

North American Resin Production and Sales See Small Uptick in 2017

Production of plastic resins in North America grew slightly in 2017, while sales and captive use were essentially flat. According to the American Chemistry Council (ACC) Plastics Industry Producers' Statistics (PIPS) Group, North American resin production rose 0.7 percent to 113.0 billion pounds in 2017, up from 112.2 billion pounds in 2016. Sales and captive use totals were even at 113.7 billion pounds in 2017.



The Economic Environment

Global economic growth resumed momentum last year as many of the world's economies expanded. Emerging and developed markets alike expanded in 2017. This synchronous upswing encouraged growth in world trade. World gross domestic product (GDP) rose 3.0 percent on a year-over-year (Y/Y) basis in 2017 – the fastest pace since 2011.

In the United States, economic growth picked up as well and the economy entered 2018 with momentum. U.S. GDP rose 2.3 percent Y/Y. Many indicators for the U.S. economy are positive. Business sales and investment are on the rise and the manufacturing sector is expanding. With the recent tax reform, business investment – a driver of the country's economic growth – is set to increase notably. The labor market has improved steadily and real incomes have risen. The consumer's ability to spend influences many industries including chemicals and plastics. Stronger demand will also boost sales in industries such as autos and housing that use chemicals and plastics as inputs.

Foreign demand for U.S. goods increased last year as overseas markets improved and the U.S. dollar maintained strength. U.S. goods exports increased a solid 6.6 percent in 2017. The outlook for U.S. exports has been positive;

however, the likelihood of policy changes that could dampen trade flows has increased.

Exports from the U.S. chemical industry and plastic resins are expected to expand significantly given the new chemical industry investments occurring. Chemicals and resins manufacturing is an energy-intensive endeavor. Shale gas has been a game changer for U.S. competitiveness as U.S. producers now have access to abundant and affordable domestic supplies of natural gas and natural gas liquids. Given the competitive advantage that American producers have, \$188 billion in chemical industry investments have been announced. About half of the projects have already been completed. These U.S. investments will drive the trade surplus in the chemical sector.

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U.S. chemical industry production rose 2.5 percent in 2017. This rate was an acceleration compared to recent years' performance and the fastest growth level since 2010. Major hurricanes along the Gulf Coast disrupted production, causing temporary shutdowns but producers recovered quickly with minimized damage and losses.



Trends in Customer Industries

The marked and synchronous improvements in economies across the world and positive outlook for North American manufacturing and demand for North American chemicals and resins production is robust.

In addition to strength in foreign markets, the health of the U.S. and Canadian economies, their manufacturing sectors, and consumers directly affect 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 has remained steady in the developed economies and is growing in emerging markets as people are becoming wealthier. Packaging involves many applications but, especially in food services, it is important in raising standards of living and provides functions such as insulating food which improves quality and reduces waste.

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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 2017, real retail sales in the U.S. grew 2.5 percent, a pick up from the 1.4 percent pace the year before. Growth in “non-store” sales continues to outpace growth in traditional “brick and mortar” stores. Additionally, many traditional retailers now have significant online sales too. This shift in consumer behavior will have an impact on packaging demand.

An alternative measure of discretionary spending (and demand for packaging) is real consumer spending. Consumer spending is supported by improvements in the labor market and income growth. Real consumer spending rose 2.7 percent in 2017. According to Statistics Canada, the Canadian retail sector increased 4.9 percent in 2017, up from a 3.2 percent pace in 2016. Overall, real output of the North American retail sector expanded 2.7 percent in 2017.

Growth in the **building and construction sector** translates to stronger demand for plastics 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 2.6 percent in 2017 following a 1.2 percent rise in 2016. The Canadian construction industry also grew (by 3.9 percent), following two years of contraction there. A decline in non-residential construction was more than offset by strength in the residential sector.

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In the U.S., the construction industry expanded and demand increased for construction supplies and materials that use resins as inputs. Production of construction materials increased 2.5 percent last year following 1.3 percent growth in 2016. 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 continues to expand, with new housing starts up 2.6 percent to a 1.2 million units pace in 2017. Housing starts are steadily moving toward long-term demand of 1.5 million units per year. The recovery in the housing market has been supported by low interest rates, strong job growth and rising incomes. Continued expansion is expected and will strengthen as household formation accelerates. Rising mortgage rates could encourage would-be buyers to buy sooner rather than later. However, some factors will hold the pace of growth back somewhat. The inventory of homes for sale is low, credit is still relatively tight and lending is more difficult than it was pre-financial crisis. In Canada, housing starts increased strongly last year. Canadian housing starts rose 11.0 percent to 219,800 units in 2017.

In the **automotive** market, plastic resins are essential for increased safety, lightweighting, improved performance, better fuel efficiency, emission reductions, and for creative and flexible designs. Plastics are crucial to auto production, with the average car containing more than 300 pounds in plastic resins. Thus, car sales are a key indicator for resins demand. In the U.S., light vehicle sales were at a 17.2 million unit pace in 2017. Though this was a decline from the 17.5 million unit pace in 2016, it is still considered a healthy pace. Pent-up demand had driven sales following the financial crisis, but at this point, the market may be close to saturation and is not expected to expand dramatically. Additionally, though the average age of the cars on the road would have indicated replacement demand in the past, the quality of modern cars has improved significantly and the life of a car is longer. Auto retailers will be more

challenged in this environment. However, consumer health is improving. The labor market is in good standing and incomes are rising. These factors bode well for the ability and willingness of consumers to buy cars.

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According to the U.S. Federal Reserve Board, production of motor vehicles and parts in the U.S. dipped 0.1 percent in 2017. In Canada, production of motor vehicles and parts contracted 4.1 percent in 2017. Overall, North American production of motor vehicles and parts declined 0.5 percent in 2017.

Plastics are widely used in **electrical and electronic products**, especially in appliances. The North American appliance industry is expanding and output grew 3.1 percent in 2017. The strengthening in the housing market has driven growth in demand for appliances. Purchases of appliances are tied to both new and existing home sales. In Canada, where residential housing demand was strong, appliance production rose 3.0 percent in 2017, the second consecutive annual gain following years of decline. In the U.S., appliance production increased 3.1 percent, the fourth consecutive annual gain. Resins are also an essential input in computer and electronic products manufacturing, an industry which expanded by 3.2 percent in 2017.

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. However, to the extent that furniture and furnishing production is labor-intensive, the North American economies may not have a comparative advantage in producing these products.

Furniture production was down 0.3 percent last year following no growth in 2016. Similarly, North American production of carpeting and other textile furnishings was flat in 2017 and may reflect a domestic industry grappling with 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 U.S. corporate tax reform that passed at the end of 2017 incentivizes business spending on plants and equipment. North American production of industrial machinery rose 8.8 percent in 2017, an acceleration from the 5.1 percent gain in 2016.

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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 2017, North American plastics products production expanded 2.2 percent. Demand from key end-use markets improved last year in North America and in foreign markets. The synchronous expansion in world economies and the revival in world trade have been positive forces. Additionally, the

value of the U.S. dollar has weakened, increasing the competitiveness of U.S. products in the global marketplace. North American exports of plastic products and other finished goods incorporating plastics resins recovered last year and were up 2.7 percent following contraction in 2016. The value of North American plastic products exports increased from \$16.8 billion in 2016 to \$17.3 billion in 2017.

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While North American export growth largely reflects improvements in U.S. exports, acceleration in Canadian exports did contribute positively to the aggregated growth rate. North American imports of plastic products increased in value 9.7 percent in 2017 (from \$28.2 billion in 2016 to \$31.0 billion in 2017). Many plastics processing investments have been announced in the U.S. As investments continue to come online, a deceleration in imports growth is expected.

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.