



THE PETROCHEMICAL VALUE CHAIN

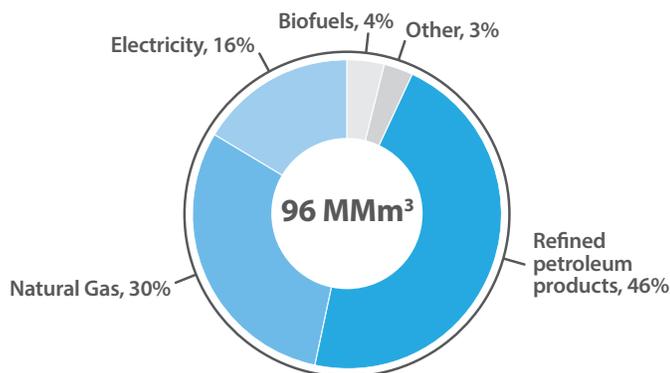
The industry has forged deep roots in the province for more than a century. The result is a vast, integrated supply network and downstream support for some of the province's largest manufacturers. Refineries are vital for Ontario's energy security since Canada does not have strategic petroleum reserves that could stabilize supply in the event of a crisis.

Refined petroleum products (RPPs) meet nearly half of Ontario's total energy-use demand

The province's total end-use demand was 27 million m³ in 2016. Most RPPs fuel personal mobility and the vital transport of goods throughout the country.

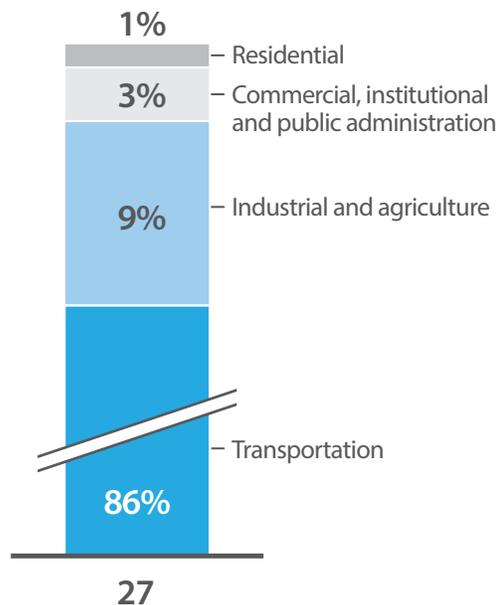
End-use demand¹ by energy source

Ontario, 2016; in %, in millions of cubic meters



RPP end-use demand¹ by sector

Ontario, 2016; in %, in millions of cubic meters



(1) End-use demand of RPPs exclude those used to produce other goods, such as petrochemical feedstocks and asphalt. References: Statistics Canada, MENDM, Navigant Consulting Inc., Aviseo Analysis

Ontario's refineries have cultivated an integrated network of nearly 1,600 suppliers

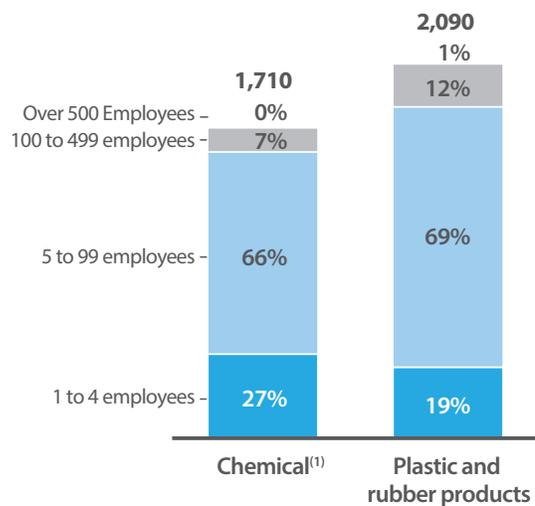
With annual operational expenditures of more than \$1.25 billion, refineries are highly valuable to their suppliers. Almost 1,000 of these suppliers are located in Ontario; 25% serve more than one refinery, underscoring the integrated nature of the system. Refiners produce \$550 million worth of petrochemical feedstock for downstream industries

Refinery by-products are strategically essential for companies downstream in the petrochemical value chain. These companies rank among Ontario's largest manufacturers. For example, chemical, plastic and rubber product manufacturers employ nearly 80,000 people and account for more than \$10 billion of Ontario's GDP.

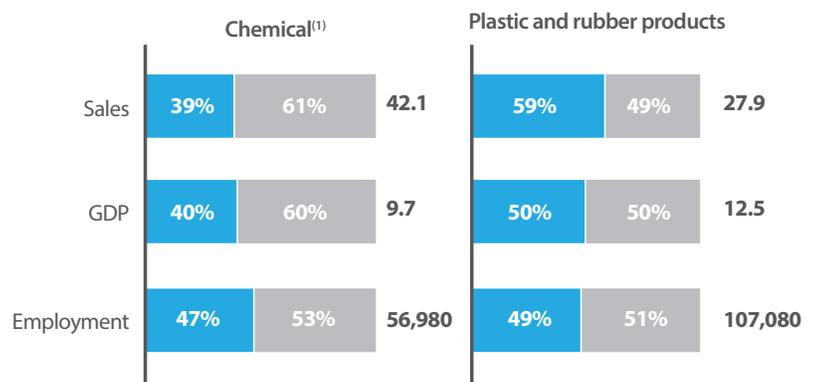
Canada's chemical and plastic and rubber product manufacturers are highly concentrated in Ontario

These manufacturers account for 3,800 Ontario businesses. Plastic and rubber manufacturers make up 50% of their industry's GDP contribution to Canada, and 40% of the chemical industry.

Business in Petrochemical Value Chain Manufacturing Industries
Ontario, 2017; in number and in % of total



Contributions of Ontario in Canada
Canada, 2017; in \$ billion, in number of jobs and in %



(1) Pharmaceutical and medicine manufacturing were excluded from the chemical sector.
References: Statistics Canada, Aviseo Analysis