Industry Update May/June 2022

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Resins & Raw Materials

Although Berlin Packaging cannot control the price of raw materials, we do offer services to help our customers Package More Profit. Over the past few years, Berlin Packaging has added more than $200 million in profit to our customers as a unique benefit of doing business with us.

Following a brief softening of prices for some packaging raw materials earlier in the year, the markets for many commodities and materials have turned upward following the Russian invasion of Ukraine and the ensuing business sanctions. The ongoing war and humanitarian crisis in Eastern Europe have impacted energy supplies, manufacturing operations, and supply chains.

Inflation is also pushing up prices. In March, the U.S. Consumer Price Index (CPI) hit another milestone, rising 8.5% for the preceding 12 months — the largest increase since December 1981.

For the year ending March 2022, the Producer Price Index (PPI) for final demand goods and services jumped 11.2% — the biggest 12-month increase since data were first calculated in 2010. The PPI measures the average change over time in the selling prices received by domestic producers for their output. Because the PPI measures price changes prior to hitting consumers, some view it as an earlier predictor of inflation than the CPI.

Plastic Resins

Recent increases in the cost of feedstock are sending resin prices higher. Most plastic resins are derived from natural gas and petrochemical feedstocks. The conflict in Eastern Europe disrupted energy supplies and boosted prices. Although resin prices do not follow every twist and turn in energy rates, prolonged elevated prices for natural gas and crude oil are upping the cost of plastic resins.

Here's a brief rundown of the current market conditions for various resins:

PET (Polyethylene Terephthalate):
Strong demand combined with tight supplies, higher feedstock costs, and freight and logistics challenges are pushing up the price of PET. Demand will remain strong as beverage makers ramp up production for the peak summer season.

Resins & Raw Materials

HDPE/MDPE/LDPE (Polyethylene):
Prompted by the war in Ukraine, rising oil and energy rates have led to higher HDPE, MDPE, and LDPE prices.

PVC (Polyvinyl Chloride):
Logistical issues and increased demand have brought about increased PVC prices.

PP (Polypropylene):
Similar to the situation with polyethylene, rising oil and energy rates resulting from the war in Ukraine are raising PP prices.

PS (Polystyrene):
Strong demand combined with higher benzyne and styrene costs have led to increased PS prices.

PCR

Post-Consumer Recycled (PCR):
In 2020, the U.S. recycled 4.8 billion lbs. of post-consumer plastics (e.g., bottles, film, non-bottle rigids, and other plastics) — a drop of 290 million lbs. or 5.7% from 2019. The decrease in plastics recycling was a result of the COVID-19 pandemic, which disrupted community collection programs, transportation, supply chains, and the workforce.

PCR resin prices have maintained their premium levels in response to continued strong demand from CPG companies looking to meet their increasing sustainability objectives and legislative obligations.
In addition, the improved quality and performance of PCR resins are contributing to higher volumes in packaging.

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. We also can find cost-effective alternative substrates, such as plastic, and support your material conversion. Contact your Packaging Consultant or call 1.800.2.BERLIN to learn more about our glass packaging and other capabilities and how we may be able to help you with your supply chain.

Glass

Soaring energy rates have severely impacted European glass manufacturers, which have begun to raise prices substantially and add energy surcharges to their packaging costs. Energy shortages are hampering capacity throughout Europe.

Glass packaging producers in Ukraine have suspended operations or have sustained damage to their factories. Higher transportation costs are putting additional upward pressure on pricing. If the current situation persists, the outlook is higher prices, capacity constraints, and longer lead times throughout Europe.

Aluminum

Raw material increases are elevating the price of aluminum beverage cans and ends. Increased demand across the packaging, automotive, and construction markets and supply disruptions have also driven aluminum rates higher.

Steel

Russia is the fifth-largest producer of steel in the world, while Ukraine is No. 13. In total, the two countries account for 20% of the imported steel in the European Union.

Hot rolled coiled steel prices were up 40% in March in Europe, while prices were up about 8% in the U.S. and China. With business sanctions against Russia, manufacturing shutdowns in Ukraine, and pandemic-driven lockdowns in China (the No. 1 steel producer), it's likely the global steel market will face supply constraints and higher prices in the short term.

Pulp & Paper

In the past 15 months, the price of pulp, paper, corrugated, and allied products has increased 20% due to rising input costs, higher energy rates, and strong demand.

The pandemic and the resulting spike in e-commerce sales of direct-to-consumer products greatly increased the need for paperboard and corrugated packaging to fulfill order shipments. Sustainability and recyclability concerns over packaging also have upped the demand for paper-based packaging, which has a high recycling rate of 81% in the U.S.

Inventory Management

While inventory is a significant company investment, it is often misunderstood, underestimated, and improperly measured, resulting in a drag on a company's financial performance.

When it comes to effective inventory strategies and inventory management, the first place to start is measuring the true cost of inventory. Depending on the industry sector, inventory can represent up to 20% to 30% of a company's total assets, with packaging supplies often accounting for a significant portion of this value.

Measuring Inventory Costs

Inventory is not just the cost of goods. Understanding the true cost of inventory involves determining all costs associated with maintaining and managing inventory. These costs include:

- Finance charges associated with purchasing the inventory
- Opportunity costs of investing the money elsewhere
- Warehouses expenses, such as rent, utilities, security, depreciation, upkeep, equipment operations, and repairs
- Insurance and property taxes
- Labor expenses (wages & benefits) for handling, administration, inventory control, and cycle counting
- Inventory shrinkage, damage, and obsolescence
- Freight and transportation
- Cost of failure — out-of-stock

Calculating these costs provides a clear picture of inventory and how to manage it in real-time. Discovery and removal of excess or dead stock can reduce expenses, yield cost savings, and increase cash flow.

Right-Sizing Inventory

Once a company understands the costs related to inventory, it can then turn its efforts toward determining the right amount of inventory to carry in the system. Too much inventory increases costs, while too little can lead to stockouts, production interruptions, and dissatisfied customers.

Inventory Management

With more than six million square feet of warehouse space around the globe, Berlin Packaging can manage your inventory, handle inbound and outbound logistics, and deliver packaging components when you need them. We are in the inventory business so you don't have to be.

Companies have embraced just-in-time (JIT) inventory control and manufacturing strategies to improve efficiency and productivity. However, the pandemic and subsequent supply chain disruptions and shortages have caused some to rethink JIT in favor of a just-in-case (JIC) approach with a greater emphasis on safety stock.

Whether a company subscribes to JIT, JIC, or a combination, many factors beyond safety stock go into figuring out the right amount of inventory. These include past history, new product launches, special promotions, seasonal variations, consumer demand, new sales initiatives, order frequency, quantity minimums, lead times, and more.

As part of Berlin Packaging's focus on adding value to our customers, we recently rolled out a strategic initiative that leverages investments in people, processes, and data technology to proactively right-size customers' inventories and help our supply partners better plan their production. Customers now have more of what they need when they need it and less of what they don't need.

Our highly skilled people, combined with AI-enabled software for demand, inventory, and replenishment planning, analyze both real-time and historical data to quickly recommend forecast and replenishment order adjustments based on a variety of factors. It's a competitive advantage in the packaging industry because it helps avoid both stockouts and aged ware for Berlin Packaging's customers.

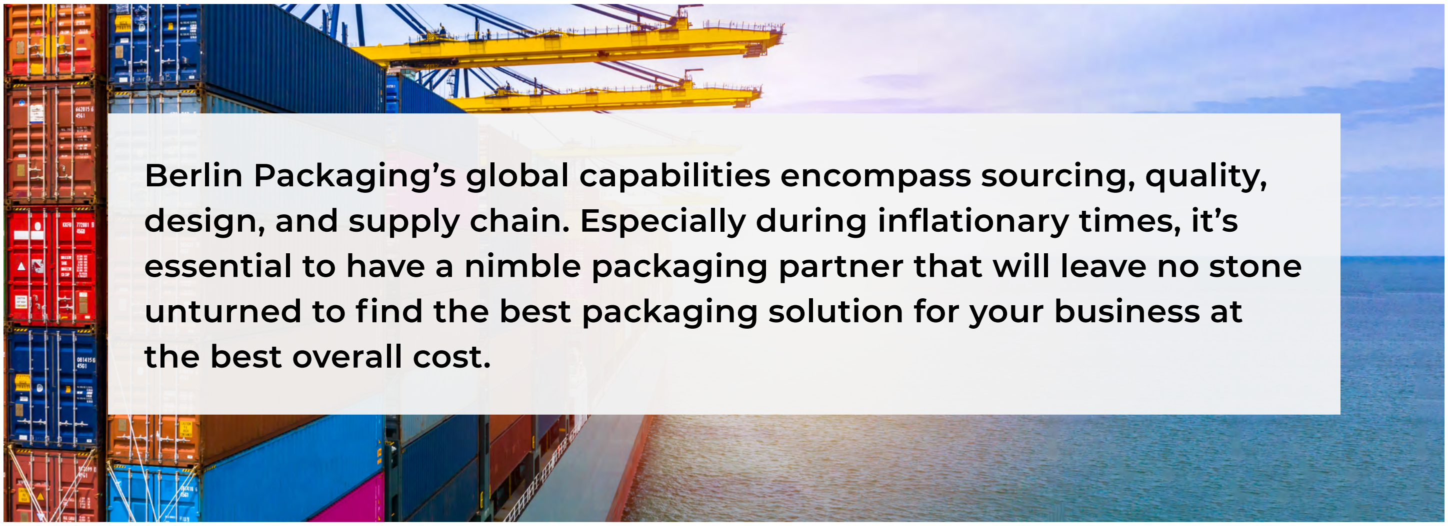
Location of Inventory

Identifying the right amount of inventory is only one part of inventory management. Where to locate the inventory is another part of the equation.

Locating the inventory at the customer's warehouse or manufacturing plant affords visibility, control, and easy access. But there are costs associated with it.

Other options for locating inventory include customers' facilities for finished goods and suppliers' facilities for raw materials like packaging components. However, not all suppliers are skilled at inventory management. Partnering with a supplier on inventory management requires trust, an alignment of goals, proof of operational efficiency and financial stability, and a successful track record.

Ocean Freight



Berlin Packaging's global capabilities encompass sourcing, quality, design, 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.

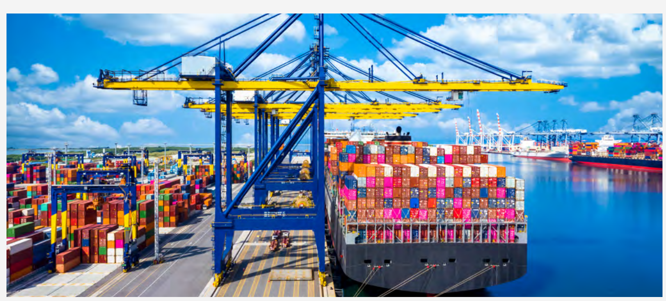
Ocean freight shipping continues to be plagued by strong demand, limited capacity, blank sailings, port congestion, labor shortages, and COVID-19 outbreaks. Carriers limited the number of available containers for 2022 contracted rates and set aside more vessel capacity for lucrative-priced spot rates while handpicking lanes and vessel capacity for contractual agreements, leading to upward pressure on freight rates.

While carrier capacity is tight everywhere around the globe, the trade lanes of Asia to North America are especially challenging with poor schedule reliability. The EMEA (Europe, Middle East, and Africa) region continues to be constrained with tight capacity and higher pricing. These disruptive conditions are expected to persist for the remainder of the year.

Port Activity

North American ports continue to operate at limited capacity with overflowing goods. Containers continue to flood port storage locations, with many ports forced to use off-site warehouse locations. Congestion at West Coast ports has eased slightly compared to 2021, but congestion at some East Coast ports is growing.

Prior to the pandemic, West Coast ports handled about two-thirds of container volume entering the U.S., with the ports of Los Angeles and Long Beach (LA/LB) accounting for 40%. Because of the extreme congestion and long ship wait times in LA/LB in 2021, many ocean carriers have bypassed the West Coast in favor of the East/Gulf Coast. Currently, container volumes imported in the U.S. are close to a 50/50 split between the West Coast and the East/Gulf Coast.



Ocean Freight

To help overcome global freight challenges, Berlin Packaging is utilizing its diverse supply base, expanding partnerships with trusted carriers, exploring alternative routing options to avoid known bottlenecks (where possible), and leveraging our size as an importer for more favorable rates and space reliability for the 2022 contract cycle.

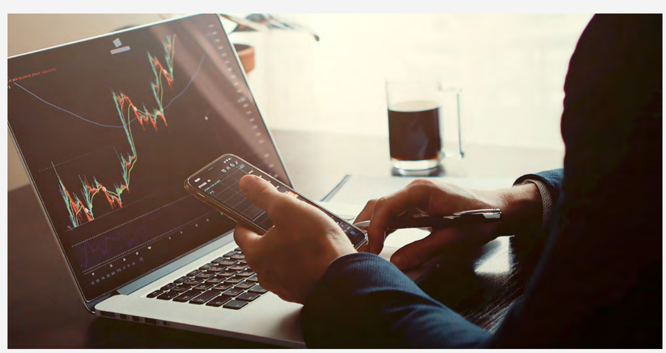
This newfound container volume balance between the West and East/Gulf Coasts could be beneficial as negotiations begin for a new contract for 15,000 workers at many West Coast ports from Washington State to San Diego. The current agreement expires on July 1. While it's highly unlikely that there will be a strike or port shutdowns, work slowdowns may be a possibility. Berlin Packaging does have contingency plans in place to manage various potential scenarios.

COVID-related lockdowns in Shanghai, Ningbo, and other Chinese cities are impacting manufacturing operations. While Shanghai's air and ocean ports remain open, labor shortages are reducing operating efficiencies at ports and trucking capacity, leading to supply chain disruptions. As companies shift to ship out of alternate ports, backlogs continue to grow with the increased volume.

In the short term, the manufacturing slowdowns in China may ease congestion at U.S. ports. However, a prolonged slowdown may have a ripple effect on domestic trucking. According to FreightWaves, container imports from China represent approximately 16% of U.S. truckload volumes and a larger percentage of dry van shipments. On the flip side, once the lockdowns are lifted and manufacturing returns to normal, the backlog of goods may overwhelm global shipping capacity.

Spot Market Rates

China's zero-COVID policy of lockdowns and their resulting manufacturing interruptions will likely send spot market rates on a roller coaster ride. Slowing production may cause an initial drop in rates and lessen demand for carriers. Spot prices will then surge when production ramps up and demand for containers increases.



Domestic Transportation

Berlin Packaging's commitment to managing costs and finding the most cost-effective packaging solutions ensures our customers maintain a competitive position in their respective marketplaces.

Following months of record-high prices, transportation costs in North America appear to be moving downward due to softening freight demand, sufficient carrier capacity, an adequate truck driver pool, and rising inventory levels.

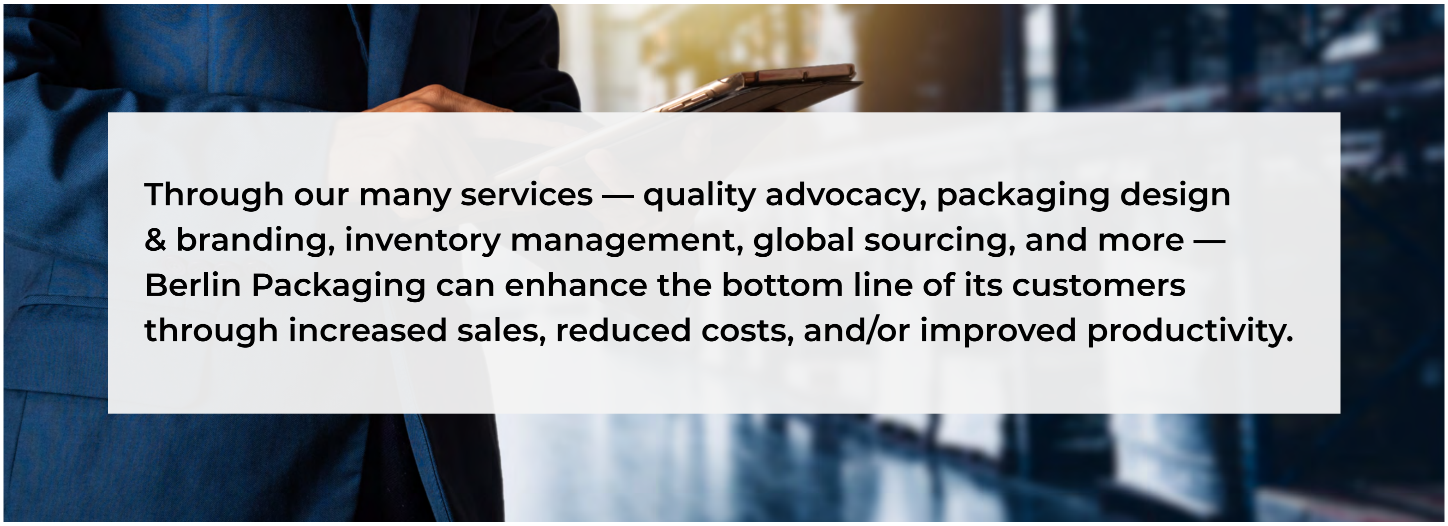
However, diesel fuel costs continue to hover above $5 per gallon (U.S. national average) — the highest rate ever. Although crude oil prices and the cost of gasoline have retreated a bit recently, diesel prices have not followed this trend. Why? Both low-sulfur crude oil supplies and diesel desulfurization capacity are limited, keeping upward pressure on diesel prices.

While diesel fuel is typically associated with trucking, it also powers nearly all locomotive engines that move freight by rail in the U.S. About two-thirds of farm machinery use diesel fuel, so it impacts food costs. About 80% of ships that move freight by sea are powered by diesel. And coal, which accounts for 22% of the electricity generated in the U.S., is transported to power plants by diesel-powered trains. Thus, rising diesel fuel costs are adding to the costs of most goods and services.

Truckload

Line-haul costs per mile for dry van spot market shipments have tumbled in the past two months — averaging $2.67 in mid-April. Spot rates, which were above $3.30 per mile at the beginning of the year, have not been this low since the first quarter of last year. The Northeast charges the highest rates ($3.19), followed by the Midwest ($2.79), West ($2.64), Southeast ($2.54), and Southwest ($2.38).

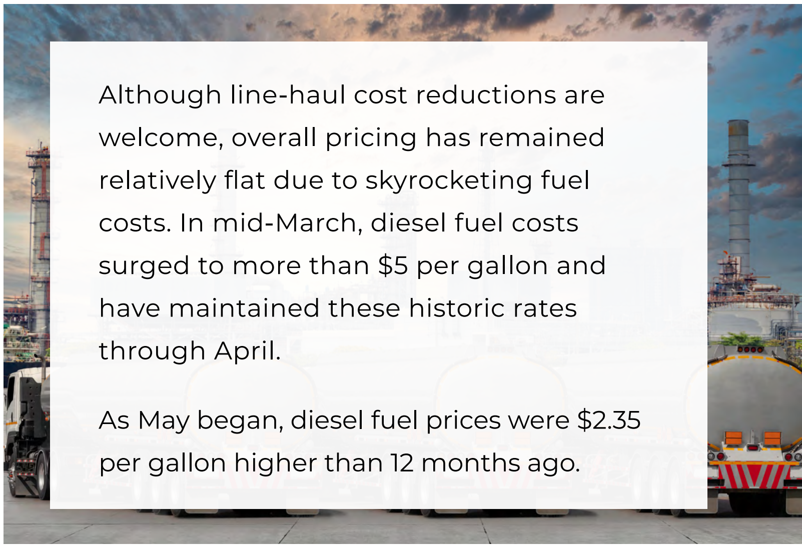
Domestic Transportation



Through our many services — quality advocacy, packaging design & branding, inventory management, global sourcing, and more — Berlin Packaging can enhance the bottom line of its customers through increased sales, reduced costs, and/or improved productivity.

As of late April, spot rates for dry van shipments have dropped for 14 consecutive weeks. Contracted rates appear to have peaked following multiple quarters of double-digit rate hikes. Freight truckload shipments are below normal seasonal patterns, putting downward pressure on pricing. Labor capacity is improving due to fewer pandemic-related worker absences and an ample supply of drivers.

Rail capacity continues to be constrained by labor and chassis shortages, providing opportunities for truckload carriers to handle additional shipments.



Although line-haul cost reductions are welcome, overall pricing has remained relatively flat due to skyrocketing fuel costs. In mid-March, diesel fuel costs surged to more than $5 per gallon and have maintained these historic rates through April.

As May began, diesel fuel prices were $2.35 per gallon higher than 12 months ago.

Less-Than-Truckload (LTL)

U.S. manufacturing output indicators continue to show expansion, hitting 22 consecutive months of growth. Since LTL shipments are closely tied to manufacturing activity, LTL volume remains strong despite rising fuel costs and inflation. Because of its favorable economics, LTL has attracted some shipments typically handled by truckload carriers.

Domestic Transportation

Parcel

Although Amazon increased its net sales 7% to $116.4 billion in the first quarter of 2022, the e-tail giant posted a $3.8 billion net loss — its first quarterly loss since 2015. E-commerce revenue dropped 3% in the quarter to $51.1 billion from $52.9 billion in Q1 2021. Amazon's shipping costs rose 14% year-over-year to nearly $20 billion due to higher container shipping rates and rising fuel costs.

In the first quarter, UPS reported revenue of $24.3 billion, a 6.4% increase over Q1 2021. Operating profit hit $3.2 billion, up 17.6% from a year earlier. However, U.S. average daily volume declined 3% year-over-year as residential delivery volumes led the falloff with a 7.4% decrease year-over-year. Business-to-business deliveries bucked the downward trend, increasing 3.6% year-over-year.

In response to rising energy rates, Amazon, UPS, and FedEx upped their fuel surcharges in April. Amazon implemented a 5% inflation and fuel surcharge on sellers. UPS raised its fuel surcharge to 16.75% on ground package shipments in the U.S., and FedEx increased its fuel surcharge to 17.75% for U.S. ground parcels and 21.75% for domestic air deliveries.

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.

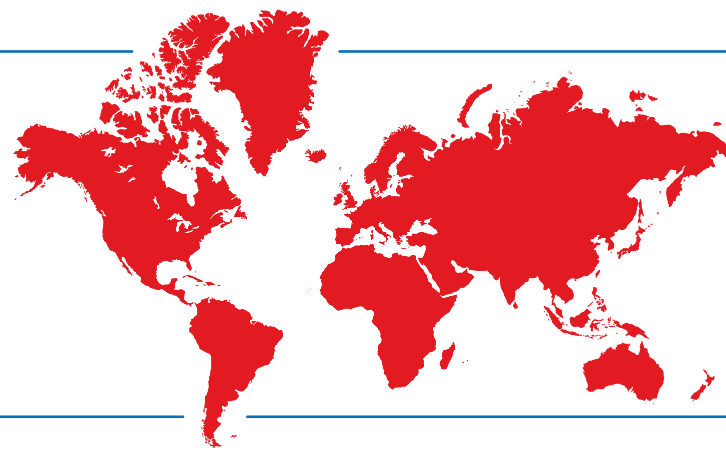
Our Business Model

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