

Intelligence MEMOS



From: Leonard Waverman

To: Canadian Automotive Observers

Date: December 18, 2023

Re: **WHY GOVERNMENT ELECTRIC VEHICLE MANDATES WON'T WORK**

On Dec 31 2022, the federal Liberal government mandated that in 2035, 12 years from now, no internal combustion engine cars and light trucks can be sold in Canada. This ban takes place gradually, beginning at 20 percent of electric vehicles sold in 2026, just over two years from now. In 2022, only 66,800 fully electric vehicles were sold in Canada and total sales of EVs since they were introduced into Canada in 2012 is some 255,000.

Meanwhile, electric vehicle sales have stalled both here and in the US. Ford temporarily stopped electric F150 production and is postponing \$12 billion in EV production facilities. Volkswagen has stopped production of two of its EVs. Tesla keeps slashing prices to move inventory. General Motors is delaying its Michigan EV truck production by a year.

Any new technology can start off quickly because of early adopters, those people who rush to buy something new – like an electric vehicle. They are not, however, generally representative of the population. Many technologies have risen quickly but then stalled or fallen. Virtual reality headsets were a big hit two years ago. Who hears of them now? Some observers mistake robust early sales as the harbinger of early and quick adoption, but it's not necessarily so.

Many new technologies come to the market to fill an unmet need – washing machines, fax machines, cell phones. But EVs do not meet an unfilled need, they take you from A to B as do existing vehicles. That's why these mandates will not work – EVs need to supplant existing uses. And Canadians can choose not to play: They don't have to buy electric vehicles now or in 2035, they can simply continue to drive their internal combustion vehicle. Canada has 21.4 million vehicles on the road. Annual sales are around 1.6 million, and EV sales in 2022 were 66,800, a tiny slice.

The early EV adopters are not deterred by price (\$82,000 in Canada on average before government rebates) or the lack of a charging infrastructure. But the lack of a cohesive plan for a national network of charging stations is a major factor in the slow sales. Meanwhile, there is still no standard charging port, as Tesla, Ford and GM wrestle a group of other manufacturers to establish one. Until this gets sorted out – Tesla's winning so far – and charging stations become ubiquitous, EV sales will stagnate.

Meanwhile, EVs have only been on the market for a few years, so the reality of battery replacement – between \$5,000 and \$15,000 – has yet to arrive. The necessity and cost of replacing batteries is part of the EV experience. This also presents us with the need to dispose of a significant stock of very large used batteries.

It is now cheaper to run electric vehicles than standard internal combustion vehicles. But when the world has fewer standard vehicles and many electric vehicles the current road tax – embedded in the price at the pump – will somehow have to be shifted to electric vehicles. The weight of EVs will cause more damage to roads so road taxes are likely headed up, as well.

I predict that if the government sticks with this mandate and does little else, electric vehicle sales may not rise quickly. There will be a buying surge for the last gas-powered vehicles before 2035. After 2035 the fleet is likely to age as people will still be reluctant to trade in existing vehicles for an EV. Older vehicles are of course more unsafe than newer ones. This will be another cost to society of a mandate supported by no strategy. Rather than simply decreeing the end date for sales of internal combustion vehicles, the government should be embarking on a comprehensive complementary strategy:

1. Ensuring there is a universal standard for charging stations (North American at least), and helping to fund one.
2. Coming clean (so to speak) about the need to move road taxes from the pump to the charging station.
3. Developing a battery disposal plan with EV manufacturers.
4. Get a credible estimate of what happens to the grid when EVs begin to really flood the market.

I may own an EV myself one day. They are marvels of innovation and repair costs for an electric motor are a tiny fraction of an engine's. But a simple ban on internal combustion in 12 years is not a strategy, it's an ill-thought-out hope.

Finally, it is estimated that the entire light vehicle fleet produces only 11 percent of our greenhouse gas emissions. Could the money being poured into the EV transition be better aimed at bigger emitters?

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A version of this Memo first [appeared](#) in The Globe and Mail.