The Netherlands has a longstanding, ambitious environmental policy with regard to the recovery and recycling of materials. Currently, 79%1 of its waste is recycled and the residual waste is mainly used for energy generation, which in turn is part of the solution toward a shift in energy production through renewables. The initiative “Netherlands as Circular Hotspot” aims at positioning the Netherlands as an international example for circular business and develop a circular economy in the Netherlands by 2050. Based on this political ambition, the Dutch ecosystem has started a transition toward a circular economy. The plastics recycling market in the Netherlands is constantly evolving in parallel with the adaptation of more circular business models due to the impact of climate change and resource scarcity.

To accompany the intense development of the circular economy in the Netherlands, Veolia decided to acquire in 2015 a Dutch company named AKG Polymers that now has almost 50 years of experience in plastics recycling. This plant in the Netherlands is now Veolia’s global center of excellence for recycling polypropylene. Veolia is accompanying brands, such as Philips, in their commitments to making their products and services more environmentally friendly. This innovative dynamic around recycling is also encouraged by a more collaborative approach, breaking down the traditional silos, and creating new markets and business models in the Netherlands and abroad.

INTRODUCTION

Since the 1960s, the Dutch economy has strongly relied on gas following the discovery of the largest gas field in Europe, the Groningen field, and the tenth largest in the world. The Netherlands became the EU’s largest natural gas-producing country. This abundance of gas facilitated the development of energy-intensive industries, notably refining, petrochemicals and agriculture. Holland represents one of Europe’s leading suppliers of chemical products and services and boasts more than 400 top chemical companies across the entire supply chain. The Port of Rotterdam, Europe’s largest port, is one of the strongest refining and chemical clusters in the world. Second only to the United States for agri-food exports worldwide, more than 4,150 companies are established in this key sector and the Netherlands hosts major production or R&D sites of 12 of the world’s largest agri-food companies.

This well-established, gas-oriented economy has recently known major shifts. A big turning point was the progressive decision to reduce natural gas production in response to popular and parliamentarian environmental pressures.

1 Ministry of Infrastructure and Water Management of the Netherlands
In March 2018, the Dutch government announced that it will phase out gas production at the Groningen field by 2030 as part of efforts to reduce the danger caused by small but damaging earthquakes.

TOWARD “HOLLAND CIRCULAR HOTSPOT”

Presently, the Netherlands remains one of the most fossil-fuel (gas) and CO₂-intensive economies among International Energy Agency member countries. However, its goal is to switch from a gas-intensive economy to a gas-free future. It is implementing a national energy transition to achieve a CO₂ neutral energy supply system by 2050. The first steps are already in progress; for example, in 2017, 10,000 buildings in Amsterdam were disconnected from the gas grid. In the words of the Dutch Ministry of Economic Affairs, the energy policy will work on three main principles: “1) focus on CO₂ reduction; 2) make the most of the economic opportunities that the energy transition offers and 3) integrate energy in spatial planning policy.”

The Netherlands is pursuing a rigorous climate policy to reduce greenhouse gases by 95% by 2050 compared to 1990 levels through a large-scale transformation of energy generation, carbon capture, industrial symbiosis, and becoming circular in nature.

The Netherlands has a longstanding, ambitious environmental policy with regard to the recovery and recycling of materials. Currently, 79% of its waste is recycled and the residual waste is mainly used for energy generation, which in turn is part of the solution toward a shift in energy production through renewables. The goal, however, is to position the Netherlands as the circular economy pioneer.

The campaign “Netherlands as Circular Hotspot”, launched during the Dutch presidency of the EU in 2016 and sponsored by Dutch companies, aims at positioning the Netherlands as an international example for circular business. The goal is to develop a circular economy in the Netherlands by 2050. In its national program launched in September 2016, the government selected five economic sectors and value chains that will be the first to switch to a circular economy, due to their importance to the Dutch economy and the environment. Plastics is one of these top priorities, with the goal of using only renewable (recycled and biobased) plastics by 2050.

Based on this political ambition, the Dutch ecosystem has started a transition toward a circular economy. Major Dutch companies, such as Philips, and public authorities, like the Port of Rotterdam, have embarked on a journey to change their business models, from a linear to a circular approach. In 2018, the Dutch financial institution ING launched a fund committing €100 million of capital for investments to support sustainable “scale ups” with a proven concept and a positive environmental impact. The goal is to invest in companies within the Circular Economy and Energy Transition fields.

BOOSTING PLASTICS RECYCLING IN THE NETHERLANDS

To accompany the intense development of the circular economy in the Netherlands, Veolia decided to acquire in 2015 a Dutch company named AKG Polymers that had almost 50 years of experience in plastics recycling. The company was founded in 1969 by an entrepreneur who was recycling scrapped clothing hangers, and is now one of the European market leaders in recycling and compounding of polypropylene (PP) plastic. The recycling plant is located in Vroomshoop, in the east of the Netherlands and near to the renowned Polymer Science Park, a leading open innovation center in the field of applied plastics technology and close to where Veolia has its washing and flaking facilities.

The Veolia production plant produces high quality compounds made from recycled polypropylene (PP), coming from recovered commercial, industrial and household waste (90% of supplies) and from the waste produced by plastic product manufacturers.
PP is a modern and versatile plastic that is used in countless products. The number of applications continues to grow on a daily basis. PP is highly suitable for recycling. Its properties can be easily modified, for a second, third or even a tenth life, whether for the same or a totally different application. The recycled PP compounds are sold to different producers of plastic products, substituting virgin plastics. They are used in many fields such as automobile components, garden furniture, household appliances (vacuum cleaners, coffee machines), various storage systems (crates, boxes), piping and water drainage systems.

Smart recycling maintains the value of PP, conserves scarce mineral resources such as oil, and protects the environment as the energy consumed and carbon footprint arising from producing 1 metric ton of PP compounds made from recycled material is much lower than that consumed in the production of 1 metric ton of virgin plastic resins.

This plant in the Netherlands is Veolia’s global center of excellence for recycling polypropylene. Its laboratory is equipped with state-of-the-art technologies, and is able to supply complete analyses at each step of the production process, thus ensuring Veolia guarantees the highest quality product to our end customer. While Veolia does not have traditional waste facilities in the Netherlands for the direct collection and sorting of municipal waste, it does operate a right of first refusal policy or “RoFR” with other Veolia business units across Europe. This enables the purchasing department in Vroomshoop to source quality input feedstocks at market prices once sorted at other Veolia locations and convert these PP bales into flakes in Vroomshoop. The location of the plant is a great advantage as it can easily have access to main European feedstock producers (UK, France, Germany, Belgium and Luxembourg).

Within a few months of the acquisition, AKG was integrated into the Veolia organization and thanks to a multiyear growth program, it has been able to increase its production capacity from 35,000 metric tons in 2015 to 50,000 metric tons in 2018.
CIRCULAR MARKET TRANSFORMATION ACCELERATION

Veolia has traditionally accompanied some brands such as Philips in their commitments to making their products and services more environmentally friendly. Philips wants to eco-design its products and services with a focus on circularity. By 2020, it plans for 70% of its revenue to come from “green” products and 15% from “circular products”. To achieve this, Philips has decided to increase the proportion of recycled materials used in production.

The cooperation between Philips and Veolia began in 2010 with the development of a new kind of vacuum cleaner. At that time, Veolia developed a material from recycled battery shells. Today, after several generations of cleaning appliances made from waste plastic, the Philips green vacuum cleaners contain between 25% and 47% recycled polypropylene.

In the Netherlands, Veolia is involved very early on in the manufacturing process, right from the design stage. Its role is to help Philips integrate as much recycled plastic as possible, in this case polypropylene, into its new models of vacuum cleaners and coffee machines, and thereafter to supply Philips with materials to meet its requirements and to ensure a regular (in quantity) and constant (in quality) supply. As a result of this partnership, Philips and Veolia are currently studying the possibility of using plastic from the manufacturer’s end-of-life appliances to produce recycled plastic.

The closed loop approach of Veolia goes even one step further with partnerships such as the one developed with the company Polypipe who manufactures piping and water drainage systems. Not only do they use Veolia’s recycled plastics to make their products, but in turn Veolia can display these said products in their offerings to cities. For companies such as Polypipe the use of recyclate materials is their USP (“Unique Selling Proposition”).

CONCLUSION

The plastics recycling market in the Netherlands is constantly evolving in parallel with the adaptation of more circular business models due to the impact of climate change and resource scarcity. In February 2019, 65 companies including DSM, Philips, will sign the Dutch Plastic Pact aiming to increase the use of recyclates. This innovative dynamic around recycling is also encouraged by a more collaborative approach, breaking down the traditional silos, and in turn creating new markets and business models.

Two examples of this are:

(i) IKEA, which acquired a 15% minority stake in Dutch plastics recycling plant Morssinkhof Rymoplast, as part of a €3 billion budget allocated by the company to sustainability investments. IKEA’s investment in Morssinkhof Rymoplast builds on the company’s goal of making its plastic products (representing around 40% of its total plastic use) using 100% recyclable and/or recycled materials by 2020.

(ii) LyondellBasell’s acquisition of a stake in QCP, a Dutch producer of recycled plastic compounds that it owns jointly with Suez. This represents a partnership in the Netherlands between one of the largest plastics, chemicals and refining companies and a waste management player to contribute to circular economy objectives.

The ongoing development of a plastic circular economy also relies on technology innovation, such as the development of chemical treatment of plastics (instead of mechanical treatment) and on standardization and certification of recycled plastics to improve the quality and purity of plastics.