Canada’s automotive sector and the electric vehicle transition

Electric vehicles sales are growing in China, Europe, and North America, where supporting policies have been implemented to accelerate the transition away from combustion engine vehicles. Two studies undertaken by ICCT, Pembina Institute, and Navius Research evaluate Canada’s position in the global electric vehicle industry by analyzing sales and production trends for conventional and electric vehicles. Comparing Canada’s electric vehicle market and assembly developments to activities in other manufacturing countries, the studies identify that Canada’s auto industry lags behind other auto-manufacturing countries in its preparation for an electrified transportation future. There are, however, underlying opportunities for Canada to ensure it remains an integral part of the global automobile industry.

KEY FINDINGS:

» Canada manufactures roughly 2 million light-duty passenger cars and trucks, making it the 12th largest auto-producing country in the world. However, Canada ranked 5th largest in 2000, and since then has lost five automobile assembly plants.

» Canada produces one plug-in vehicle model, the Chrysler Pacifica. Only 0.4% of the light-duty vehicles produced in Canada are electric, which is 80% lower than the global average of 2.3%.

» Canada ranks 5th globally in commercial truck and bus production with nearly 1.4 million vehicles produced in 2018. Canada ranks 6th in the world in electric heavy-duty vehicle production, despite a relatively small share of the global total (0.1%).

» In response to current national and provincial policies, electric vehicles are projected to account for less than 10% of new light-duty vehicle sales in 2030 and less than 15% in 2040. This is well below Canada’s national target of 30% by 2030 and 100% by 2040.
Stronger manufacturing requirements and incentives to drive vehicle electrification can help Canada realize its vision for clean growth, innovation, and jobs in the transportation sector.

» Growing demand for zero-emission vehicles represents an opportunity to better position Canada’s auto manufacturing for the future. This includes building on Canada’s early leadership in developing and producing hydrogen fuel cell technology—especially for heavy-duty vehicles.

» The analysis shows that the clearest path to boosting domestic zero-emission vehicle manufacturing is increasing demand for zero-emission vehicles in Canada. This increase in demand can be achieved with policies aimed at consumers (e.g. financial incentives, carbon pricing) or the auto sector (e.g. zero emission vehicle mandates, emissions standards).

The policy package scenario used for this analysis includes a zero-emission vehicle mandate that requires all new light-duty passenger vehicles sold are zero-emission by 2040, 50% of new medium-duty trucks and buses are zero-emission by 2030, and 15% of new heavy-duty trucks and buses are zero emission by 2030, as well as a subsidy for electric vehicle manufacturing that results in a 10% reduction in production costs in 2025.

» With the implementation of these stronger nationwide zero-emission vehicle policies, related GDP could reach $152 billion (2015$) by 2040, up from $43 billion under current policies. Likewise, electric vehicle-related jobs could reach 1.1 million, up from 342,000 under the current policy forecast.
Figure: Increases in electric vehicle deployment, jobs, and GDP resulting from a more ambitious nation-wide policy package in Canada