

# 2022 Resin Situation and Trends

According to the American Chemistry Council (ACC) Plastics Industry Producers' Statistics (PIPS) Group, North American resin production grew 1.3 percent in 2022, to 125.5 billion pounds, up from 123.9 billion pounds in 2021. Total sales and captive use rose 2.8 percent from 123.3 billion pounds in 2021 to 126.8 billion pounds in 2022.



## The Economic Environment

The global economic environment weakened over the course of 2022. Growth was uneven and the depth, duration, intensity, and timing of the challenges hindering momentum varied across economic sectors and regions. World economic growth moderated to an estimated 2.9% pace in 2022 reflecting weakening performance in the second half of the year. The U.S. economy slowed considerably, to a 2.1% expansion pace, and the Canadian economy also decelerated, to a 3.4% pace in 2022.

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energy, food — but general growth in prices still lingers at uncomfortably high levels and signs of stickiness in some markets signal a longer process of disinflationary efforts ahead.

Global manufacturing output slumped in the second half of 2022, posting consecutive monthly declines as new orders fell and industrial activity in key economies contracted. Supply chain pressures and associated costs eased as business orders fell off and global trade volumes dropped.

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Geopolitical challenges arose, variations in Covid workplace management policies continued, and other headwinds were faced in 2022. Uncertainty around the economic outlook was elevated at many points. By the second half of 2022, consensus began to build around an increased likelihood that the global economy would enter a downturn. It's on that weak footing that the economy entered 2023. Despite the rocky start, there is still a case for humble optimism or at least an outlook that incorporates the patient assumption that the economy knows how to find its way back to balance (eventually).

Looking back on 2022 and now into 2023, it turns out that for all the negative shocks and challenges experienced in recent years, there were also some positive surprises. Winter was mild and Europe avoided an energy/cost-of-living crisis that could have been devastating for the region with spillover effects. The Chinese economy changed course off zero-Covid policies and re-opened, boosting supply and demand dynamics for Asia and for the rest of the world. Some headwinds came with upsides. Cooling demand, for example, created the space for chokepoints and inventories to clear and producers to catch up. As a result, supply chain pressures and freight transportation disruptions eased notably over the second half of 2022. Time will also reveal the creative innovations that accelerate out of the collective hard times.

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Looking beyond continued rebalancing across economies and a potential global downturn in the near-term, the long-term outlook for plastic resins production is favorable. North American based plastic resin producers will maintain a competitive advantage compared to producers in countries that use naphtha-based feedstocks in supplying the world's growing demand for resins and the many resin-containing critical products used in modern life.



## Trends in Customer Industries

Supply and sales of North American resins depend on demand in key customer industries in the region and all of the world. Performance in key end-use markets is discussed here.

### Packaging

Packaging is the largest market for plastic resins. 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 has been important in raising standards of living and providing functions such as insulating food which can improve quality and reduce waste.

In North America, trends in retail sales (adjusted for inflation) are a good indicator of resins demand because they are typically correlated with plastic packaging consumption. North American retail sales were nearly flat, rising just 0.6 percent in 2022. Real retail sales rose 0.5 percent in the U.S and rose 1.5 percent in Canada. Consumer spending, also an indicator of packaging demand, rose 3.0 percent in North America with a 2.8 percent gain in the U.S. and a 4.6 percent gain in Canada.

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### Building and Construction

The building and construction sector is a key end-use market for resins. Homebuilding, remodeling, and other construction are important end-use markets for energy-saving plastics applications, like building envelopes and insulation. Increased investment in housing and infrastructure translates to stronger demand for resins because they are essential inputs to building and construction materials.

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### **Automotive**

In the automotive market, plastic resins are essential for increased safety, light-weighting, 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.

The use of plastic and polymer composites in light vehicles has increased over the years. With an average vehicle containing 411 pounds of strong, light-weight plastics and composites, and 219 pounds of synthetic rubber and elastomer, the automotive industry is an important end-use market for plastics.

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Auto sales, a key indicator for resins demand, were weak last year. In North America (and globally), auto sales have yet to return to pre-pandemic levels. In the U.S., light vehicle sales fell by 7.4 percent to a 13.8-million-unit pace in 2022. Auto sales fell by 8.4 percent in Canada to a 1.5-million-unit pace. Continued supply chain challenges, economic interest, and reduced affordability (due to high rates on car loans) held back growth in vehicle sales in 2022.

The automotive industry is globally integrated, a feature that introduced some vulnerability as supply chain bottlenecks and disruptions impacted production and demand at many points. Shortages of parts and inputs, notably semiconductors chips, have made it challenging for producers to meet demand. While sales levels were down last year, because supply chain pressures began to ease, automotive production and inventory rebuilds were supported. Motor vehicles and parts production in the U.S. rose by 8.1 percent in 2022 while production increased 8.7 percent in Canada. Overall, North American production of motor vehicles and parts rose 8.2 percent in 2022.

### **Computer and Electronic Products**

Resins are essential inputs in computer and electronic products manufacturing, an industry which expanded by 2.4 percent in 2022. Production in this key end-use market for resins grew in both Canada and the U.S. last year.

Resins demand is supported by growth in “smart” home appliances which incorporate computer and electronic product components. Innovations in plastics applications are at the heart of progress and development in these products. Energy-saving insulation and easy-to-clean molded plastic parts are essential components to today's modern appliances. Production of household appliances in North America declined by 3.0 percent in 2022. Appliance production fell by 9.1 percent in Canada and fell by 2.3 percent in the United States.

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### **Furniture and Furnishings**

Plastics are essential components in furniture including foam, durable coatings, covers, adhesives, and design elements. This sector is

tied to the housing market as well as nonresidential sector (e.g., offices, hotels, schools, and medical centers).

Furniture production in the U.S. and Canada has grown over the past two years. Output increased by 10.8 percent in Canada and by 2.6 percent in the United States. Production of carpeting and other textile furnishings, an industry facing sectoral decline in the North American region, contracted by 3.6 percent in 2022.

### **Industrial Machinery**

Resins have important applications in both light and heavy industrial machinery. Growth in the industrial machinery market is often tied to the health of manufacturing as well as gains in capital goods production and business investment.

Uncertainty, inflation, higher costs of borrowing, contraction in manufacturing and weak, uneven demand across sectors and regions were serious headwinds to the industrial machinery sector. Global industrial production decelerated over 2022 to a 2.8 percent pace. The manufacturing sector was more resilient in North America with output increasing 3.9 percent in the U.S. and 3.7 percent in Canada in 2022. North American production of industrial machinery expanded by 3.7 percent in 2022 following 17.8 percent growth in 2021.

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### **Plastics Products**

The plastics products industry is the largest immediate customer industry for plastic resins. Production of plastics products is tied to growth in manufacturing, retail, and housing.

North American plastics products output rose by 4.1 percent in 2022. In Canada, production rose 6.1 percent, and, in the U.S., production rose

by 3.8 percent. North American exports of plastic products (which excludes movements between U.S., Canada, and Mexico) rose by 9.9 percent from \$16.7 billion in 2021 to \$18.3 billion in 2022. Plastic products exports from Canada and the U.S. have been strong the past two years. Imports of plastics products continue to increase. North American imports rose 6.5 percent (from \$46.5 billion in 2021 to \$49.6 billion in 2022).

*Information in this section is provided by ACC's Economics and Statistics Department. Commentary and estimates for the North American region primarily represent data for the United States and Canada. For more information on the business of chemistry visit [www.Americanchemistry.com/EconomicStatistics](http://www.Americanchemistry.com/EconomicStatistics).*