Industry Update November/December 2021

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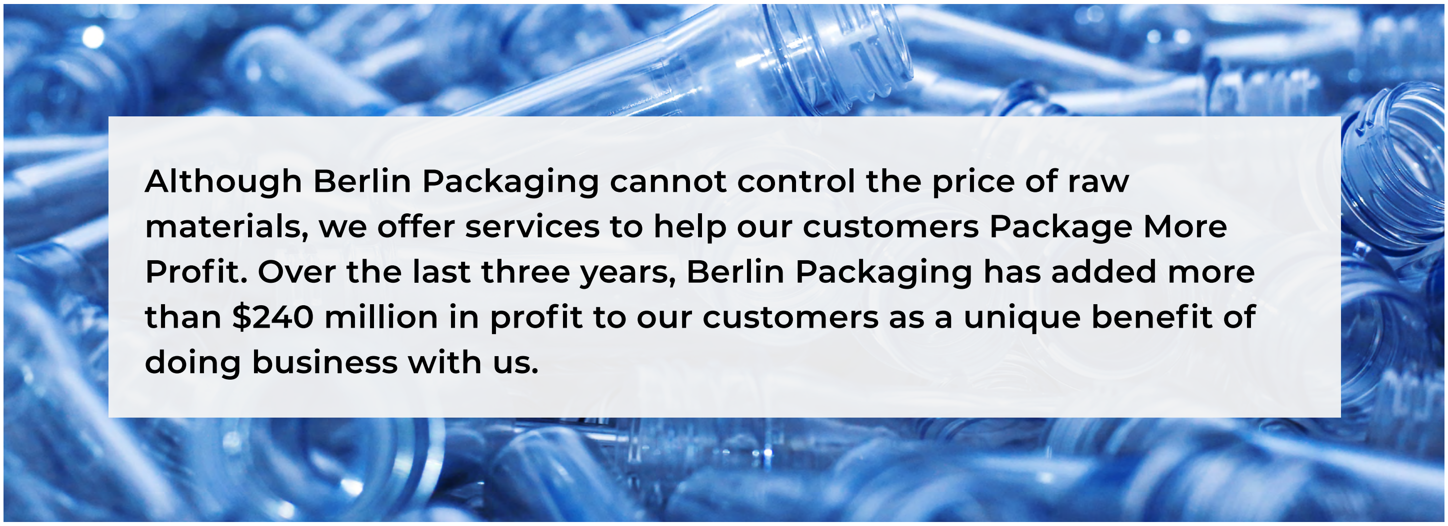
Resins & Raw Materials



Although Berlin Packaging cannot control the price of raw materials, we offer services to help our customers Package More Profit. Over the last three years, Berlin Packaging has added more than $240 million in profit to our customers as a unique benefit of doing business with us.

Raw material costs for rigid packaging have risen dramatically over the past year due to pandemic-induced demand, supply interruptions, higher global freight and domestic transportation costs, worker shortages, and increased labor costs. Looking ahead, the raw materials market for plastic resins appears to be a mixed bag of anticipated price increases, flat pricing, and price declines, while glass and metal prices are expected to rise.

Plastic Resins

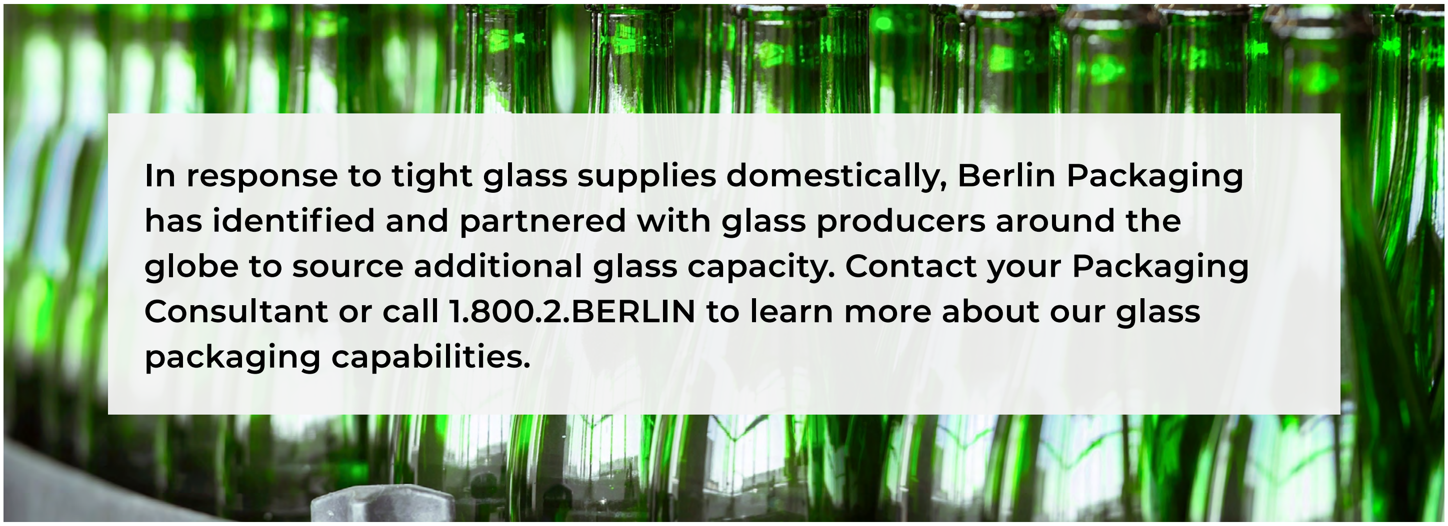
After many months of price hikes for most plastic resins, the resin market in North America stabilized somewhat in September and October, with prices flat for PS, down for HDPE, and up for PET. Supplies of these resins have steadily improved throughout the year.

PP prices declined in September and October. Even with the retreat, PP prices are up significantly since December. PVC resin prices were up modestly in September and October due to strong demand.

Industry analysts anticipate that PET prices will rise in the fourth quarter, while some other virgin resin prices will hold steady or decrease. However, unpredictable events like a hurricane in the Gulf Coast, a typhoon in Asia, a spike in crude oil or natural gas prices, or unanticipated supply disruptions could derail the forecast.

Post-consumer recycled (PCR) resin demand remains strong with tight supplies, keeping prices elevated. Anticipated pricing declines in virgin HDPE may put downward pressure on rHDPE resin prices in the coming months, while price increases in PET may help buoy rPET resin costs.

Resins & Raw Materials



In response to tight glass supplies domestically, Berlin Packaging has identified and partnered with glass producers around the globe to source additional glass capacity. Contact your Packaging Consultant or call 1.800.2.BERLIN to learn more about our glass packaging capabilities.

Glass

Glass container capacity is very limited in North America, and higher operating costs are lifting glass packaging prices.

Globally, there are several regions with plentiful open capacity, such as China. However, several Chinese glass container manufacturers recently announced immediate price hikes due to rising rates for energy, soda ash, and cullet, and there is still a 25% tariff on glass packaging imported into the U.S. from China. Other challenges are high spot ocean freight rates and blank sailings (e.g., canceled or delayed shipments, port changes).

Aluminum

Aluminum prices have surged 50% in the past 12 months — boosting the cost of aluminum beverage cans and ends. The rise in price results from growing concern over China's new climate policy of rationing coal usage for industry, which has reduced aluminum production capacity by 7% and will likely limit future supply. In 2020, China accounted for more than 50% of all refined aluminum production.

Demand for aluminum remains strong for beverage cans — 75% of new beverage launches are packaged in cans compared to 30% a decade ago. Some personal care brands have embraced aluminum containers for their sustainability attributes of recyclability and reusability/refill.

Tin Plate

Tin prices have increased more than 80% since January and hit a 10-year high this year amid low metal inventories and supply chain snags. Domestic supplies of tin plate steel are tight. Rising prices for tin plate steel have impacted the cost of pails and drums and are expected to influence the price of lug and continuous thread caps in the fourth quarter.

Tin plate steel prices typically change once annually as contracts are finalized. In 2022, tin plate costs are expected to rise 80% to 100%.

Ocean Freight

Berlin Packaging's global capabilities encompass sourcing, quality, and supply chain. Especially during inflationary times, it's essential to have a nimble packaging partner that will leave no stone unturned to find the best packaging solution for your business at the best overall cost.

Ocean freight shipping rates continue to soar at historic levels as the demand for cargo containers exceeds capacity, ships pile up at congested ports, and many ship sailings are either canceled, rerouted, or delayed. The global shipping crisis has become so precarious that large retailers (i.e., Walmart, Home Depot, Costco, Ikea, and Target) have chartered entire cargo ships to get their goods to the U.S. in time for the holiday shopping season.

Inbound demand from North America is expected to remain at record levels well into 2022. Transportation congestion, steamship line capacity, and labor shortages are key contributors to retail's sustained low inventory levels. Until North American demand wanes, volatile pricing and capacity constraints will continue to be rampant within the supply chain.

China experienced a temporary relief in congestion in October due to China's Golden Week holiday and scheduled power outages in compliance with the country's carbon emissions reduction efforts. However, this manufacturing slowdown is expected to be short-lived as factories return from holiday and work more efficiently under new power regulations.

Port, Rail, and Truck

U.S. ports continue to battle extreme congestion, rail, and trucking shortages. The Ports of Los Angeles (LA) and Long Beach (LB) saw a record-breaking 73 container ships at anchor or drifting in September, which was eclipsed in October with 100 ships in the San Pedro Bay awaiting unloading. The two Southern California ports handle 40% of all shipping containers imported into the U.S.

Even with expanded work hours for LA/LB ports, this initiative may not alleviate the backlog of ships since there is very little, if any, additional capacity for moving the goods via truck and rail.

Furthermore, vacancy rates for warehouse space around Los Angeles stand at a meager 1%.

U.S. rail dwell times (wait time) are averaging 9.8 days, up from 6.7 days in May, and 5.9 days in February. LA/LB are averaging 16 days of rail dwell time for freight moving inland.

Importers are forced to truck goods extreme distances in an effort to mitigate rail delays. As a result, trucking shortages are impacting the largest U.S. ports and container yards. Many carriers are short drivers to support the record volume.

Ocean Freight

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Berlin Packaging continues to partner with trusted carriers to establish mitigation strategies against extreme delays, excessive costs, and supply chain disruptions, where possible.

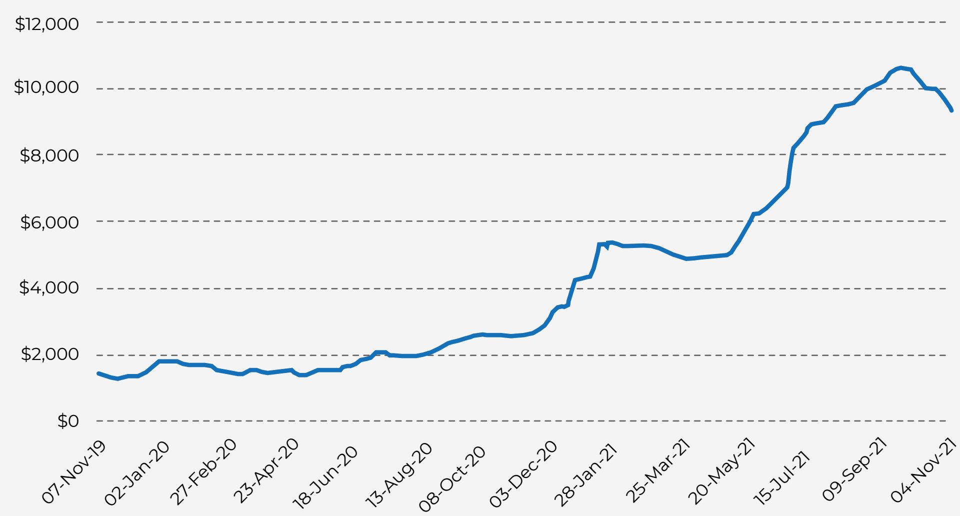
Spot Market Prices

Spot rates for the Trans-Pacific lane (Asia to North America) temporarily plateaued in October with rates from Asia to the West Coast hitting $20,000 – $23,000 for a 40-ft container (7X year-over-year increase), from Asia to the Gulf Coast reaching $22,000 – $25,000 per container (6X year-over-year increase), and from Asia to the East Coast fetching $23,000+ per container (5X year-over-year increase).

Spot rates from Asia to North America are expected to increase in November and December due to strong demand (holiday goods plus inventory replenishment) and ongoing congestion. As demand continues to outpace transportation capacity, carriers can justify the record level for freight premiums to secure space.

World Container Index - Assessed by Drewry

$ per 40 ft container



Source: Drewry.co.uk, World Container Index -4 Nov

Domestic Transportation

Record high transportation costs in North America continue to be battered by powerful headwinds of supply chain disruptions, incessant import volumes, intense freight demand, chassis and truck constraints, microchip scarcity for new trucks, rail congestion, driver shortages, and rising fuel costs. In September, freight expenditures were up 32% year-over-year.

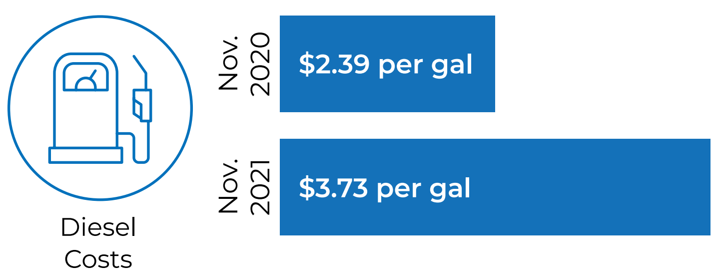
Truckload

Costs per mile for dry van spot market shipments continue to maintain their record high levels since Labor Day — averaging $3.06. The Northeast commands the highest rates at $3.68, followed by the Midwest at $3.20, West at $3.11, Southeast at $2.92, and Southwest at $2.61. In mid-October, weekly shipments were up nearly 9% compared to the same period last year. Contracted rates are also rising, averaging $2.91 — a 40 cent increase since the beginning of the year.

Retailers' inventory-to-sales ratios remain at historical lows — 1.1 in August. That's about one month of inventory. While consumer purchase demand is strong, many retailers are having difficulty finding products to sell due to supply chain woes. This is especially troubling as we head into the peak holiday shopping season.

Fuel costs have jumped more than $1.25 per gallon in the past 12 months. Diesel is averaging $3.73 per gallon.

An aging trucker workforce and the exodus of experienced drivers, which accelerated during the pandemic, have contributed to the driver shortage. While driver availability remains tight, there are signs of capacity improvement as trucking employment data show increases for four consecutive months. Looking ahead, improving driver and equipment capacity may help rebalance the market.



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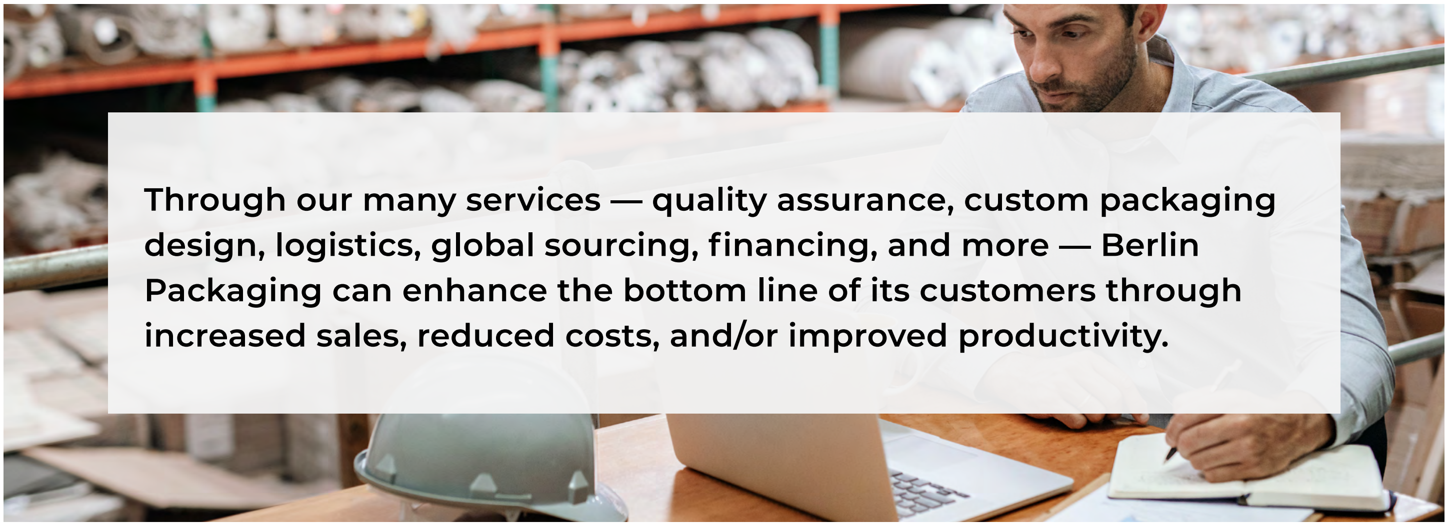

Through our many services — quality assurance, custom packaging design, logistics, global sourcing, financing, and more — Berlin Packaging can enhance the bottom line of its customers through increased sales, reduced costs, and/or improved productivity.

Less-Than-Truckload (LTL)

Although U.S. manufacturing output declined 0.7% in September — its biggest drop in seven months, LTL freight volumes remain strong. As online shopping continues to grow, small packages are moving to LTL freight. Spillover from truckload freight is also impacting LTL shipments. The demand for LTL shipping is far exceeding capacity, resulting in shipment delays and rising LTL freight costs.

Parcel

Recently released data show parcel volume in the U.S. grew 37% in 2020 to reach 20.2 billion units, equating to 640 parcels being shipped every second. Between 2015 and 2020, parcel volume doubled from 10 billion to 20 billion. Leaping from 1.9 billion parcels in 2019 to 4.2 billion parcels in 2020, Amazon Logistics overtook FedEx as the No. 3 parcel carrier by volume.

U.S. retail e-commerce sales are expected to climb 14% this holiday season to reach $212 billion. Cyber Monday is projected once again to be the biggest online shopping day with $12 billion in spending, up 12% from last year. Black Friday online sales are expected to increase 16% to $10.4 billion, and Thanksgiving Day online sales are predicted to eclipse $6 billion — a 20% increase over last year.

Supply Chain Optimization

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As part of our journey to increase the sophistication of how we service customers, Berlin Packaging recently rolled out a strategic initiative focused on "Upping Its Planning Game" via supply chain optimization. By leveraging investments in people, process, and technology, Berlin Packaging has used extensive data to both right-size customers' inventory and help our supply partners proactively plan their production.

The result has been increased agility and supply assurance for our customers — crucial elements during these uncertain times. The people, process, and technology are live across Berlin Packaging North America, with plans to extend and apply globally.

While no system can overcome the pandemic-driven global supply chain disruptions and resulting transportation bottlenecks, Berlin Packaging's combined people, process, and technology strategy has enabled a step-change in the level of sophistication and service to our customers. These strategic investments have also enabled us to better leverage our market expertise, proactive inventory management, and scale to help customers maximize both their growth opportunities and their profits.

Best-In-Class Technology

The world has experienced unprecedented market demand and volatility, leading to extremely challenging supply chains. It's more crucial now than ever to work with a partner like Berlin Packaging, which not only utilizes best-in-class AI-enabled software for demand, inventory, and replenishment planning, but also leverages highly skilled people and sophisticated processes to systematize the use of it.

Supply Chain Optimization

The high-tech software analyzes both real-time and historical data to quickly identify outliers and recommend forecast and replenishment order adjustments based on a variety of factors — seasonality, promotional spikes, changes in lead times, order quantities, safety stock targets, new product launches, and more. The software, people, and process are continually progressing in their maturation journey, building knowledge in order to more accurately predict demand and ensure sufficient supply.

Right-Sizing Inventory

Traditional supply chain planning relies on spreadsheets and purchase order history, which work well but have limitations. With our new people, process, and technology investments, Berlin Packaging has systematized supply chain planning to proactively right-size inventory for customers — ensuring they have more of what they need when they need it, and less of what they don't need. It's a competitive advantage in the packaging industry because it helps avoid both stockouts and aged ware for Berlin Packaging's customers.

As an example, a Packaging Consultant noticed that a periodic CPG customer frequently approached Berlin Packaging when they faced stockouts from their regular supplier. The cross-functional Berlin Packaging team applied the people, process, and technology to proactively analyze the customer's demand, and determined that the customer needed to place orders "now" to prevent stockouts later in the year. The customer was so impressed by the depth of Berlin Packaging's knowledge of their demand patterns (and our broad service offerings) that they signed a long-term supply agreement with Berlin Packaging as their primary supplier.

Supply Chain Optimization

Supply Chain Integration

Berlin Packaging has made great strides, but we still have more to accomplish. We will continue leveraging the people, process, and technology investments, and plan to adopt additional technologies to progress even further. From connecting our systems to suppliers' systems as well as to our customers' systems, Berlin Packaging is relentlessly pursuing opportunities to increase the sophistication of how we service customers — the possibilities are endless.

Let's be clear. No system is a panacea for the unprecedented supply chain disruptions the world has experienced since the spring of 2020. No system or process can eliminate congested ports or prevent force majeures, truck driver and worker shortages, weather disasters, skyrocketing raw material costs, and the like. However, Berlin Packaging's people, process, and technology can plan proactively and react with more agility — vital elements during these unpredictable times.

To learn more about how to leverage Berlin Packaging's Supply Chain Optimization expertise to protect and grow your business, please call 1.800.2.BERLIN or contact your Packaging Consultant.

We Believe Anything is Possible®

With over 100 years in the packaging industry, more than 1,500 packaging professionals and a global network of suppliers and warehouses, we offer 50,000+ SKUs of plastic, glass, and metal containers, closures, and dispensing systems across all markets for customers just like you.

Our Business Model

Berlin Packaging is not a distributor. We're not a manufacturer. And we're not a packaging consultancy. Instead, we're all three at the same time. We are best-of-breed amongst manufacturing, distribution, and value-added service providers. We are the world's largest global Hybrid Packaging Supplier.

Hybrid **Packaging** Supplier®

Best Elements of a Manufacturer + Distribution & Logistics + Value-Added Specialty Services

Global Capabilities

Our mission is to improve our customers' net income through packaging products and services. With 60+ locations on four continents and a network of suppliers around the world, we leverage our global scale and capabilities to further our mission – and bring unique value to customers of all sizes at the local level – where it matters.

Specialty Services

We offer value-added services specialized to best address all your packaging needs.

- Brand Strategy & Design
- Quality Advocacy
- Global Capabilities
- Warehousing & Logistics
- Financing & Consulting
- Sustainability Solutions

Operational Excellence

- ISO 9001 Certified
- 99% on-time delivery for 15+ years
- Dedicated Quality Service Division
- Industry-leading customer thrill scores
- Sustainability and safety focused

Visit our website or call the number below to be contacted by a Packaging Consultant.

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