Millions of plastic bottles end up in South Africa’s landfills every year. Extrupet proposes a real solution for this problem. Rather than throwing plastics away, this company finds innovative ways to renew and reuse it.

Extrupet was set up in 2005 to spearhead the recycling of post-consumer polyethylene terephthalate (PET) bottles recovered from the waste stream. A state-of-the-art recycling facility equipped with the latest technology developed and manufactured in Europe is utilised to rework 2,000 tons of PET plastic bottles a month. “Approximately two-million bottles are streamlined through our process in a day,” says Sarah Maeli, public relations officer of Extrupet.

Bottle suppliers deliver baled discarded post-consumer PET bottles to the plant in Wadeville, where the bottles go through an extensive process to create “non-food grade” as well as PhoenixPET “food grade” resin. The “non-food grade” resin is ideal for the manufacturing of fibre for polyester carpets, fabric for t-shirts and shoes, fibre-fill for sleeping bags and pillows, industrial strapping, automotive parts like inner door panels, geotextiles for road stabilisation and ceiling insulation. The recycling plant now also produces PhoenixPET which is suitable for use in the production of PET food packaging. “Our state-of-the-art bottle to bottle (B2B) plant in Wadeville, Johannesburg is the first globally to be certified by the British Retail Consortium (BRC) for meeting stringent food safety standards, and we remain the only BRC-accredited PET recycler globally. PhoenixPET also meets the US Food and Drug Administration’s stringent food safety standards,” says Chandru Wadhwni, the chief operations officer of Extrupet.

Throughout the process there are various quality checks to ensure that the end product is up to standard, especially with the resin that can be used in the production of PET food packaging (PhoenixPET). “Extrupet has the capacity and provides the quality assurance to meet the growing local and regional needs in the bottle-blowing and sheet- thermoforming markets for environmentally-friendly, recycled raw materials,” explains Wadhwni.

When entering the plant, a plastic bottle first goes through an extensive sorting process, where a bottle is basically stripped from anything else which is not made out of PET. During the sorting process the bottles are washed to clean it from any chemicals or substances that it contained. The bottles are also sorted into different colour fractions: transparent or uncoloured PET, blue- and green-coloured PET, and the remainder into a mixed colours fraction. “Colourless/light blue PET products attract higher sales prices compared to the darker blue and green fractions. The mixed colour fraction is the least valuable,” says Wadhwni.

To create pellets from PET plastics, the flakes will undergo a more aggressive extrusion process using innovative equipment. An extruder melts, mixes and conveys the resin through a die plate to produce the desired shape, or conveys the material to melt pumps for further processing. Extrusion allows the conversion of recycled PET into pellets, and/or the incorporation of recycled PET into end-products such as strapping, fibres, sheet and film.

Extrupet’s facility is supported by the PET Recycling Company (Petco), which is a body representing the South African PET plastic industry that is financed by a voluntary levy paid by converters on PET resin purchased.

According to Wadhwni, the company continues to be a leader in its field on the African continent and is continuously being upgraded both in technological and capacity terms. “Our establishment remains a clear-cut signal that the PET industry in South Africa is eager to address the challenges of recycling post-consumer PET while tackling head-on the environmental problems created by discarded bottles.”

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