



North American Resins Industry Expands in 2014 Despite Weakness in Key Export Markets

Production and sales of plastic resins in North America rose in 2014. According to the American Chemistry Council (ACC) Plastics Industry Producers' Statistics (PIPS) Group, North American resin production increased 0.5 percent to 108.1 billion pounds in 2014, up from 107.5 billion pounds in 2013. Total sales for the year increased 0.3 percent to 109.0 billion pounds in 2014, up from 108.7 billion pounds in 2013.

The Economic Environment

The outlook for the global economy was optimistic at the start of 2014, but growth faced a barrage of obstacles throughout the year. Global economic conditions were threatened by heightened geo-political uncertainty, recessions in Brazil, Japan, and many European nations, as well as slowdowns in China, the Euro Area, and other nations. The global economy grew 2.6 percent in 2014.

The noted slowdown in emerging markets was troubling. China's economy, for example, appears to have entered into a new, lower-and-slower, and more manageable pace of growth for the longer term. In some other developing markets, there is concern that their days of accelerated growth could be past. This concern is especially true for those markets that had been growing most rapidly from resource exports without also making improvements to fundamental economic institutions.

In the Eurozone, an important region for North American trade, the economy has yet to gather momentum and just barely grew last year (+0.8 percent). Strength in the United Kingdom was an exception.

Despite weakness in key export markets, the economies of the United States and Canada expanded in 2014. In both countries, gross domestic product (GDP) grew by 2.4 percent. The size of the U.S. economy and integration of the U.S. into world markets meant that the U.S. was a driver of growth for the world.

The North American recovery from the Great Recession has been lackluster and in the U.S., the economy has been stuck in a slow growth pattern. In many ways, the emergence of a competitive advantage for North American manufacturing—due to the positive shock of cheap and abundant energy and feedstock—could not have come at a more needed time. However, weak external demand has put off the ability of the U.S. to take full advantage of this competitive position. The appreciation of the dollar also hampered U.S. exports in 2014. The strength of U.S. currency is expected to have a lagged effect and weigh down the outlook for U.S. exports in the coming year as well.

Strengthening in domestic markets will aid future growth for North American manufacturing industries. A reflection of this strength is in the acceleration in U.S. industrial production, which has outpaced growth in the overall economy. With the growth in industrial production and domestic markets, the outlook for North American resins is positive. Growth will likely accelerate over the next couple of years as external markets recover and demand for resin exports returns.



Trends in Customer Industries

Although the demand for plastics is ultimately tied to overall economic growth, plastic resins serve a variety of end-use markets. A discussion of performance in some of the most important end-use markets for resins follows.

Packaging is the largest market for plastic resins. Historically, packaging resin use has been correlated with “real” retail sales, i.e., retail sales adjusted for inflation. According to data from the Bureau of the Census and Bureau of Labor Statistics, real retail sales grew 2.1 percent in 2014, following a 2.8 percent gain in 2013. Consumer spending picked up in 2014 and this trend is expected to continue, given the improving employment situation. Lower gasoline prices in early 2015 are leaving consumers with a little extra spending money. According to Statistics Canada, the Canadian retail sector increased 4.6 percent in 2014 after a 3.2 percent gain in 2013. As a result, output of the North American retail sector experienced a 2.4 percent gain in 2014. Packaging industry output for the region has had a choppy pattern of performance over the past few years and contracted in 2014 after having expanded in 2013.

Building and construction represents an important market for plastic resins. The housing market continues to recover in the U.S., with housing starts up 8 percent in 2014, finally breaking the 1-million-units pace. Starts are still off from their 2005 peak of 2.07 million units but they have been growing for the last five years and are on track to make it back to the longer-term annual pace of 1.5 million units. Residential projects drove private construction spending. Public and private non-residential construction spending both rose in 2014 following declines in 2013. In Canada, housing starts rose slightly, from 188,000 units in 2013 to 189,000 units in 2014. The Canadian construction industry grew only marginally in 2014, reflecting expansion in the residential construction sector that offset contraction in non-residential projects. Overall, North American construction activity grew by 4.0 percent in 2014.

Transportation is another significant market for plastic resins. Light vehicle sales continued to strengthen in the U.S., rising from 15.5 million units in 2013 to 16.4 million units in 2014. Continued growth in light vehicle sales will be fostered by pent-up demand, lower prices at the gasoline pump, improvements in employment (and income), and better availability of credit. Canadian light vehicle sales also increased last year (from 1.78 million units in 2013 to 1.89 million units in 2014). According to the U.S. Federal Reserve Board, production of motor vehicles and parts in the U.S. increased 8.0 percent in 2014. Production of motor vehicles and parts in Canada fell in 2014 after a gain in 2013. Overall, North American production of motor vehicles and parts increased 6.8 percent in 2014.

Another important plastics market is that for **electrical and electronics**, much of which is centered in appliances. In North America, the appliance industry’s output volume grew 1.4 percent, marking the second positive year-over-year comparison since 2004. This growth reflects recovery in the housing market that is finally strengthening. Appliance production had moderated in recent years because it is tied to the health of housing, and because some appliance production has shifted to low-cost manufacturing countries. Much of the production that has left the U.S. has gone to Mexico, and resin suppliers in the U.S. and Canada serve this nearby market. Production of both electronic products and other electrical equipment increased in 2014, extending the trend of upward growth to five years. In 2014, production of computers and electronic products in North America rose 5.5 percent while production of other electrical equipment rose 10.3 percent.

Furniture and furnishings represent a key market for plastics. The North American furniture industry, tied to the health of the housing market, expanded 6.5 percent in 2014, growing for the fourth year in a row. There was stronger growth in the U.S., where production increased 6.9 percent. In Canada, output of the furniture industry grew 2.7 percent in 2014. In 2014 and overall, North American production of carpeting and other textile furnishings grew 2.0 percent in 2014 after contraction in 2013. The trend in these markets should accelerate with the improvements in the housing market, though this connection will likely be more pronounced in furniture production.

Industrial machinery represents another important market, one aided by increased business investment needed to enhance competitiveness and to expand capacity, both in North America and in rapidly growing emerging markets. North American production of industrial machinery rose 8.1 percent in 2014.



Growth in this market continues to be hampered as businesses face uncertainty affecting their capital investment decisions.

The previous discussion examines the primary end-use markets that ultimately drive demand. The **plastics products** industry (NAICS 3261) is the key immediate customer industry for plastic resins. In turn, this industry supplies these important end-use markets. During 2014, North American plastics products production rose a strong 6.4 percent, reflecting improvement in demand among the end-use markets and the shift in competitiveness for American producers. There have been improvements in trade flows as well. Given the weakness in external markets, the expansion in trade is a powerful testament to the enhanced competitiveness of North American producers and to the health and strength of the North American economies. North American exports of plastic products and other finished goods incorporating plastics resins increased 6.1 percent in 2014 and imports increased 6.7 percent. Two-way trade of plastics products for the region was worth \$41 billion in 2014, \$10 billion higher than just 4 years before.

Economic Outlook for Resins

The outlook for the North American resins industry is positive. It may take another year or so for strength to materialize in key external markets. However, demand from domestic customer industries will remain strong in the meantime. In particular, the manufacturing sector, the chemical industry, and resins industry in the U.S. will continue to perform well. An enhanced competitive position for U.S. industry with regard to feedstock costs will support production and bolster growth. With the development of shale gas and the surge in natural gas liquids supply, the U.S. has moved from being a high-cost producer of key petrochemicals and resins to among the lowest-cost producers globally. This shift in competitiveness is driving significant flows of new capital investment toward the U.S. As of early 2015, approximately 225 projects have been announced with investments totaling more than \$137 billion through 2023. New capacity for petrochemicals and resins is significantly expanding production as these investments are coming online. The U.S. has emerged as the venue for chemicals investment, directly advantaging the North American resins industry.

Market Data for Major Resins in 2014

After five years of consecutive growth, North American **polyethylene (PE)** sales slipped in 2014. Total sales of PE were 38.3 billion pounds, a 0.7 percent decrease from 2013. Export sales drove this drop in 2014, falling 13.2 percent from 2013, with sales of 6.8 billion pounds. Domestic sales of PE grew by 2.5 percent, ending the year at 31.5 billion pounds.

Low-density polyethylene (LDPE) sales rose to 7.0 billion pounds in 2014, up just 0.4 percent from 2013. Domestic sales of 5.4 billion pounds supported this growth, gaining 1.4 percent from 2013. Exports of LDPE fell 3.2 percent in 2014 to 1.5 billion pounds. LDPE production reached 7.1 billion pounds, up 2.8 percent from 2013.

Linear low-density polyethylene (LLDPE) sales slipped 0.7 percent from 2013, ending 2014 at 13.7 billion pounds. Domestic sales reached 10.9 billion pounds, an increase of 2.9 percent from 2013. Export sales dropped 12.6 percent in 2014, after a 7.4 percent increase in 2013. Domestic market segments for packaging film saw a sales increase of 2.9 percent in 2014. Production of LLDPE was 13.9 billion pounds in 2014, flat as compared to 2013.

High-density polyethylene (HDPE) finished the year with total sales falling to 17.6 billion pounds, a decrease of 1.2 percent from 2013. Domestic sales grew 2.5 percent in 2014, reaching 15.1 billion pounds. Exports were down 19.1 percent, falling to 2.5 billion pounds in 2014. A few domestic HDPE market segments saw solid gains in 2014, including gas distribution pipe (up 15.1 percent), industrial drums and large containers (up 8.2 percent), caps and closures (up 15.9 percent), and food packaging film (up 20.7 percent). Production of HDPE, at 17.5 billion pounds, was down 2.2 percent from 2013.

Total **polypropylene (PP)** NAFTA sales finished 2014 at 16.4 billion pounds, slipping 0.2 percent from 2013. The loss was driven by a dip in domestic sales (down 0.4 percent to 15.8 billion pounds), countered by a gain in exports, up 5.5 percent from 2013.



A few bright spots for PP sales in 2014 were domestic markets for transportation (up 13.3 percent from 2013), packaging sheet (up 6.4 percent), and housewares (up 3.8 percent). Sales fell in some PP market segments including the large market for various PP textile applications (down 5.8 percent). Of the 15.8 billion pounds of sales within the NAFTA region, 84 percent was consumed in the United States, 12 percent in Mexico and 4 percent in Canada.

2014 production of PP in the NAFTA region was flat at 16.4 billion pounds, a 0.1 percent increase versus 2013.

Polystyrene (PS) sales to the NAFTA region were 4.4 billion pounds in 2014, falling 3.2 percent from 2013. Sales were down in consumer and institutional markets (down 10 percent) but showed modest growth in the large market segment for food packaging and food service (up 1.5 percent). PS production in the NAFTA region slipped to 4.45 billion pounds, dropping 1.3 percent from 2013.

Shipments of **expandable polystyrene (EPS)** were up in 2014, with domestic sales gaining 5.1 percent over 2013 to reach 945 million pounds, and exports increasing by 4.9 percent. Production rose to 953 million pounds in 2014, an increase of 7.1 percent.

Polyvinyl chloride (PVC) production and sales volumes saw decreases in 2014. Domestic production, at 15.0 billion pounds for the year, was down 2.2 percent from 2013. Total sales and captive use was 15.0 billion pounds in 2014, a decline of 1.7 percent. Domestic PVC demand grew to 10.3 billion pounds, a 2.8 percent rise from the previous year. A drop in PVC export volumes countered domestic growth, with exports losing 10.2 percent from 2013.

Among the biggest domestic gainers for PVC in 2014 were the construction-related market segments, including siding/siding accessories and mobile home skirting (up 4.1 percent), rigid pipe and tubing (up 2.2 percent), and fencing and decking (up 2.4 percent).

The figures are based on primary data for selected major plastics materials as compiled by Veris Consulting, Inc., for ACC's Plastics Industry Producers' Statistics Group.

Note: The ACC Plastics Industry Producers' Statistics Group makes available detailed reports (including monthly production and end-use sales figures for major thermoplastic and thermoset resins) to subscribers of its various services. For more information about subscription options and to place an order, please call ACC at 202-249-7000 or visit www.americanchemistry.com/resin-report-subscriptions.

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