

Getting Plastics to Market

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Exporting petrochemicals and plastics to global end markets like China and India – efficiently and cost-effectively – is a major pain point for North American producers. Currently, port congestion and equipment shortages can be especially frustrating given that rising demand and low feedstock prices are fueling increases in production capacity.

Rising demand for plastics

The size of the global plastics market was valued at US\$568.9 billion in 2019. Increasing demand in the construction, automotive, electronics and medical industries is projected to stimulate worldwide annual growth of 3.2% through 2027 (*Grand View Research, 2020*).

Growing populations coupled with rapid urbanization and industrialization in emerging economies, particularly in China and India, are fueling infrastructure spending by governments and, as a result, demand for plastics. In the manufacture of automotive components, efforts to decrease gross vehicle weight to improve fuel efficiency and reduce carbon emissions have promoted the use of plastics as a viable substitute to metals.

The COVID-19 pandemic is having a significant positive impact on the production of certain medical devices, such as thermal scanners, ventilators and respirators, as well as personal protective equipment (PPE) like gloves, masks and shields.

Some of these trends will be short-lived and the health of the plastics industry will depend on producers' ability to reach global markets.



Experiencing congestion and container shortages at some North American ports

The growth in the petrochemicals and plastics industry poses supply chain challenges and risks tied to congestion at U.S. Gulf Coast ports and the use of containers for export. The repercussions are significant - disrupting the entire supply chain. Shortage of available containers at certain ports due to imbalance in the import and export trade adds costs. Producers are looking to go further afield to the U.S. east and west coasts to get their exports to market adding significant time and costs to their supply chains.

Polyethylene and other resins produced in the U.S. Gulf Coast move predominantly via the Port of Houston, Port of Los Angeles/Long Beach, Port of New Orleans and, increasingly, the Port of Charleston and Port of Savannah.

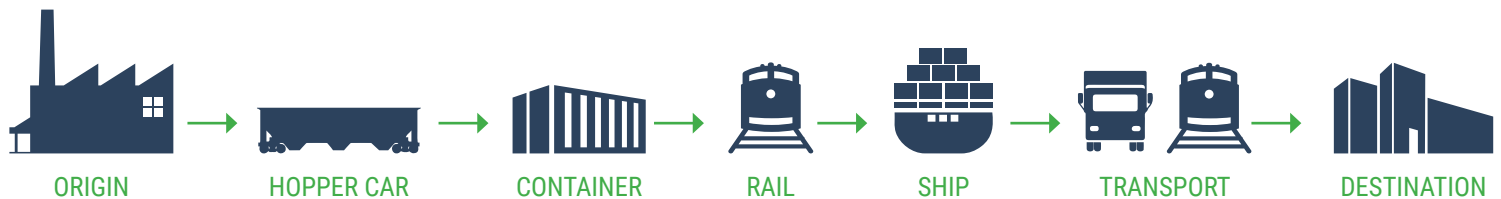
Pressure has been exacerbated by continued increase in export demand. Following strong growth in 2019 of 29%, and with the current pandemic and low crude prices, plastic resin exports were expected to fall in 2020. Through the first 7 months, exports are actually up 6.6% to 542,030 TEUs. (JOC)



Integrating the supply chain

CN is developing alternative supply chain solutions using CN-served ports flushed with capacity and well positioned to reduce lead times to end markets - resulting in lower costs and more predictable supply chains for producers and traders.

Over the past few years, CN has adopted a holistic approach for the entire movement of goods through the supply chain - from true origin to ultimate destination - not just how it handles its portion of the process. CN is increasingly involved every step of the way, working with all supply chain players - including port terminal operators and ocean carriers - to improve how products and material get to where they need to be. Unique in the industry, CN can provide a single price on one waybill for the complete move from door to door.



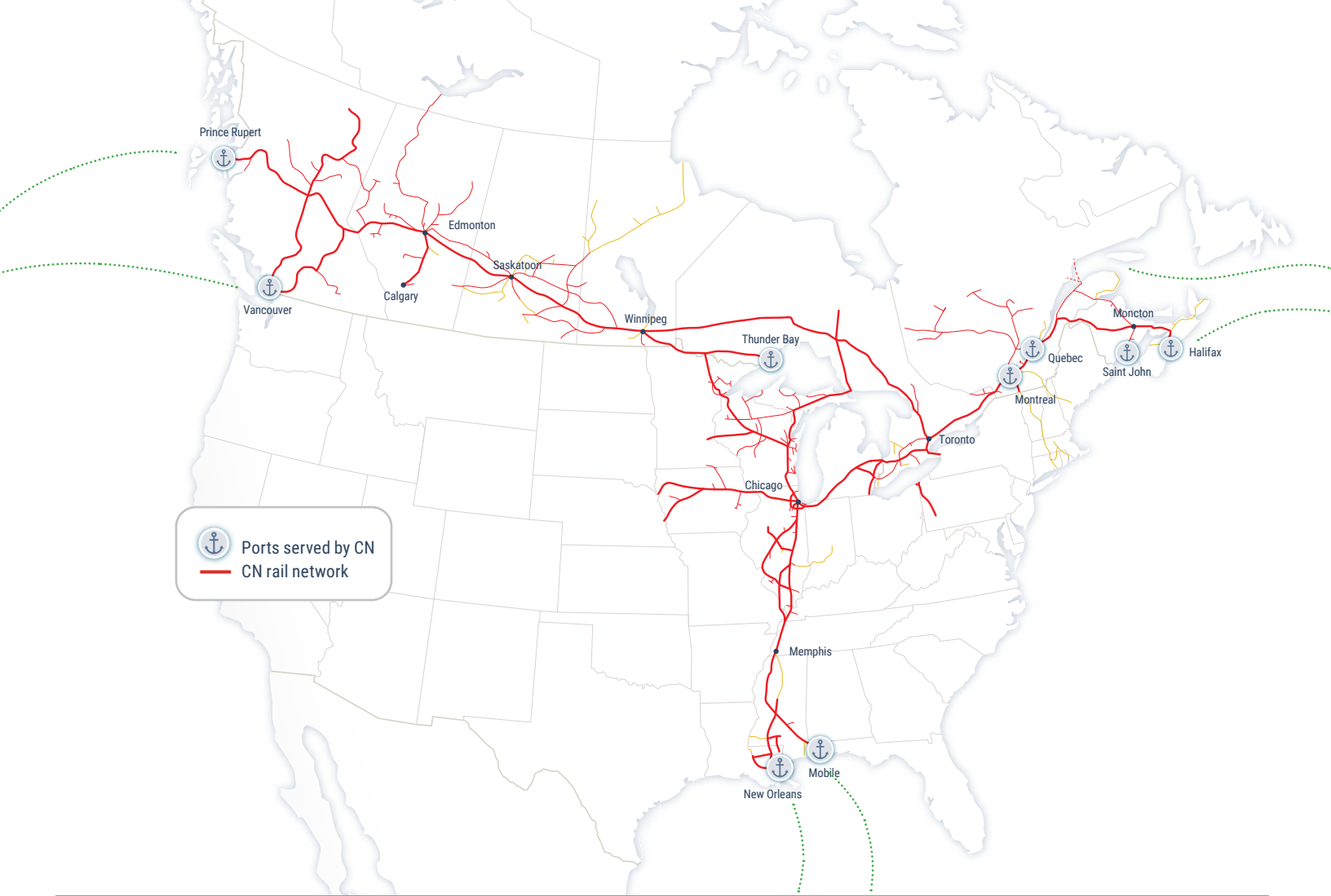
CN is making the capital investments necessary to keep its network robust and responsive to demand. CN is building capacity and enabling growth at its intermodal terminals and throughout its 20,000-mile network by buying new high-horsepower locomotives and other equipment, building new doubled rail tracks and sidings, and integrating new technologies. The company's priority is to keep its network fluid and safe to deliver superior service to help its customers grow their business.

Being the only railroad that reaches all three major petrochemical hubs in North America – the U.S. Gulf Coast, the Alberta Industrial Heartland and Southwestern Ontario - CN provides its petrochemicals customers with the ability to use a single rail carrier from origin to destination.

CN adds value to its supply chain model by partnering closely with its customers to better understand their business, right-sizing capacity to meet needs and identifying opportunities to bring suppliers and end users together.

CN promotes open communication with customers to drive down costs, improve visibility of the entire move with common metrics, and seamlessly integrate into their operations. All parties continually share information to understand and optimize supply chain performance, including scheduling railcar and container supply, planning vessel loading/unloading, as well as managing the network to avoid pinch points. For example, CN encourages customers to cut hours off cycle times, by topping up the air pressure in railcars before CN crews arrive. By improving switching efficiency and dwell time at customer plants, they can load more cars per day and CN adds low-cost capacity to the network.

CN believes that an integral part of its success depends on the ability to mitigate the impact of, and adapt business to changing climatic conditions. Its carbon footprint covers its rail locomotive fleet, non-rail vehicle and vessel fleets, and buildings and yards. With 85% of GHG emissions generated from rail operations, it believes the single best way to positively impact the environment is by continuously improving locomotive operating efficiency and reducing its carbon footprint. Additionally, as a signatory to Operation Cleansweep, CN is committed to achieving zero pellet, flake and powder loss at all plastic handling operations.



Conclusion

As described, rising demand from developing markets like China, India and Southeast Asia and low domestic feedstock prices are fueling increases in production capacity. The ongoing health and prosperity of the plastics industry will depend on producers' ability to reach global markets.

CN offers several options to relieve the congestion and equipment shortages currently being experienced at the Port of Houston and elsewhere throughout the United States. Through its simple "one stop shop" supply chain solutions, CN provides increased capacity and easy accessibility coupled with improved shipment tracking.

CN has built strong partnerships with ocean carriers, port authorities, terminal operators and other key players in the plastics supply chain to help improve efficiency and reduce shipping costs. Reinforced by its CNTL trucking arm, CN's integrated supply chain strategy is driving solid results. CN is the only North American railroad that can provide a single price on one waybill for the complete move, from plant to truck, train to port, ship to truck and, finally, to the end user. The company's focus on seamless door-to-door transportation solutions helps to make its customers more competitive in their own markets, both at home and abroad. □