2018 Resin Situation and Trends

Production and sales of plastic resins in North America both rose in 2018 as expansion in the region's capacity continued. According to the American Chemistry Council (ACC) Plastics Industry Producers Statistics (PIPS) Group, North American resin production grew 5.8 percent to 119.6 billion pounds in 2018, up from 113.0 billion pounds in 2017. Total sales and captive use rose 5.4 percent from 113.7 billion pounds in 2017 to 119.8 billion pounds in 2018.

The Economic Environment

Following a year of broad, synchronous expansion across the world, the global economy entered 2018 with momentum. However, as the year progressed, performance across many of the world's economies began to decelerate. By the end of 2018, it became clear that the world economy was entering a soft patch. Global gross domestic product (GDP) grew 3.0 percent in 2018 – not as fast as expected. Slower global activity and weakness in key trading partners impacted foreign demand for North American goods. However, domestic demand remained strong. Though growth in the U.S. likely peaked in 2018 and will cool into 2019, expectations are for a slow and steady deceleration towards the longer term 2.0 percent trend. In the United States, GDP rose 2.9 percent in 2018. Many indicators for the U.S. economy are positive. Economic growth has remained dynamic and growth in manufacturing has nearly doubled. Meanwhile, the labor market has improved steadily and real incomes have risen as unemployment hit a record low. This all bodes well for consumer confidence and ability to spend which in turn impacts many industries including resins and their downstream customers. Gains continued across a broad band of industrial sectors which will support economic growth and provide stability during the coming period of deceleration.

Many indicators for the U.S. economy are positive. Economic growth has remained dynamic and growth in manufacturing has nearly doubled. Meanwhile, the labor market has improved steadily and real incomes have risen as unemployment hit a record low.

The United States has been favorably re-evaluated as an investment location and petrochemical producers have announced significant expansions of capacity in the U.S., reversing a decade-long decline in the 2000s. In fact, the gains in basic olefins capacity during the 2010s are estimated at nearly 40%. Indeed, over 330 new chemical production projects, valued at over $204 billion altogether, have been announced. 70% of these projects are foreign direct investment (FDI) or include a foreign partner. The dynamics for sustained capital investment are in place and this business environment will secure a sustained competitive advantage for North American resins.

The dynamics for sustained capital investment are in place and this business environment will secure a sustained competitive advantage for North American resins.

Trends in Customer Industries

In addition to strength in foreign markets, the health of the U.S. and Canadian economies, their manufacturing sectors and consumers directly impact demand for North American plastic resins. Recent performance in key end-use markets are discussed here.

Packaging is the largest market for plastic resins. Demand for packaging is growing in both developed economies and in emerging markets as trends such as urbanization and rising wealth persist. Plastics packaging is essential in both consumer and industrial applications. Food and beverages account for a significant portion of consumer goods produced. In food services, plastics packaging is important in raising standards of living and providing functions such as insulating food which can improve quality and reduce waste.

Demand for packaging is growing in developed economies and in emerging markets as urbanization and rising wealth trends persist.

Packaging used in retail is a key area of demand as well. In North America, real retail sales (i.e., retail sales adjusted for inflation) are a good indicator for resins demand because they are typically correlated with packaging resin use. In 2018, real retail sales in the U.S. grew 2.3 percent, reflecting a moderation towards the end of the year that is expected to continue into 2019. Growth in "non-store" sales continues to outpace growth in traditional "brick and mortar" stores.

Additionally, many traditional retailers also have significant online sales. This shift in sales and consumer behavior is impacting packaging demand because it creates demand for new types of packaging. For example, considering the consumer goods sold by "non-store" retailers, plastics packaging is important in protecting products during shipments and increases the efficiency of transportation of the goods.

Many traditional retailers also have significant online sales. This shift in sales and consumer behavior is impacting packaging demand for new types of packaging.

Another measure of packaging demand is real consumer spending. Real consumer spending rose 2.6 percent in 2018. According to Statistics Canada, the Canadian retail sector increased 2.2 percent in 2018, down from a 3.4 percent pace in 2017. Overall, real output of the North American retail sector expanded 2.2 percent in 2018.

Growth in the **building and construction** sector and investment in infrastructure translates to stronger demand for resins because they are essential inputs to products such as roofing, insulation, windows, piping, and house wrap. The use of plastics promotes energy efficiency and savings in both residential and non-residential building and construction. Overall, North American construction activity expanded 3.2 percent in 2018 following a 2.6 percent rise in 2017. Moderation in residential construction was a drag on overall construction activity. In the U.S., the construction industry expanded and demand for construction supplies and materials that use resins as inputs increased. Construction materials production increased 3.3 percent last year following 2.5 percent growth in 2017.

The U.S. housing market continued to expand in 2018, though there were some signs of weakness towards the end of the year. Housing starts are gradually moving towards the pace of long-term underlying demand.

The largest portion of U.S. construction spending is in the private sector which includes the housing market, a key-end use market for plastic resins. In the U.S., the housing market continued to expand in 2018, though there were some signs of weakness towards the end of the year. New housing starts were up 3.0 percent to a 1.2 million units pace in 2018. Housing starts are gradually moving towards the pace of long-term underlying demand (1.5 million units per year) but, they are not expected to get there until about 2023, 16 years after the housing market started to collapse, eventually triggering the Great Financial Crisis. In Canada, housing starts declined following a strong performance in 2017. Canadian housing starts were down 2.9 percent to 214,020 units in 2018.

The use of plastic and polymer composites in light vehicles has increased from less than 20 pounds per vehicle in 1960 to about 332 pounds on average per vehicle currently.

In the **automotive** market, plastic resins are essential for increased safety, light-weighting, and improvements in performance, fuel efficiency and emissions reductions, as well as for creativity and flexibility in design. Plastics and polymer composites contribute to a wide range of safety, performance and aesthetic breakthroughs in today's cars, minivans, pickups and SUVs. As a result, the use of plastic and polymer composites in light vehicles has increased from less than 20 pounds per vehicle in 1960 to about 332 pounds on average currently. Auto sales are a key indicator for resins demand. In the U.S., light vehicle sales were at a 17.2 million unit pace in 2018. This level represents a small pick-up from the 17.1 million unit pace in 2017 but essentially, the market appears to be leveling out around a 17 million unit pace. This healthy pace will be supported by strong domestic consumer demand. The labor market is still in good standing and incomes are rising. These factors bode well for the ability and willingness of consumers to buy cars. According to the U.S. Federal Reserve Board, production of motor vehicles and parts in the U.S. rose 3.8 percent in 2018 after having contracted 0.9 percent in 2017. In Canada, production of motor vehicles and parts was down 2.0 percent in 2018 following a 3.5 percent contraction in 2017. Overall, North American production of motor vehicles and parts grew 3.2 percent in 2018.

Resins are widely used in **electrical and electronic products**, especially in "smart" home appliances. Innovative plastics applications are at the heart of progress and development in these products. While North American consumption of appliances may have remained strong in 2018, regional production in the industry slipped by 1.6 percent. Growth in appliances consumption which includes consumption of both domestic and imported goods, is driven by strength in the housing market as purchases of washing machines, refrigerators, dishwashers, air conditioners, etc. are tied to both new and existing home sales. In the U.S., appliance production decreased 0.3 percent in 2018. In Canada, where residential housing demand was weak, appliance production contracted 12.7 percent in 2018, the second consecutive annual decline.

Resins are also an essential input in computer and electronic products manufacturing, an industry which expanded by 4.9 percent in 2018. As North American producers remain advantaged in producing critical resin inputs to sectors such as electronic products and appliances, the ability to export these goods with minimized barriers will be very important. Consumers,

As North American producers remain advantaged in producing critical resin inputs to sectors such as electronic products and appliances, the ability to export these goods with minimized barriers will be very important.

especially in emerging markets, are experiencing rising incomes and are increasingly able to spend resources towards consumer electronics and household appliances. Many of the tariffs imposed by the United States in 2018 will have a negative impact on domestic producers because they led to retaliatory tariffs and other barriers to U.S. exports. These trade barriers result in reduced demand for North American resin inputs.

Furniture and furnishings represent another key market for plastics. Like many of the other important end-use markets for resins, the North American furniture industry is also tied to the health of the housing market and the ability to export. Some stages of furniture and furnishing production are very labor-intensive. In Canada and the U.S. where labor unit costs are relatively higher than other locations, regional producers are less competitive and off-shoring is more prevalent. Furniture production was down 0.3 percent last year following a 1.1 percent decline in 2017. Similarly, North American production of carpeting and other textile furnishings is facing issues of sectoral decline.

Resins have important applications in **industrial machinery**. Growth in the industrial machinery market is often tied to the health of manufacturing as well as gains in capital spending. American manufacturing is performing well and expansion in growing sectors such as the chemical industry is driving demand for industrial machinery. As some portion of this demand was met by foreign supply, domestic demand for resin inputs into industrial machinery may be weaker than potential. North American production of industrial machinery softened to a 1.1 percent pace in 2018 following a 6.3 percent gain in 2017. Trade in this sector grew rapidly as well but has moderated from dramatic double-digit growth in 2017.

The **plastics products** industry is the key immediate customer industry for plastic resins. In turn, the plastics products industry supplies numerous end-use markets, such as those previously examined. During 2018, North American plastics products production expanded a modest 0.3 percent. North American exports of plastic products and other finished goods incorporating plastics resins have grown over the past 2 years and will continue to rise as North American manufacturers are relatively advantaged in the sector. North American plastic products exports increased 4.5 percent from $17.3 billion in 2017 to $18.1 billion in 2018. Strong export growth occurred in both Canada and the United States.

North American exports of plastic products and other finished goods incorporating plastics resins have grown over the past 2 years and will continue to rise as North American manufacturers are relatively advantaged in the sector.

At the same time, North American imports of plastic products is also growing rapidly. Imports rose 13.2 percent (from $30.7 billion in 2017 to $34.8 billion in 2018). Many plastics processing investments have been announced in the U.S. As investments begin to come online, a deceleration in imports growth is expected. Until additional domestic plastics processing capacity is in place, foreign supply will be positioned to supplement growing domestic demand.

Information in this section is provided by ACC's Economics and Statistics Department. For more information and analysis on the business of chemistry and the American economy, visit www.Americanchemistry.com/EconomicStatistics.