



IN RESPONSE TO C.D. HOWE'S ANALYSIS OF CANADA'S ELECTRIC VEHICLE AVAILABILITY STANDARD

Electric Mobility Canada

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On January 25th, 2024, Mr. Brian Livingston, from the C.D. Howe Institute, published [a 19-page document expressing his analysis, opinions, and recommendations](#) for what he calls a "Federal Zero Emissions Vehicle (ZEV) Mandate". We assume that Mr. Livingston is referring to [Canada's Electric Vehicle Availability Standard](#), presented by Environment and Climate Change Canada, in December 2023.

In his analysis, Mr. Livingston suggests that there be more flexibility baked into the regulation to help Canada meet its 2035 target of banning the sale of new internal combustion engine (ICE) vehicles. He argues – based on 2022 light-duty vehicle sales statistics and forecasts – that carmakers will not be able to mass-produce battery electric vehicles (BEVs) fast enough prior to the 2035 set date. He underlines a gap between projected ZEV supply and light-duty vehicle demand, which will "cause severe market disruptions". He proclaims that a 100 per cent ZEV mandate in 2035 is not feasible.

Among his recommendations, he suggests that ICE vehicles may still be sold past 2035 under the condition that they be supplied with renewable fuels. He uses the EU's recent decision to alleviate its ZEV mandate as an example. Mr. Livingston also argues that plug-in hybrid electric vehicles (PHEVs) should be given more space, considering them as "training wheels" to ease electric vehicle (EV) adoption.

Debunking some false claims

First, Mr. Livingston's paper contains a significant number of inaccurate assertions about EVs, battery supply chains and automotive regulations. Before moving ahead with our official rebuttal, the following is a list of claims from this paper that are either false, misinterpreted or don't consider vital information. For C.D. Howe's document to be taken seriously, these discrepancies must be corrected.

"The theory of ZEV mandates"

- 1) From Mr. Livingston's words: "A ZEV mandate is government legislation that imposes a requirement on the sellers of light vehicles to sell a certain minimum of ZEVs in a year. (ZEV is used interchangeably with BEV for battery electric vehicle in this paper. PHEVs can also qualify as ZEVs to a limited extent."

Incorrect: Fuel cell electric vehicles (FCEVs) are also part of the ZEV "family" and there are no limitations on them.

- 2) Mr. Livingston's claims "The theory is that this minimum requirement will give certainty to vehicle sellers that there will be a market for ZEVs and will therefore give an incentive to companies to construct ZEV manufacturing facilities."

Incorrect: Getting companies to construct ZEV manufacturing facilities is not the intent of the regulation. [The purpose of California's original ZEV mandate was to reduce air pollution and greenhouse gas \(GHG\) emissions.](#) This is a public health issue. Not an industry manufacturing issue.

- 3) "The flip side to a ZEV mandate is that it imposes a prohibition on the sale of ICE vehicles, plus a penalty for contravening this prohibition. A company selling light vehicles, in effect, has an ever-shrinking quota for the maximum number of ICE light vehicles that it can sell in a year (none in 2035)."

Context: The reasons behind this regulation are simple. After decades of discussions with carmakers on how they could reduce GHG emissions from their vehicles, the results have been, at best, disappointing. [In 2005, the federal government committed the Canadian automotive industry to voluntarily reduce GHG emissions from the light vehicle sector by 5.3 Mt by 2010.](#)

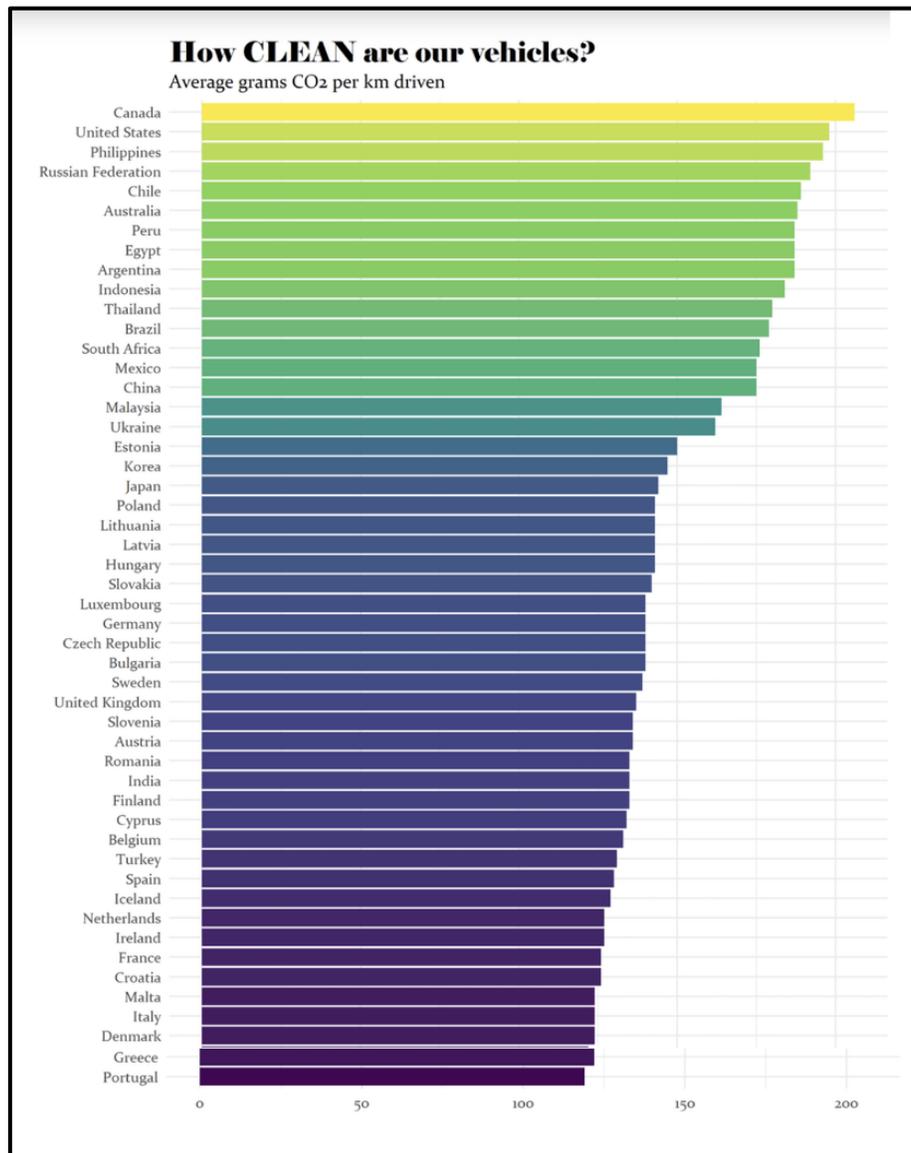


Since this was a voluntary target, with no penalty attached to the agreement in case of failure, the target was missed by 95 per cent. [Between 2000 and 2019, the average fuel economy of a car has decreased by a mere 13 per cent, 14 per cent for a light truck. During the same period, GHG emissions from light duty vehicles in Canada has decreased by only 3 per cent. The reasons are:](#)

- The growing number of light duty vehicles on the road
- The significant transition from cars to light trucks on an individual basis (10.5 L/100 km on average in 2019) which are less fuel efficient than cars (7.9 L/100 km on average in 2019)

What's particularly worrying about this data is that although, on average, Canadians drove 20 per cent less on average in 2019 versus 2000, fuel consumption and GHG emissions from ICE vehicles hardly decreased, hence the urgency to adopt the EV Availability Standard.

In fact, the absence of regulation has made GHG emission progress so poorly that the [International Energy Agency estimated in 2019 that Canada's light duty vehicle fleet was dead last in the world for average fuel economy and GHG emissions per kilometer driven.](#)



Ranking last in the world is no cause for celebration. It demonstrated that something significant had to be done for things to improve. After years of consultation and discussions with stakeholders from the industry, the Canadian government – after much reflection on the matter - concluded that the only way to reach GHG emission targets was by imposing regulations.

- 4) “British Columbia and Quebec have their own ZEV mandates, with targets for percentage of sales between now and 2035 that are slightly more aggressive than the federal ZEV mandate. Combined with provincial incentives to purchase BEVs, this has caused a channeling effect of BEV sales in the two provinces (13.6 percent for British Columbia, 9.1 percent for Quebec). These percentages are above the 6.5 percent Canada average for BEV sale as a percentage of total sales, with an offsetting reduction in BEV sales in the other 8 provinces below the 6.5 percent Canada average.”

Incorrect:

- [According to S&P Global, ZEV sales reached 13.3 per cent in Canada during Q3 2023 with 22.8 per cent in Quebec and 26.4 per cent in B.C.](#)
- [According to StatsCan, BEV sales were at 16.3 per cent for B.C. and 12.9 per cent for Quebec in the first three quarters of 2023, while Canada's ZEV sales were at 7.8 per cent for BEVs and 10.3 per cent for ZEVs.](#)
- If we look at the ratio BEVs vs PHEVs sold in Quebec, B.C. and Ontario, BEV sales represented 74 per cent of all ZEV sales for the first three quarters of 2023 VS 82 per cent in B.C.

In Ontario, where there are no rebates nor ZEV sales regulations, BEV sales represented 76 per cent of all ZEV sales. This demonstrates that the percentage of BEV sales was not skewed by regulation or rebates, but rather by the simple fact that consumers want a growing percentage of BEVs.

It's surprising to see that C.D. Howe's report doesn't use the latest available data and chooses to separate BEVs from PHEVs as they are all included in the ZEV category.

- 5) “The important point to note is that even with this channeling effect, there will likely still not be enough BEV passenger cars, pickup trucks, vans and SUVs/crossovers to satisfy demand in British Columbia and Quebec, let alone the other eight provinces.”

Incorrect: There is **no data** in the C.D. Howe report supporting this claim. ZEV and/or GHG emission regulations elsewhere in the world have proved that targets are not only met, but even surpassed. For example, British Columbia has already surpassed its 2026 target of 26 per cent ZEV market share during Q3 2023 and so has Quebec.

- 6) “As noted, the bottom-up forecast in this paper assumes an arithmetic growth based on production capacity. Furthermore, virtually all BEVs (regardless of brand) currently for sale in Canada have significant waiting times, often a year or more. There are three reasons for this: (1) supply chain issues; (2) delays in building and ramping up factories to build the BEVs; and (3) BEV sales being channeled into the United States and globally. The incentives to encourage the sale of BEVs in the US *Inflation Reduction Act*, along with ZEV mandates in states such as California, will take away much of the supply of BEV vehicles for Canada.”

Incorrect: Once again, this is entirely dependent of the carmaker. Obviously, carmakers that did not plan for or that fought against the EV transition are now lagging behind leading EV manufacturers. Meanwhile, a growing number of OEMs, such as Tesla, Ford, Polestar, Volvo and others are perfectly capable of meeting this demand now.

Furthermore, the US *Inflation Reduction Act* (IRA) prevents several EVs from having full access to EV incentives. In 2024, [only 10 vehicles are eligible to the full incentives, compared to 23 models in Canada](#). Additionally, U.S. ZEV



mandates **DID NOT** prevent B.C. and Quebec from reaching their ZEV sales targets. It is noteworthy to signal that carmakers always send ZEVs first and foremost where the regulation and targets are the most stringent in countries and jurisdictions such as Norway, Sweden, California, and always meet the targets.

- 7) "Nissan only had sales of about 1,400 light vehicle BEVs in Canada in 2022. It has focused mostly on hybrids to date."

Incorrect: The last time Nissan sold a hybrid in Canada was in 2015 with the low volume Pathfinder hybrid. The carmaker currently has **NO** hybrids in its lineup. However, it sold 3,590 BEVs in 2023.

- 8) "GM, Ford, and Volkswagen have postponed plans to build BEVs in the next few years. It is reasonable to assume that they will only reach sales of 50 percent BEVs by 2035."

Incorrect: According to GM "Our forward plans include bringing our plug-in hybrid technology to select vehicles in North America. Let me be clear, GM remains committed to eliminating tailpipe emissions from our light-duty vehicles by 2035, but in the interim, deploying plug-in technology in strategic segments will deliver some of the environmental benefits of EVs as the nation continues to build its charging infrastructure."

In September 2023, VW reaffirmed that it would be ready for the 2035 fossil fuel car ban in Europe. If it can meet that target, it can also meet the U.S. one.

- 9) "High prices for BEV light vehicles may cause Canadians to hold on to their ICE light vehicles for a longer time, and therefore not buy a BEV light vehicle."

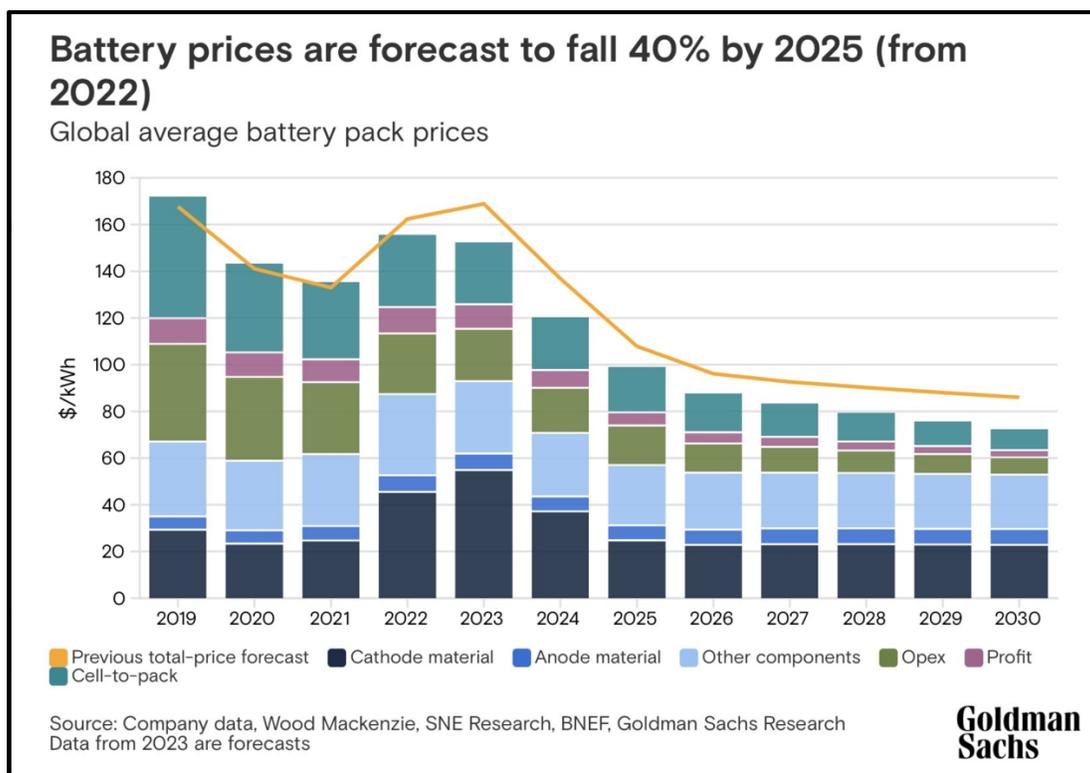
Correction: **ALL** new light duty vehicles are getting expensive. According to Auto Trader Canada's Price Index, as of September 2023, the average selling price of a new light duty vehicle was \$67,800, up 19.4 per cent year over year from the same period in 2022.

It's worth mentioning that 50 different BEV and PHEV models are available below the average purchase price of a new light duty vehicle. That's including the federal ZEV rebate (see illustration below). Some provinces also offer ZEV rebates. This proves that ZEVs are highly competitive from a pricing standpoint, even before taking into account lower running costs.

1- Alfa Romeo Tonale PHEV 2024 : \$5000	25- Lincoln Corsair PHEV 2024 : \$2500	
2- Audi Q4 e-tron 2024 : \$5000	26- Mini Cooper SE 2024 : \$5000	
3- BMW i4 2024 : \$5000	27- Mini Cooper Countryman PHEV 2024 : \$2500	
4- BMW i4 2024 : \$5000	28- Mazda CX-90 PHEV 2024 : \$2500	
5- Chevrolet Blazer EV 2024 : \$5000	29- Mazda MX-30 EV 2023 : \$5000	
6- Chevrolet Bolt EV 2023 : \$5000	30- Mercedes EQB 2023 : \$5000	
7- Chrysler Pacifica Hybrid 2024 : \$5000	31- Mitsubishi Outlander PHEV 2024 : \$5000	
8- Dodge Hornet PHEV 2024 : \$5000	32- Nissan Ariya 2023 : \$5000	
9- Ford Escape PHEV 2024 : \$5000	33- Nissan Leaf 2024 : \$5000	
10- Ford F-150 Lightning 2023 : \$5000	34- Polestar 2 2024 : \$5000	
11- Ford Mustang Mach-E 2023 : \$5000	35- Subaru Solterra 2023 : \$5000	
12- Hyundai Ioniq 5 2024 : \$5000	36- Tesla Model 3 2024 : \$5000	
13- Hyundai Ioniq 6 2024 : \$5000	37- Tesla Model Y 2024 : \$5000	
14- Hyundai Kona 2024 2024 : \$5000	38- Toyota b24X 2023 : \$5000	
15- Hyundai Santa Fe PHEV 2023 : \$5000	39- Toyota Prius Prime 2024 : \$5000	
16- Hyundai Tucson PHEV 2023 : \$5000	40- Toyota RAV4 Prime 2024 : \$5000	
17- Jeep Wrangler 4xe 2024 : \$2500	41- Toyota Mirai 2023 : \$5000	
18- Kia EV6 2024 : \$5000	42- Vinfast VF8 2024 : \$5000	
19- Kia EV9 2024 : \$5000	43- Volkswagen ID4 2023 : \$5000	
20- Kia Niro EV 2024 : \$5000	44- Volvo C40 Recharge 2024 : \$5000	
21- Kia Niro PHEV 2024 : \$5000	45- Volvo S60 2024 PHEV: \$5000	
22- Kia Sorento PHEV : \$5000	46- Volvo XC40 recharge 2024 : \$5000	
	47- Volvo EX30 2024 : \$5000	



In addition, [according to a November 2023 report from Goldman Sachs](#), lower battery prices could mean EV cost parity with ICE vehicles by mid-decade. This means that long before 2035, there will be no reasonable economic reason for consumers to buy a gas or diesel-powered light duty vehicle.



“Figure 8 shows the forecasted pickup truck sales in each year from 2022 to 2035, with a more specific list of suppliers. The top layer shows the forecasted shortfall from the ZEV mandate. BEV pickup truck sales in 2035 are forecast to increase to about 185,000, or 53 percent of demand. Sales come from the big four, as well as Tesla (Cybertruck), and Rivian. The remaining 47 percent of sales would be 165,000 of ICE pickup trucks, unless prohibited by the ZEV.”

Incorrect: There is currently no credible data supporting this claim. The data from figures 8, 9, 10 and 11 in Mr. Livingston's paper lack sources that can be verified. We have to rely solely on the “author's calculations”. As carmakers build a growing number of electric pickup trucks in North America, Canada's electric light duty pickup truck demand will be met **because they are indeed included in the EV Availability Standard**.

Electric Mobility Canada's official rebuttal

We believe that Mr. Livingston's analysis of Canada's Electric Vehicle Availability Standard is based on a general lack of knowledge regarding electric vehicles and how the automotive industry operates. His ZEV sales projections do not take into consideration the mechanisms of battery supply chains, BEV production scaling and investments and, perhaps more importantly, the most pressing issue in the history of humanity: climate change.



The following is our official rebuttal on the matter in a series of points.

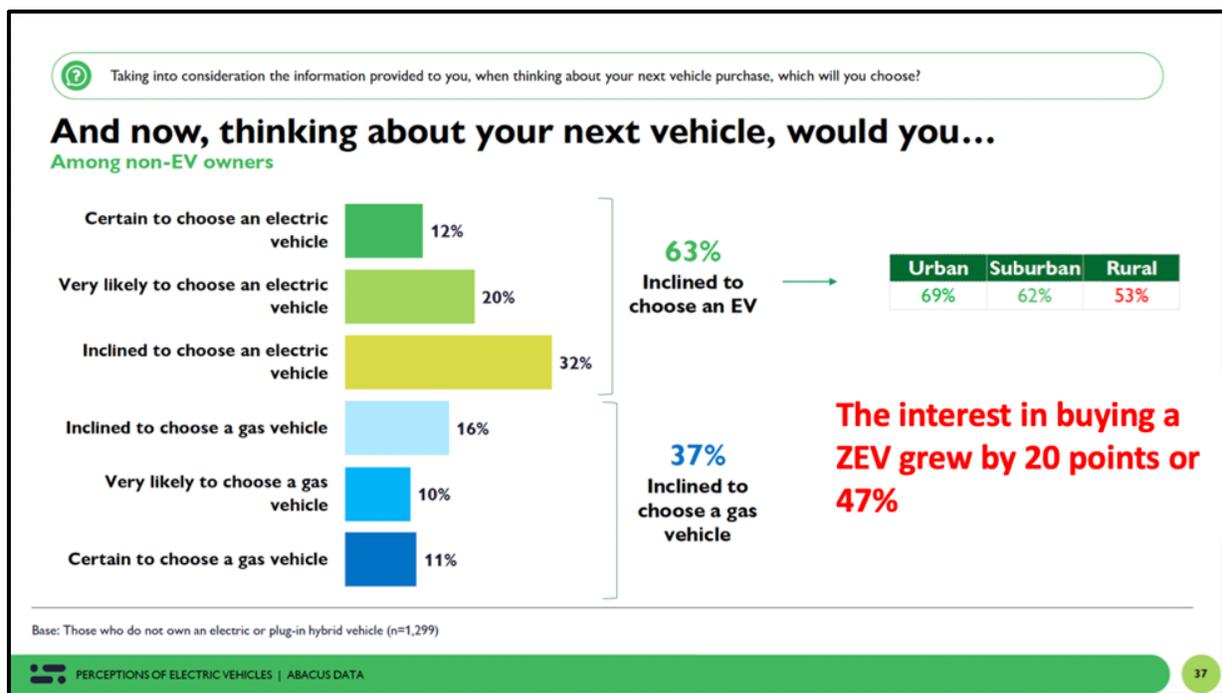
1) Canadian consumers want zero emission vehicles

As mentioned above, recent and reliable data from [S&P Global](#) (Q3 2023) revealed that ZEV sales (includes electric vehicles, plug-in hybrids and hydrogen fuel cell vehicles) had once again grown nationwide, setting new sales records. During Q3 2023, one in eight new vehicles registered in Canada was a ZEV, with a record-breaking 13.3 per cent market share, up from 10.5 per cent the previous year.

While one could argue that highly incentivized provinces like Quebec and British Columbia were responsible for the bulk of ZEV sales, some unlikely provinces have also registered impressive ZEV market share, such as Yukon (10.4 per cent) and Prince Edward Island (9.3 per cent). Even Ontario, arguably one of the most challenging provinces for ZEV sales (due to a lack of incentives and public charging infrastructure) saw an increase in ZEV sales, from 7.2 to 8.7 per cent.

These numbers clearly show that Canadian consumers are interested in purchasing zero emission vehicles, and not simply due to incentives, but for other reasons, such as lower costs of ownership, added user benefits like home charging, remote cabin heating, [safety](#), as well as the obvious environmental factors.

Clearly, more EV education is needed [as demonstrated in our 2023 Abacus Data survey results](#): after a 15-minute survey in which respondents were provided with accurate facts pertaining the EVs and the EV ecosystem, the portion of Canadians who were interested in buying an EV grew from 43 to 63 percent. This represents a 20 point or a 47 per cent increase.



2) PHEVs are a non-efficient solution

In Mr. Livingston's paper, he argues that "some Canadians are not currently prepared to take the full plunge to BEVs due to range anxiety, longer times to recharge batteries in locations away from home and a lack of charging stations in some areas."

It's clear that Mr. Livingston must brush up on his EV knowledge. In 2024, range anxiety is mostly an issue for people who don't drive a modern EV. If his claims were true, then how did a province like Quebec – Canada's [largest province by land mass](#) where winter temperatures are among [the coldest in Canada](#) – end up with such strong BEV adoption? It's not only due to incentives, but also because of a robust, reliable, affordable, and user-friendly public charging infrastructure *and a provincial ZEV mandate*. Quebec's provincial EV charging network supported by the [Electric Circuit](#) currently counts more than 10,000 public chargers scattered across the province.

The Quebec government also grants further incentives to encourage the installation of home chargers, where EV owners charge their vehicles most of the time. Considering that Canadians drive [approximately 15,000 km per year](#), and that 91 per cent of Canadians drove less than 35 km to get to work in 2016, access to public charging is a non-issue for most. Home charging allows an EV owner to leave the house each morning with a full battery.

Finally, Mr. Livingston offers PHEVs as a solution to help mitigate range anxiety. PHEVs have proven to being compromised during cold weather; most PHEV models will periodically activate the ICE engine below a certain temperature. Also, statistics have shown that many PHEV owners [don't bother with plugging in their vehicles](#). This defeats their purpose of not burning fossil fuels.

[According to data from AVEQ](#), while PHEVs made up most of the light duty ZEV fleet in 2018, 2019 was the first year that BEVs (52 per cent) became more prevalent than PHEVs (48 per cent). In 2023, BEVs represented 65 per cent of the ZEV fleet. This trend is only accelerating as BEVs are becoming more efficient with longer average range.

PHEVs consume, on average, the same amount of fuel as a regular hybrid vehicle and still emit CO² emissions. They're also overly complicated, often equipped with two radiators for cooling, as well as a gas tank, a lithium-ion battery pack and, of course, an ICE engine. These are components that require intensive maintenance, further increasing running costs once the warranty expires. From a resource standpoint, PHEVs are more inefficient.

We would like to clarify that EMC's stance on PHEVs isn't that they should not be a part of the ZEV mix between now and 2035; but, we are well aware of their limitations and lack of significant improvement since 2012. Battery technology improvement between now and 2035 will slowly render PHEVs obsolete.

3) Regulations force carmakers to behave

From Mr. Livingston's paper: "It is difficult to get 100 percent of a group of people (such as Canadians) to do what they are asked to do. You could ask 100 percent of Canadians to tie their shoelaces and explain that it was in their best interests to do so, since it would prevent them from falling. The likely result would be that 80



percent would do so right away, 10 percent would do so with some encouragement, 5 percent would only do so with a lot of encouragement, and the last 5 percent would resist.”

Mr. Livingston seems to misunderstand the purpose of the Electric Vehicle Availability Standard. It wasn't created to force consumers into buying habits, but rather force carmakers to change their business models and offer a better choice of ZEV of all sizes, shapes and purposes. Right now, because of the lack of GHG emission regulation and ZEV sales regulation, consumers who want to buy smaller, more affordable gas or electric cars don't have much choice.

Furthermore, those who don't want to drive an EV won't be forced to do so in 2035.

Instead of seeing this Standard as a way to punish consumers for purchasing ICE vehicles – which is a totally skewed analysis of the matter – Mr. Livingston should see the Standard as a way to give consumers more negotiating and buying power for EVs. If Canada's current ZEV offering is weaker compared to other parts of the world like Norway, it's because carmakers are not obliged to sell a certain percentage of them. This gives car companies the liberty to sell whatever they desire. In this case: highly lucrative, inefficient gasoline-fed pickup trucks and SUVs.

It is true that Canadian consumers love their trucks. On average, [Ford ships 120,000 units](#) a year in Canada alone. But a lot of these sales can be attributed to carmakers and their dealership networks focusing their business on what's available and lucrative. Imagine a world where Ford would rather be obliged to sell a certain percentage of F-150 Lightnings. Ford dealerships would create incentives and marketing campaigns that would make the purchase of an electric truck more appealing than that of a gasoline-powered one.

The case of the Mazda MX-30 electric crossover is proof that ZEV mandates do, in fact, work (even for an unpopular model that's considered “unsellable”). Mazda's MX-30 has been considered too expensive for the limited range that it offers, topping out at only [161 km on a full charge](#). That's very low compared to a Chevrolet Bolt EV; a car that costs about the same price and that can cover more than 400 km on a single charge. The MX-30 is not a competitive EV.

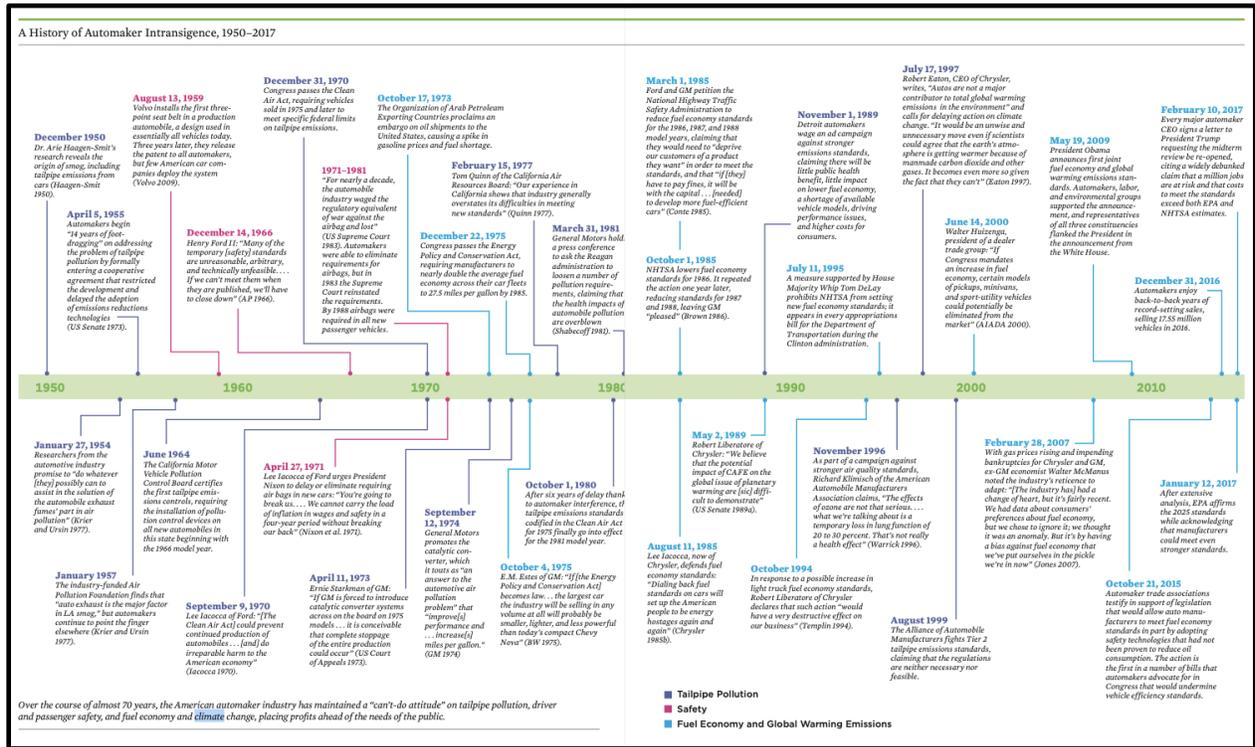
However, because Quebec has a ZEV mandate which forces carmakers to sell a percentage of new electric vehicles each year, [MX-30 sales in the province corresponded to 66 per cent](#) of [total Canadian sales](#) in Q3 2023. Strong incentives and rebate programs were put forth from Quebec Mazda dealers to promote the sale of the MX-30 crossover in order to keep their inventory moving. Mazda Canada, to prevent being hit by aggressive penalties, engineered a pricing strategy that would fit within the window of Quebec's provincial ZEV incentive program. This is clear proof that a ZEV mandate allows even less competitive vehicles to be driven off dealer lots.

4) Automakers always complain, but always comply

History has proven that when governments force automakers to improve their vehicles, they eventually come up with solutions to overcome these restrictions. From seatbelts and antipollution systems, to airbags and fuel economy regulations, since the 1950s, *[“Automakers have fought tooth and nail at every step of the way when asked to make their vehicles safer, cleaner, and more economical.”](#)*



In Response to C.D. Howe's analysis of Canada's Electric Vehicle Availability Standard



The U.S. government's Clean Air Act of 1970 was created to regulate air pollution nationwide. One of the Act's policies forced carmakers to install a catalytic converter on all new cars sold in the United States from 1975 onwards.

For many automotive enthusiasts, this is seen as the year when the government ["killed the muscle car industry"](#), muffling large-displacement V8-powered sports cars. [Several carmakers protested](#), signaling the death of their industry, as some deemed it would be impossible to manufacture cars equipped with such technology.

Ironically, 45 years later, in a world where CO² emission regulations are stricter:

- Dodge is selling a Challenger sports coupe powered by a [6.2-liter supercharged V8 that developed more than 700 horsepower](#), an unseen number from a production sports car in its respective price range.
- Tesla, Lucid and other car manufacturers are now selling EVs with even quicker acceleration than the most powerful gasoline-powered cars.

Engineers always find a way.

Let's remember that just 10 years ago the idea of a fully electric vehicle capable of 500 km of range that could charge up to 80% in less than 20 minutes was inconceivable. Now, it's a reality, and it's only the beginning.



5) The European Union's loosening of regulations had perverse effects

In the Fall of 2023, [the European Union decided to soften its latest Euro 7 emissions regulations](#) due to a strong backlash from several carmakers. They stated that the regulations were so strict that they would negatively affect their profit margins and be potentially harmful to the European car industry. So, it was decided that Euro 7 emissions regulations be reserved for medium to heavy transport. Light-duty vehicles (cars, pickup trucks and SUVs) could continue with the existing Euro 6 regulations.

Of course, such a loosening of regulations had perverse consequences, proving once more that when given the choice, carmakers don't necessarily head down the right path when it comes to CO² emissions. Although we currently live in a state of climate crisis, some automakers saw this as an opportunity to continue manufacturing high CO² vehicles. This was the case with [Alfa Romeo when it publicly announced that it could continue selling its twin-turbocharged 2.9-liter V6](#) that powers its Quadrifoglio high-performance models, the Giulia sports sedan and the Stelvio compact SUV. These models emit 271 and 288 grams of CO²/km respectively, or more than twice as much as a [Toyota Corolla Hybrid](#).

6) EV production scaling will help meet production targets

By regulating carmakers to build and sell a percentage of EVs, you stimulate innovation, forcing carmakers to reengineer their factories and trigger a fast-paced scaling of new technologies. [Ford and GM may currently be complaining that EV production is a non-profitable business](#), but that's because, unlike Tesla, they don't have a decade-old backlog of scaling mass-production EVs. Nobody forced them to do so, so why would they? Now, imagine if we lived in a world where, since 2010, a carmaker like Ford was obliged to sell a certain percentage of EVs. Would they consider that the business is non-profitable today? It's very unlikely because a decade of scaling battery manufacturing would have undoubtedly turned it into a profitable business. Ford's current economic situation with EVs, one of several legacy carmakers, is simply the result of bad planning and a lack of foresight.

Kodak invented digital photography in the 1970s. It deemed that the technology was too costly and unprofitable. So, it pulled back. [Kodak filed for bankruptcy in 2012](#), incapable of keeping up with digital photography companies that had beaten it at its own game. Sadly, some legacy carmakers could soon meet their own "Kodak Moment."

Tesla's story is perhaps the best example showing how battery and EV scaling leads to great results. The company bled money for almost a decade until it became [one of the most profitable carmakers in the world](#). This happened through constant iterations and scaling of battery and EV manufacturing. Combined, Tesla's Gigafactories now have [the capacity to produce more than 2.3 million electric vehicles](#) per year. And that's not counting [Giga Mexico](#), which could add an [extra two million cars to Tesla's total production capacity](#).

On this point, let's come back to Mr. Livingston's claim that carmakers will be unable to ramp up EV production to satisfy the 1.5 million new cars sold in Canada each year (on average). Now that we know that a startup like Tesla was able to increase EV production to over 2.3 million cars annually worldwide within a decade, why would a similar scenario be impossible for legacy carmakers?

In his analysis, Mr. Livingston neglects to mention the massive investments in battery production and surrounding ecosystems from carmakers and governments. [Canada is set to beat China in Lithium-ion supply](#)



[chains](#), while Volkswagen's St. Thomas Gigafactory promises to produce [one million EVs](#) per year, right here in Canada. Meanwhile, Quebec's *Filière batterie* economic investments, which will help spawn a locally sourced EV supply chain through the manufacturing of battery and EV components, is estimated to have [an economic value of \\$11 billion](#). Such investments should help the North American auto industry quickly step up EV production in order to meet sales targets, all while stimulating our economy.

By forcing carmakers to focus their core business models on EV production, they will find themselves in a do-or-die situation. Some will fail to meet targets (due to their own bad decisions), while others will adapt and increase production accordingly.

7) Climate and public health urgency

2023 was perhaps the year that Canadians really saw the direct effects of climate change on their personal lives. On an average year, natural forest fires nationwide correspond to two million hectares burned. The 2023 forest fires in Canada resulted in more than 18 million hectares burnt, more than doubling the 1995 record of seven million hectares. Canada's forest fires in the summer of 2023 also lead to severe air quality warnings in large urban centers, such as Montreal and New York City.

Furthermore, according to [NASA's analysis of the Earth's temperature](#), 2023 was the hottest year on record. Detailed data showed that although natural phenomena were to blame for a portion of increased temperatures, it is now certain that the 1.4-degree global increase since the late 19th century is directly linked to human activity, notably fossil fuel combustion that further increases CO² levels around the globe. Planet Earth has passed the 420 parts per million CO² index.

In 2021, [Canada's transport sector was the second largest source of greenhouse gas \(GHG\) emissions](#), accounting for 22 per cent of total emissions. By reducing GHG emissions from the light-duty transport sector through electric mobility, we can mitigate and slow down a large percentage of the damage caused by climate change, while creating a well-paid and sustainable EV industry in Canada.

Fossil fuel combustion doesn't only disrupt our planet's natural balance, it also contributes significantly to bad air quality and public health. According to Health Canada's 2021 [Report on the Impact of Air Pollution in Canada](#), air pollution contributed to 15,300 premature deaths, resulting in an economic impact of \$120 billion. Lowering CO² emissions isn't a choice. It's a necessity. Such an urgent situation requires urgent actions, which is precisely what the federal government had in mind when setting out to engineer the Electric Vehicle Availability Standard.

A better future for all Canadians

Remember, the main goal of Canada's EV Availability Standard isn't to protect carmakers. It's to protect the environment, the health of all Canadians, and give consumers more, competitive choices when it comes time for them to buy a new EV. The motives behind the Standard are greater than simply allowing a carmaker to register more profit. It's to ensure a better future for our children and grandchildren.

In closing, we consider that Mr. Livingston and C.D. Howe's arguments are based on EV technology stagnation, myths, bad data, and a profound misunderstanding of the EV industry. We hope that C.D. Howe doesn't wait until 2035 to recognize it.

