



Innovative Solutions
in Plastic Transformation:

NRR
Technology



Plastic and Recycling

Plastics are widely used materials in industry due to their cheapness and durability. However, their popularity and durability also bring along the **problem of environmental pollution.**

Plastic pollution poses a serious threat to **natural habitats and ecosystems.** Plastic waste accumulated in oceans and on land leads to **the deaths of millions of marine animals and birds.**



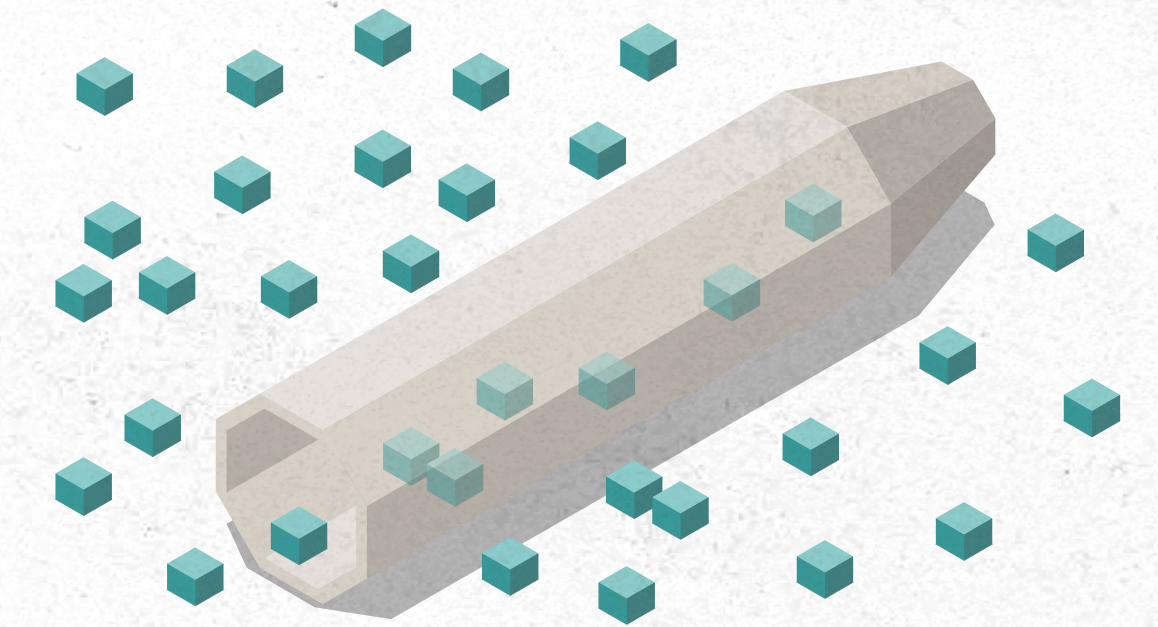
NRR Technology and Plastic Transformation

Next Generation Recycling Technology (NRR) is designed to convert plastic waste into valuable resources. This technology is an important step in reducing plastic pollution and using resources more efficiently.

Chemical recycling is a method that separates the complex structure of plastic waste and converts it back into raw materials. This enables plastics to be reused and reduces the consumption of natural resources.



How Chemical Recycling Works?

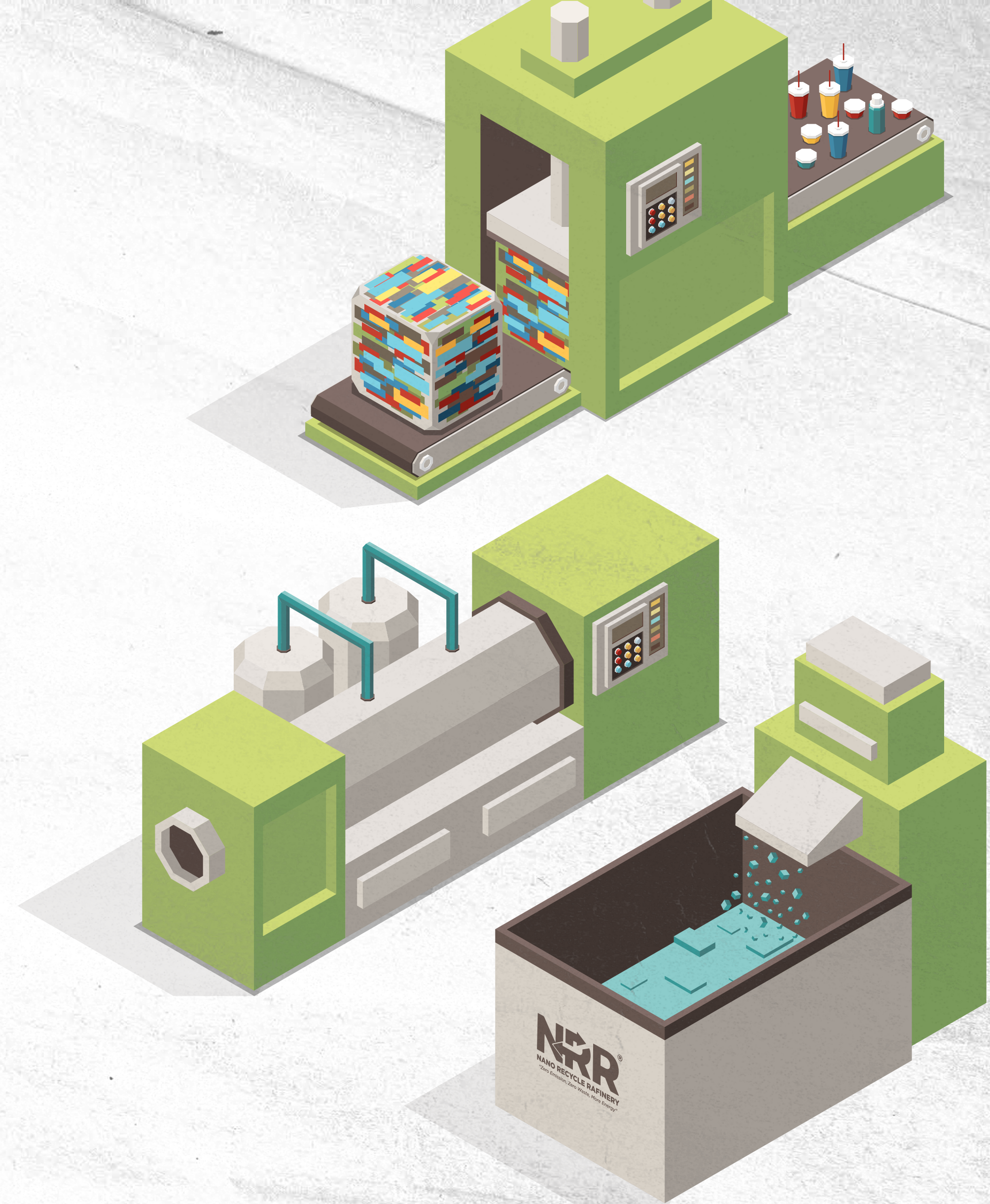
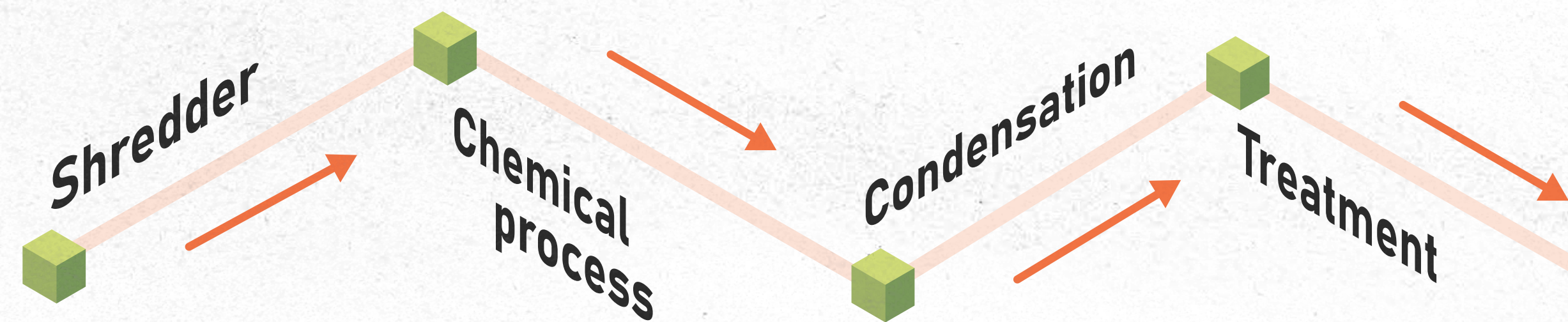


Plastics are polymers obtained through the refining of crude oil. The chemical recycling process **breaks down these polymers at a molecular level.**

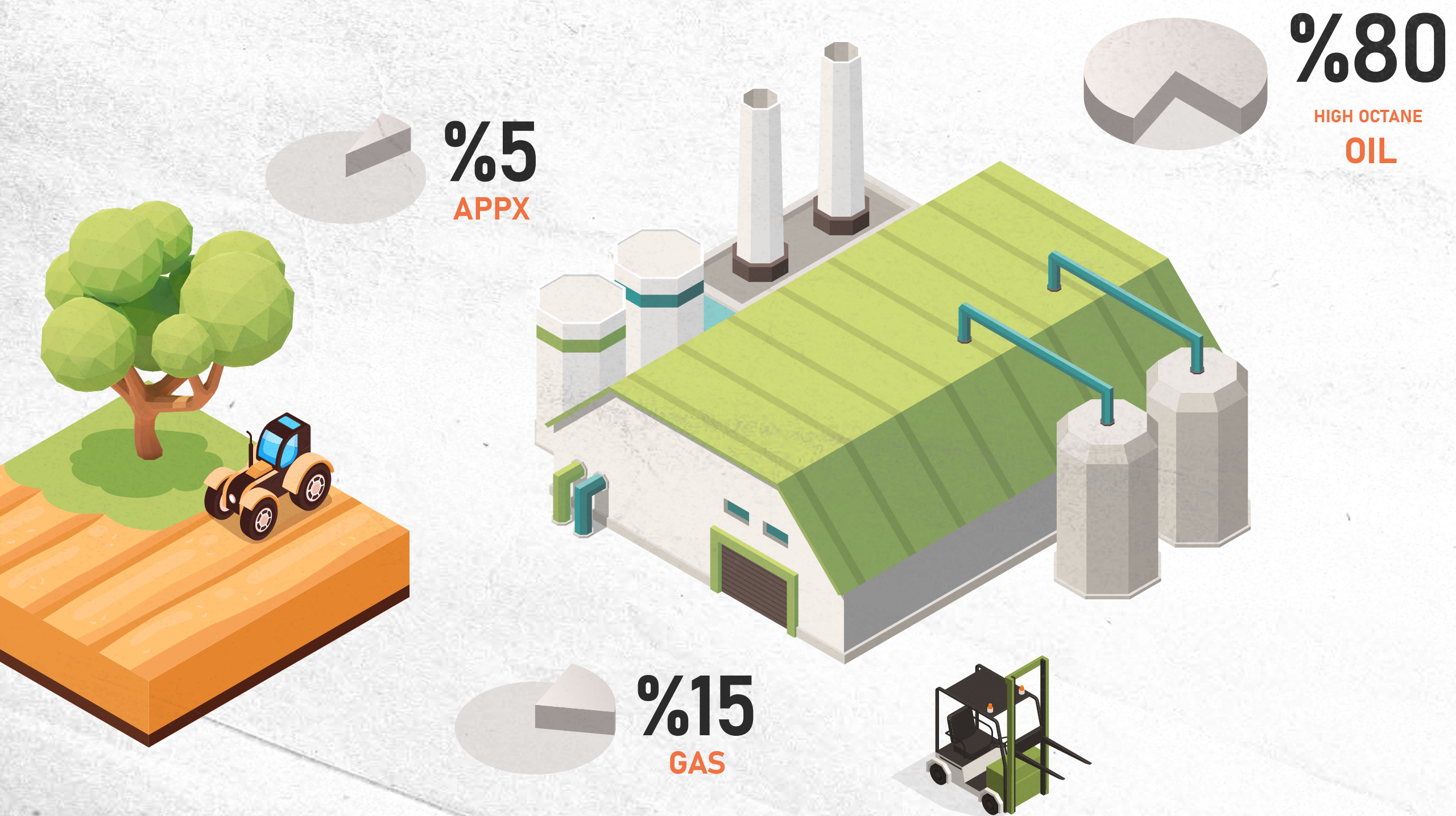
This process, called nano-recycling, involves the exposure of plastic waste to temperatures **up to 450 degrees Celsius** in an NRR reactor in the absence of oxygen. This breakdown separates plastic molecules into smaller components and converts them into raw materials.

Implementation of NRR Technology

NRR technology carries out the conversion process of plastic waste in several steps. Firstly, waste plastics are shredded into small pieces using shredders. Subsequently, the chemical process begins, and plastic pieces are subjected to high temperatures inside an NRR reactor. This breakdown process occurs within the reactor, converting plastic molecules into raw materials.



Obtained Products and Applications



The products obtained through NRR technology include approximately **5% carbon black (appx)**, **15% gas**, and **80% high-octane oil**. These products can be used in various industrial and energy sectors after refinement.

High-octane oil can be used in energy production and agricultural machinery, while gas recycling can provide energy for various industrial processes and homes. Carbon black can be utilized in different industrial sectors and contribute to the recycling of waste materials.



Recycle
Energy