Special Reports

Plastics Recycling: Impact on the Polymers Industry in Asia Pacific

Background

Plastic waste continues to be a prevalent issue for consideration by governments around the world as they respectively develop policies and actions to reduce plastic waste and improve waste management alongside offerings from the private sector. Recycling is viewed as a viable method of managing plastic waste and, historically, part of this waste has been exported from developed countries to developing nations in Asia with the rest being either recycled locally, incinerated or even landfilled. However, Asian countries have become more aware of the impacts of plastic waste on the environment and health and a number of countries have since implemented policies which ban import of wastes from other countries.

Objective and Content

This report focuses on the developments of the plastics and recycling value chain in three countries; China, Japan and Australia. The rate at which each of these countries develop and implement plans for plastic recycling and move towards will be different, and collectively will have a long term effect on the dynamics of the polymer markets.

Within the report, the following aspects are covered for the respective countries assessed:

- An overview on the processes currently employed for waste segregation and recycling, drivers and players in the industry, along with regulations and policies.
- Challenges to the recycling industry
- Current virgin plastic resin demand and outlook
- Current recycled plastic resin demand and outlook relative to virgin resin
- Key polymers of focus include polyethylene terephthalate (PET), low-density polyethylene (LDPE), linear low-density polyethylene (LLDPE), high density polyethylene (HDPE), polypropylene and polyvinyl chloride (PVC) resins

In addition to the more detailed data for the three countries assessed in this report, Nexant has also provided a qualitative overview of the industry and activities with respect to recycled plastics in the main countries within Southeast Asia.

The report incorporates knowledge Nexant has gained over many years of examining polymer developments across global regions as well as the knowledge gained during recent recycling studies. Thus, the information used to develop this report is derived from in-house sources as well as information through research and discussions with industry participants, and publicly available resources.

Abstract

Recycled polymers make up around 15 percent of total polymer demand for China, Japan and Australia in 2018, with PET by far the largest consumed recycled resin.

Soft plastics such as films (LDPE and LLDPE) make it a challenge to recycle such polymers due to separation and contamination issues, and hence are more costly and less attractive to recycled.

Improved waste sorting and design of recycling mechanisms can improve recycling yields to some extent, but the required performance and light weighting of polymers will put a limit to the extent in which recycle rates will increase.

Economic recycling processes along with appropriate infrastructure and well implemented policies will aid countries to move towards sustainable consumption of polymers – recycling will play a key part in these goals.

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