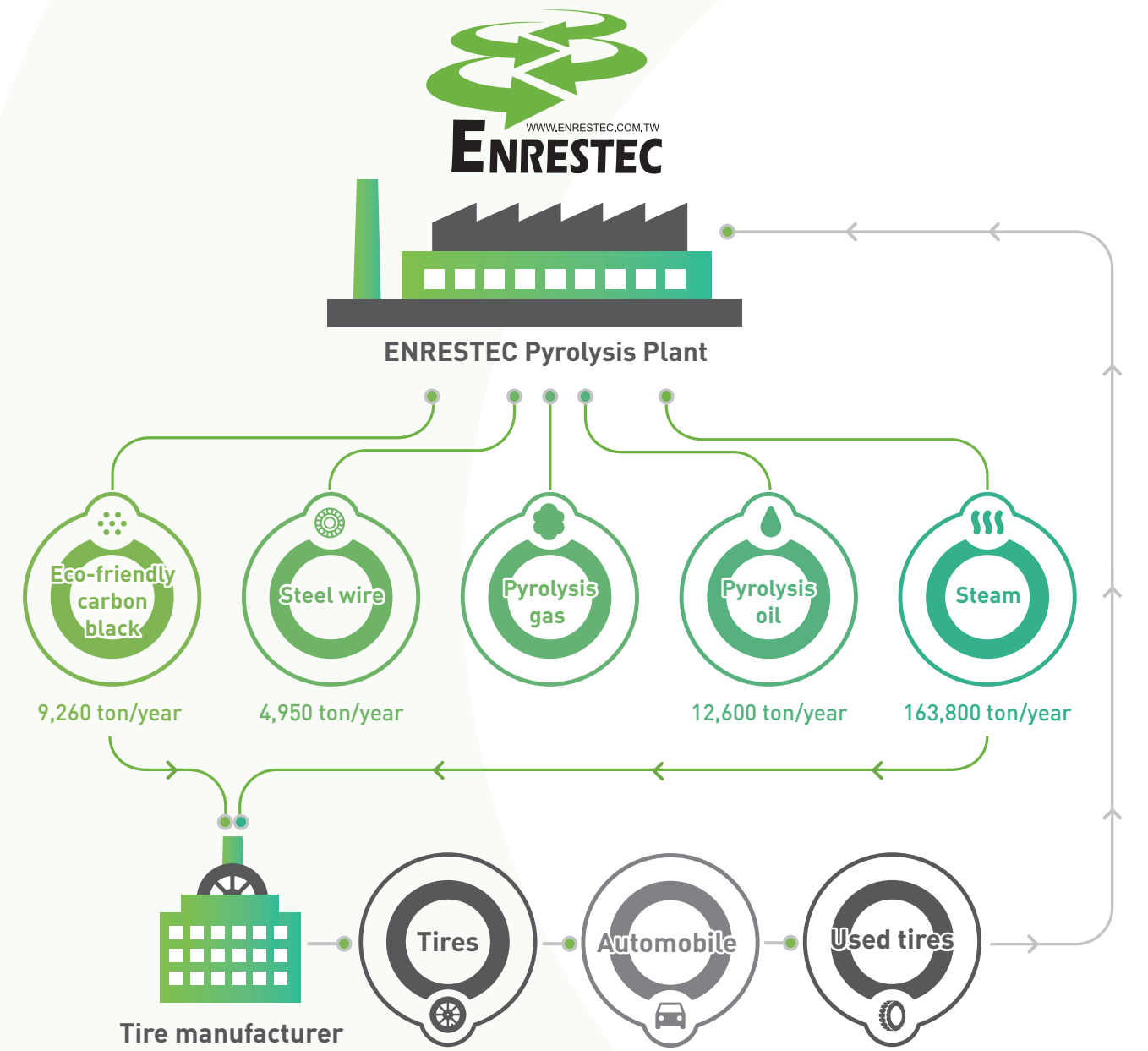


Our Business Model

Carbon black is the second most widely used raw material in the rubber industry. According to worldwide statistics, carbon black used in rubber products is 90% of the total consumption of carbon black, and 67% is used in tires. That said, the carbon black market is largely dominated by tires and rubber products of which the demand will continue to grow in the future. In response to the huge opportunity, ENRESTEC offers a comprehensive resource integration system that allows you to maximize economic benefits using minimum resources while reducing environmental impact simultaneously.



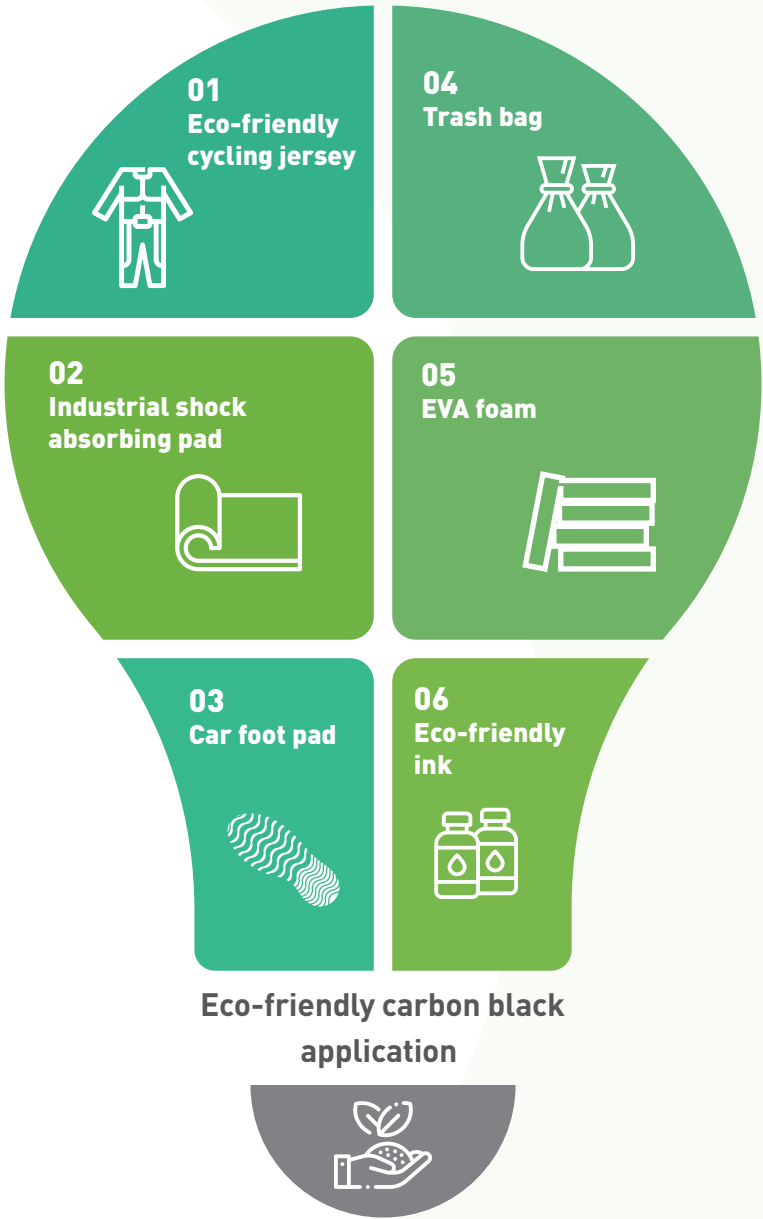
First pyrolysis plant to receive the “recycled oil” permit in Taiwan

The only ISO9000 14001/14067 certified factory in Taiwan

All recycled carbon black complies with EU REACH and PAHs restrictions

The Pioneer in Eco-Friendly Innovation

ENRESTEC has always been a pioneer for you. We have successfully introduced the application of eco-friendly carbon black produced by tire pyrolysis technology to plastics and industrial rubber. Several tire manufacturers are already using our eco-friendly carbon black which significantly reduces material costs. Moreover, its carbon footprint is only 20% of other commercially available carbon black. It is the ideal solution for businesses looking to reduce carbon products and carbon footprints in the future.



Five Advantages of ENRESTEC

Vast regional product market

Convenient raw material supply

Advanced technology and optimal quality

Solid technology and managerial talent

Integrated resources and maximized benefits

環拓科技
ENRESTEC INCORPORATION

About ENRESTEC

Founded in 2005, ENRESTEC is a pioneering business that boasts the globally exclusive patented innovative pyrolysis technology. The company excels at the pyrolysis and recycling of used plastic, rubber, organic wastes and the development of soil thermal desorption technology and application. Our services include designing organic waste pyrolysis and heat treatment system, equipment construction, manufacturing process operation and quality control. ENRESTEC aspires to be the global expert offering eco-friendly solutions and technologies that do not generate secondary pollution.

In light of the global awareness of recycled energy and carbon dioxide emission reduction, Lien Zhong Plant was built in Tainan County in 2006. In 2013, ENRESTEC established a total solution for the entire process starting from used tire collection, shredding, pyrolysis to product refinement. Our annual throughput is 36,000 tons of valuable green products generated from waste materials. Our products include recycled oil, eco-friendly carbon black, steam and steel wires.

Enrestecuses a low energy consuming fully automated continuous pyrolysis system. The entire manufacturing process whichincludestire patchfeeding, pyrolysis reaction, oil purification and the modification, fine grinding and granulation of carbon black, is fully monitored and controlled by computer. In addition, we have a professional laboratory dedicated to ensuring that the manufacturing process, product quality of carbon black we produce adheres to our quality control standards. ENRESTEC is the world’ s only pyrolysis plant that successfully applyrecycled carbon black produced from used tire pyrolysis to plastics and industrial rubber products. Meanwhile, in order to cater to the needs of our clients, we have established a set of quality standards for carbon black products which has been endorsed by plastics and rubber manufacturers as well as tire manufacturers. We are the most reliable partner in an effort to reduce carbon.



System description

Used tire shredding system



The system first removes steel wires from the used tires. The process is followed by rough shredding, shredding, and the separation of thin wires. Used tires will be shredded into tire patches no more than 3 centimeters which contain less than 1% of steel wires. The processedpatches become the raw material for pyrolysis system. The shredding system comprises a wire removing machine, rough shredding machine, thin wire separation machine and other necessary equipment.

Used tire pyrolysis system

Used tire pyrolysis system is designed and developed by ENRESTEC and is made in Taiwan. It is one of the very few 24-hour continuous rotary commercial used tire pyrolysis system in the world.



The system consists of four main parts: material feeding equipment, burner, pyrolysis reactor, and pyrolysis oil condenser. Tire patches are automatically and continuously delivered via the material feeding system into the pyrolysis reactor for slow pyrolysis. Tire patches undergo the pyrolysis reaction under conditions of high temperature, reduced oxygen and negative pressure. The burner provides heat which is essential to pyrolysis, and the pyrolysis oil generated from the reaction is collected and condensed through the condenser. The pyrolysis gas that remains will be led into the burner as fuel, enabling the burner to operate without additional energy consumption. Crude carbon black produced from pyrolysis reaction will then be sent to the eco-friendly carbon black processing system after cooling.

The strictly monitored pyrolysis system yields 38±2% of pyrolysis oil and 28±2% of eco-friendly carbon black. With proper maintenance in place, the system is able to run continuously 24/7. The operation rate is above 90%.

Eco-friendly carbon black processing system



Crude carbon black produced from pyrolysis reaction requires a series of treatment before it becomes eco-friendly carbon black. The eco-friendly carbon black processing system includes magnetic separation, grinding, granulation, drying and other processing procedures. The entire process requires strict monitoring and management in order to ensure prime quality of the eco-friendly carbon black.

Pyrolysis oil processing system



After cooled and collected, the substance generated from the gas phase reaction of tire patch pyrolysis is crude pyrolysis oil. It contains carbon which is to be removed through the pyrolysis oil processing system. The system includes precipitation, filtration, sludge treatment and other procedures to refine pyrolysis oil to eventually yield the finished product.

Public system



The public system includes the cooling tower, air compressor, pyrolysis oil storage tank, wastewater treatment facility, waste gas treatment system and more. The public system is designed and established based on varied requirements of different sites. The waste heat recovery boiler can also be added to the system to generate usable steam.

The world’ s one and only successful commercial used tire chemical pyrolysis plant



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