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CAR WARS: SUVs versus EVs and the Battle for a Cleaner Future

How car company
EV promises are hiding
today's SUV cash-grab



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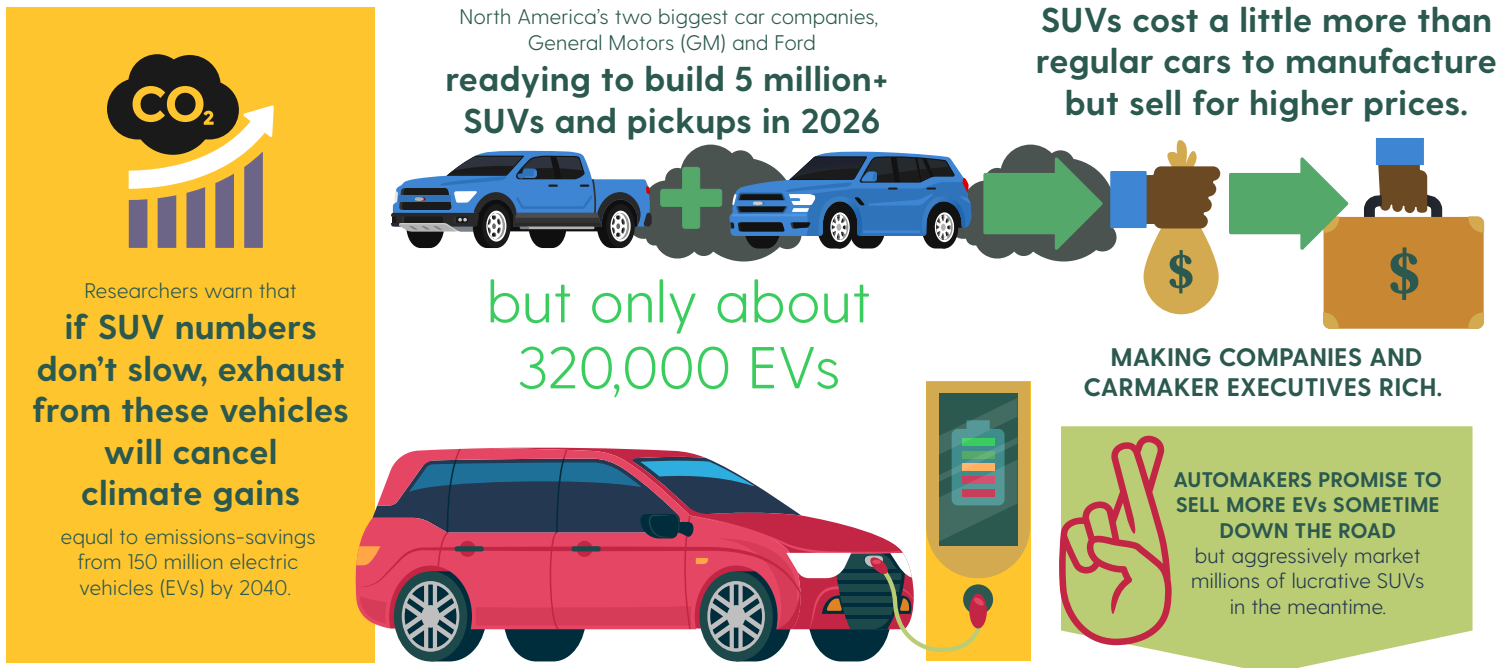
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EXECUTIVE SUMMARY

RECENT CARMAKER PLEDGES OF A GREEN, EMISSIONS-FREE FUTURE FILLED WITH ELECTRIC VEHICLES (EVs) have created a smokescreen, hiding a *near-term* push by the same car companies to sell millions of carbon-polluting sport-utility vehicles (SUVs) and light trucks. Emissions from these soaring numbers of SUVs are affecting our climate *now* and risk jeopardizing national and international targets to curb climate change.

While GM and Ford both say they want to become “carbon neutral” by 2035 and 2050, respectively, soaring sales of gas-powered SUVs from these and other carmakers have helped triple SUV carbon emissions over the past 10 years. These large vehicles are now the second leading cause of rising CO₂ emissions worldwide after power generation. Researchers warn that if the climb in SUV numbers doesn’t slow, exhaust from these vehicles will cancel climate gains equal to emissions-savings from 150 million electric vehicles (EVs) by 2040.

A slowdown, however, isn’t likely anytime soon, despite the fanfare around the unveiling of an all-electric version of Ford’s best selling F150 pickup. Production plans for North America’s two biggest car companies, GM and Ford, suggest they’re readying to build more than 5 million SUVs and pickups in North America in 2026, but only about 320,000 EVs. That’s because SUVs – which cost little more than regular cars to manufacture but sell for higher prices – make companies and carmaker executives rich. To keep the payout coming, automakers pour billions of ad dollars into convincing car buyers to drive the larger, less-fuel-efficient vehicles.



Meanwhile, EVs – which include both battery electric and plug-in hybrid vehicles – are more talked about than sold in North America. The zero-carbon vehicles make up just over three per cent of new car sales in Canada, and carmaker actions suggest they’re little interested in selling more anytime soon. While battery costs are dropping, the emissions-free cars are still costly to make and are often sold at a loss. Most dealerships across Canada don’t carry them, and car companies spend far less on EV ads than on ads marketing gasoline-powered models.

Automakers promise to sell more EVs *sometime down the road* but aggressively market millions of lucrative SUVs in the meantime. Fully aware of the climate impacts of more of these fuel-hungry vehicles, the companies are making a dangerous Faustian bargain that is jeopardizing global efforts to keep world temperatures from rising above 1.5 degrees Celsius.

Canada should end the automaker SUV gold rush immediately, while promoting EVs instead. To slow sales of pollution-intensive SUVs, Ottawa needs to:

- **introduce new federal taxes applied to the sale of new SUVs or pickups**, to reliably discourage consumer purchases of these larger vehicles while generating money to pay for incentives for EV buyers. A so-called “feebate” program, similar to programs in Denmark, France, the Netherlands and the United Kingdom, could offer rebates to EV consumers that are financed directly by a “transportation electrification fee” charged for the purchase of vehicles with high emissions.
- **strengthen vehicle emission standards for criteria pollutants and greenhouse gases** in line with the most stringent standards in North America, requiring ever-better fuel efficiency and fewer tailpipe emissions for each model year sold by automakers in Canada. These standards should align with expectations of a zero-emission vehicle fleet size predicted by new national zero-emission vehicle (ZEV) target dates (see below). Regulators should work with their U.S. counterparts to co-develop more aggressive emissions standards for 2026 to 2030 to match those set for the European Union.

Meanwhile, to encourage Canadian car buyers to get into zero-emissions vehicles rather than gasoline-powered SUVs, the federal government should:

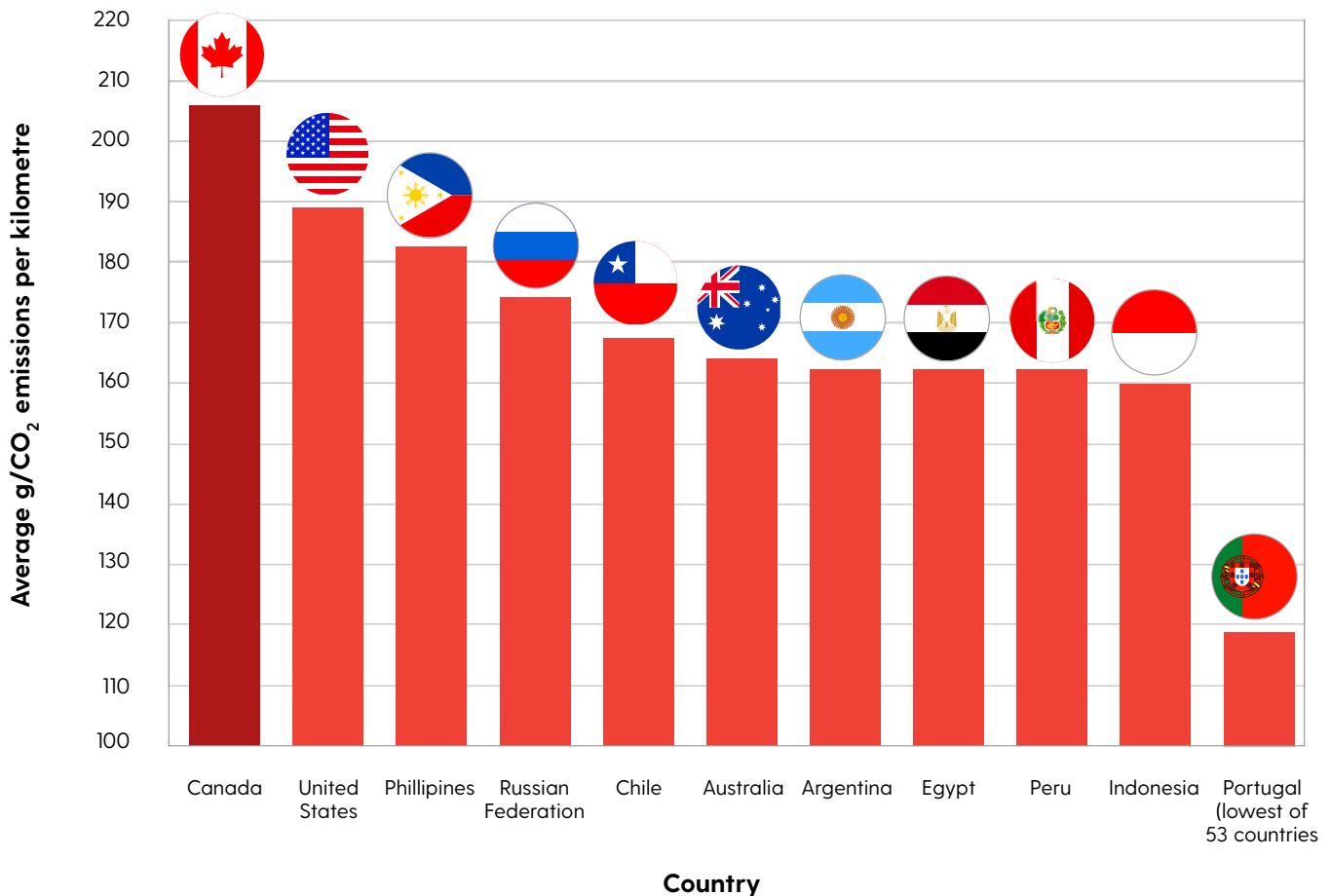
- **institute a strict national zero-emission vehicle (ZEV) standard** that requires automakers to sell a minimum percentage of EVs as a portion of total new vehicle sales each year, beginning with the 2022 model year, reaching 100 per cent of vehicle sales by 2035 at the latest.
- **improve financial incentives for buyers** – including consumer cash rebates and/or tax breaks (e.g., sales tax relief, income tax credits, etc.) – to increase affordability for new and used EVs and other zero-emission vehicles, especially for lower- and middle-income Canadians.

INTRODUCTION: THE SAY-AND-DO DIFFERENCE

BEWARE OF CARMAKER PROMISES OF A CLIMATE-FRIENDLY, electric-vehicle-driven *tomorrow*, because the sport-utility vehicles (SUVs) of *today* are among our climate's greatest growing threats.

More SUVs on Canadian roads (along with vans and pickups) have helped push greenhouse gas emissions from Canadian transportation – Canada's No. 2 greenhouse gas (GHG) emitter after oil and gas – up more than 50 per cent in the past 30 years, even as carbon emissions from other cars dropped.¹ Canadians now pump more carbon out of vehicle tailpipes per capita than people living in any other country in the world.² It's getting worse, fast. It's widely agreed that one day emissions-free electric vehicles (EVs) will be a key climate solution, but soaring numbers of SUVs *now*³ have quietly become a critical, global climate problem.

FIGURE 1.
TOP 10 COUNTRIES FOR AVERAGE G/CO₂ EMISSIONS PER KILOMETRE (2017)



Consider 2020: while the global Covid-19 pandemic hammered economies and slowed fossil fuel use everywhere, only SUVs created more greenhouse gases than the year before.⁴ That is, during the largest, across-the-board drop in energy-related carbon emissions in history, SUVs alone – not power plants, not factories, not passenger jets – retained their role as a *gathering* menace to the planet's climate.

Canada should be speaking up. Ottawa's near-term goals to ensure a growing share of new cars are emissions-free (i.e., 10 per cent of sales by 2025, 30 per cent by 2030, and 100 per cent by 2040⁵) are already off the rails.⁶ And only three decades remain for the entire nation to achieve its new commitment of zero carbon emissions across the board by 2050.⁷ The target is a longshot unless companies that make fuel-hungry, climate-polluting SUVs put on the brakes, or are compelled to stop.

Instead, auto makers – GM, Ford, Honda, Fiat Chrysler and Toyota all build and sell cars in Canada⁸ – merely *pledge* to do better later, and governments, through their inaction, appear to accept their promises at face value (despite the industry's long-demonstrated and recent history of non-compliance⁹).

These companies and others aggressively market pickups and SUVs, which use about a quarter more energy than medium-sized cars,¹⁰ and these vehicles continue to gather momentum as the largest-selling passenger vehicle class in the country. Sales of zero-carbon electric vehicles (EVs), meanwhile, are still tiny by comparison.¹¹ Canadian cars have never pumped more carbon into the air, and the threat from climate change – to our health and economy, to our cities and our wildlife – has never been more pressing.

This report is about the difference between what carmakers are saying and what car makers are doing – or *not* doing – in the fight against accelerating climate change. It's about their promises of a tailpipe-free EV future that they seem keen to keep in the distance. It's about the lure of SUV profits *now* and how these companies – claiming to need the money to afford the upcoming EV shift¹² – can't seem to break its lucrative thrall.

Automakers – faced with growing regulation and even the inevitability of cars without fossil fuels – are looking ahead. But the plans they want us to see *down the road* may be obscuring our view of the ones in place *right now*. Those plans have carbon-pollution consequences that will inevitably last for centuries. It's time we take a closer look.

1. EMISSION-PLEDGE HOT AIR

Climate change is real, and we want to be part of the solution by putting everyone in an electric vehicle.

– GM Chairman and CEO Mary Barra in November 2020.¹³

Winter has given us the magic of the Winter Games. It's time we all did more to protect it. So, at Toyota, we are renewing our commitment to hybrid, electric, and hydrogen vehicles. To help keep our winters winter.

– Toyota television ad during the 2018 Winter Olympic Games¹⁴

TO LISTEN TO THE AUTOMAKERS, you'd think they're among the climate champions of the world.

On January 28, 2021, for instance, GM announced that it would “aspire” to make all its new cars emissions free by 2035, a (qualified) pledge that the New York Times described as “a seismic shift by one of the world’s largest automakers.”¹⁵ The goal is part of GM’s grand plan to be “carbon neutral” by 2040 – in part, by investing in an increasingly unreliable supply of carbon credits or offsets¹⁶ – for all its vehicles and operations around the world. The move has been widely seen as a dramatic about-face of the automaker’s previous support for former U.S. President Donald Trump’s retrograde emissions policies.¹⁷ GM even changed its logo for the first time in decades, fashioning the “m” to look like a plug and using a lighter blue colour to evoke “clear skies”.¹⁸

Ford has been similarly eager to highlight its climate-friendly dreams for the future. In February 2021, the company said it would up its electric-vehicle investment to US\$22 billion through 2025, almost double what it had previously promised to spend.¹⁹ Just months before, Ford also vowed its factories and cars would all be carbon neutral by the year 2050 (in line with the goal of the Paris Climate Accord).²⁰ Not long after, in September 2020, it announced plans to produce five new electric vehicles in Oakville, Ontario.²¹

Other carmakers, too, want to be seen as fighting climate change while promising emissions-free cars someday. Fiat Chrysler, promising in 2020 to build Canadian-made EVs at its Windsor, Ontario plant starting in 2024.²² Toyota recently committing to become “carbon neutral” by 2050 and to produce 70 electrified models by 2025.²³ Honda, pledging to halve its total carbon footprint compared to 2000 by the same 2050 deadline,²⁴ and others have all stepped forward to declare schemes to be greener – in the future.

The future pronouncements sound good, of course, especially to investors. GM’s stock climbed by 3.5 per cent on the day of its January pledge for an all-electric future,²⁵ while the day Ford vowed to spend more on EVs in February saw the company’s shares climb 2.7 per cent.²⁶ As of February 2021, GM shares were up more than 100 per cent over six months earlier, while Ford’s stock was up more than 65 per cent over the same period.²⁷ A total of at least US\$28 billion was invested in public and private EV and related companies in 2020, according to market data, and some investors warn that the sudden interest in EV-relevant stocks could lead to a market bubble.²⁸

THE PROBLEM WITH PROMISES

Yet, promises – as Ralph Waldo Emerson once remarked – always outpace performance. If pledges by the top 20 car manufacturers came true, for example, global EV sales would increase tenfold (from 2018 levels) to 20 million by 2030, ensuring seven per cent of all cars on the world’s roads would be electric.²⁹ Considering EVs make up less than half of a per cent of the global car fleet today, reaching that target within a decade needs a decisive commitment and bold action. In Canada, a fraction of a single percentage, just 0.2 per cent of today’s traffic is electric, and each year, new vehicle sales of all types of cars only replace about seven per cent of the on-road fleet.³⁰ The automaker promises don’t add up.

It's nothing new; carmakers have a habit of saying what investors and government regulators want to hear, and not following through on their pledges. In some cases, the automakers circumvent regulations through loopholes they lobbied to include.³¹ In other cases, they simply miss or ignore targets altogether. Over the past half-decade, for example, the automobile industry and car companies have set several EV and tailpipe emissions targets that were first announced with great fanfare but subsequently and quietly missed.

**TABLE 1:
AUTOMAKERS HAVE A HISTORY OF MISSED EV TARGETS**

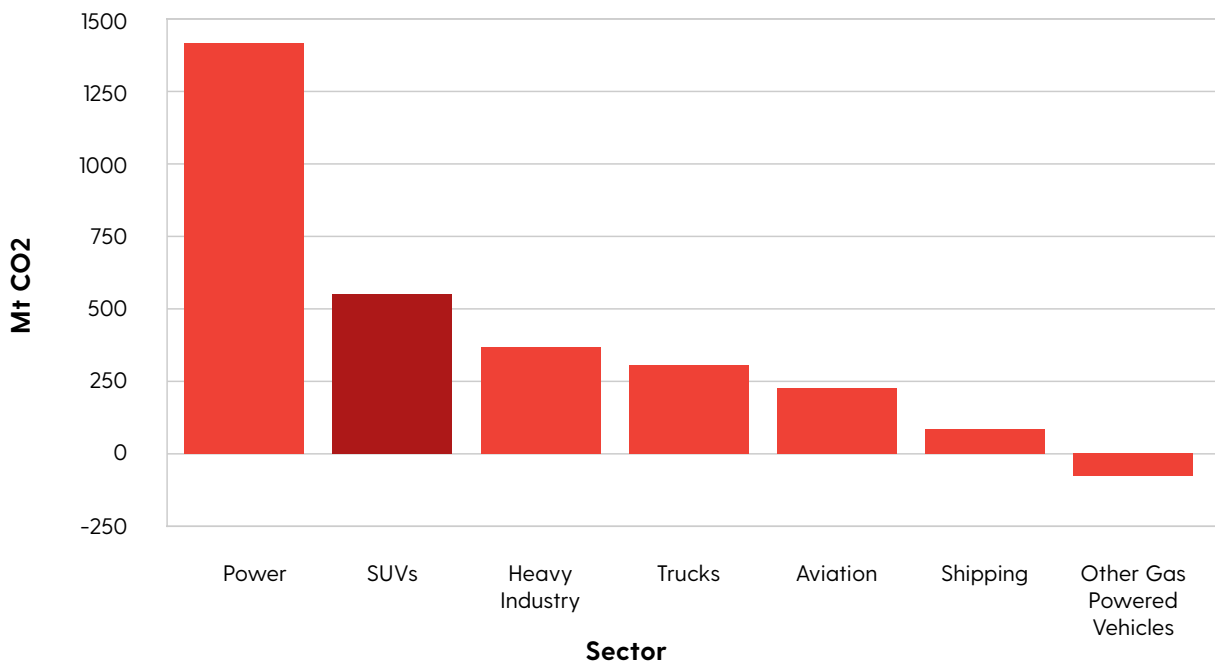
INDUSTRY PLEDGE MAKER	THEN	NOW
Canadian Vehicle Manufacturers' Association	<p>2016: Mark Nantais, then-president of Canadian Vehicle Manufacturers' Association, pledges "a historically unprecedented 50 per cent reduction in greenhouse gas emissions by 2025."³²</p>	<p>2021: Brian Kingston, current president and CEO of the Canadian Vehicle Manufacturers' Association, writes "Canada has a long way to go," acknowledging "electric vehicles on Canada's roads, which currently make up only 0.2 per cent of the entire fleet. ... And each year, new vehicle sales only replace approximately seven per cent of Canada's on-road fleet of light-duty vehicles." Meanwhile, transportation is still the second leading cause of rising greenhouse gas emissions in Canada after oil and gas, accounting for about a quarter of the country's carbon pollution. Tailpipe emissions from passenger vehicles climbed by 39 per cent between 1990 and 2018.³³</p>
Ford	<p>2015: Ford promises to introduce 13 new electric vehicle models by 2020, including battery electric, plug-in hybrids, and hybrid vehicles.³⁴</p>	<p>2021: Ford's first fully-electric vehicle, a 2021 model, is one of just five Ford EVs offered in North America, including one plug-in hybrid and three hybrid cars. Plans for another battery EV—a luxury Lincoln SUV—were cancelled in the spring of 2020.³⁵ Ford also unveiled an all-electric model of its best selling F150 pickup, which will be part of the company's 2022 lineup.</p>
GM	<p>2017: GM – which already offers the fully electric Chevrolet Bolt – vows two new battery electric vehicles by 2019 on its way adding 20 fully electric and fuel cell vehicles to its global lineup by 2023.³⁶</p>	<p>2021: The Bolt remains the only car in GM's North American lineup to be powered solely by electricity, and just 4,026 of them were among the company's 218,500 vehicles to customers in Canada in 2020.³⁷ That's less than two per cent.</p>
Fiat Chrysler	<p>2018: Fiat Chrysler pledges to launch four new all-electric Jeeps by 2020 along with two dozen other electrified models set for release by that year. By 2021, the company promises every Jeep model will include an electrified version.³⁸</p>	<p>2021: Jeep has no fully electric vehicles available. The brand released its first plug-in hybrid at the end of 2020,³⁹ and appears unlikely to offer an all-electric Jeep until at least 2024 or later.⁴⁰</p>

2. THE SUV BLITZ NOW; EVS ... MAYBE LATER

FOR AUTOMAKERS, TALK OF LONG-TERM CLIMATE GOALS and future fleets of zero-carbon EVs is now common. Talk of fewer sport-utility vehicles is not. While electric cars account for less than 3 per cent of global car sales,⁴¹ sales of fuel-hungry SUVs hit a record 40 per cent of the world car market in 2018, up from 20 per cent a decade earlier.⁴² By 2020, that number was 43 per cent.⁴³ In Canada, it's far worse: more than four out of every five new vehicles sold in this country is an SUV or pickup, according to industry analysts.⁴⁴

That's why, over the past decade, SUVs are responsible for more of the rise in global CO₂ emissions than any other sector but power generation (Fig. 1).⁴⁵ Carbon pollution from the world's SUVs, say researchers with the International Energy Agency (IEA), now equals that of the entire global maritime industry, including all international shipping.⁴⁶

FIGURE 2:
CHANGE IN GLOBAL CO₂ EMISSIONS BY ENERGY SECTOR, 2010-2018
(FROM COZZI AND PETROPOULOS 2019).



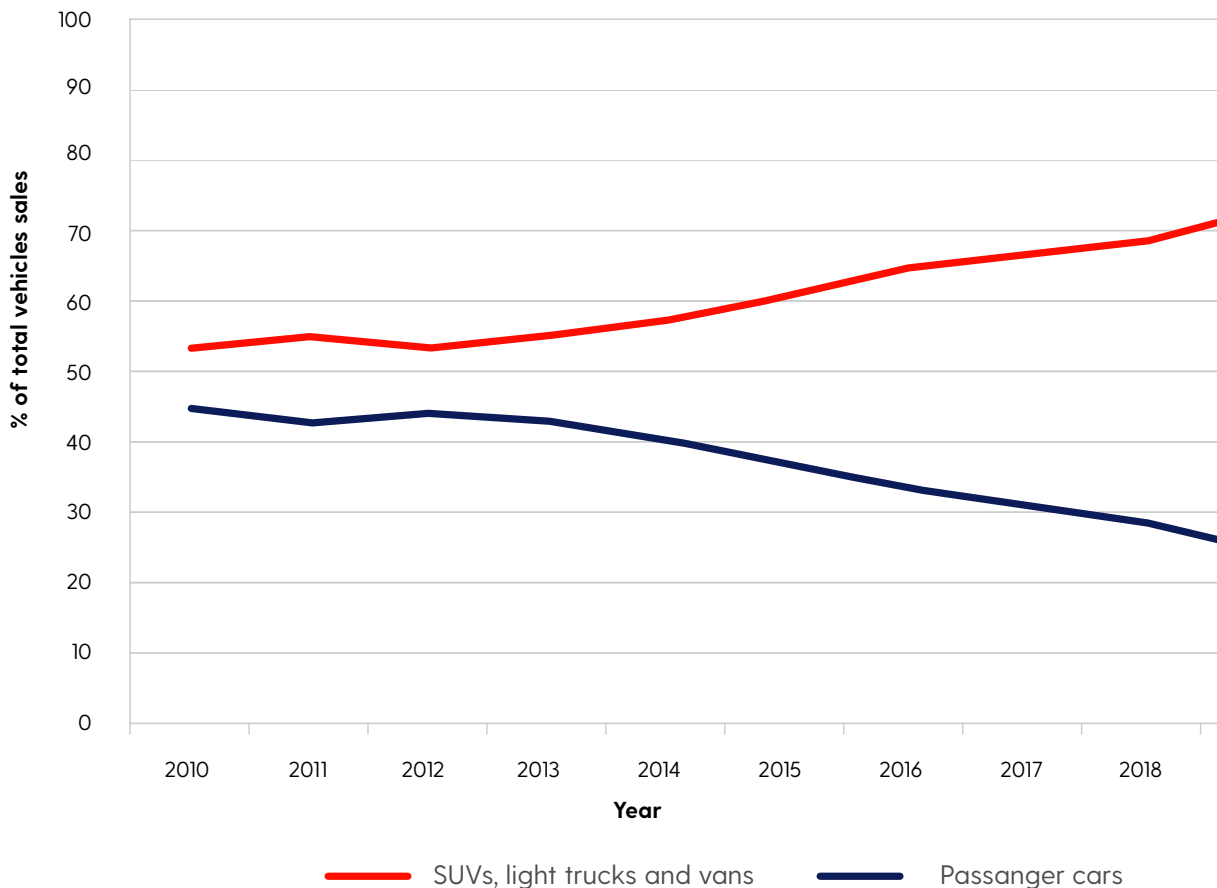
Importantly, the near-tripling of SUV emissions over the past decade has dwarfed by a wide margin any carbon-cutting gains from EVs introduced in that time and reversed the effect of fuel efficiency improvements in other passenger vehicles.⁴⁷ If SUV sales keep their current pace, the IEA warns, GHG emissions from SUV tailpipes will cancel climate gains equal to emissions-savings from 150 million electric cars by 2040.⁴⁸

In Canada, University of Calgary economics professor Blake Shaffer calculates that the growing sales of SUVs – which use about a quarter more energy than medium-sized cars⁴⁹ – in this country has released about 18 million tonnes more carbon than standard passenger cars would have instead.⁵⁰ That's more than the total emissions from every sector in Nova Scotia each year.⁵¹

SUV NUMBERS CONTINUE TO SOAR

While today's SUV numbers are a problem, the next few years look more worrying still. In March 2021, the pace of sales of SUVs along with pickup trucks and vans – that is, all “light trucks” – set a new record with a seasonally adjusted annualized rate of 1.62 million vehicles, according to Desrosiers Automotive Consultants.⁵² That's more than five times the annualized rate for passenger car sales that month (316,900 vehicles). Altogether, light truck sales climbed by almost 70 per cent from 2010 to 2019, according to Statistics Canada, pushing Canada's total vehicle sales up by almost a quarter, even as passenger car sales dropped by almost a third in the same period (Fig. 2).⁵³

FIGURE 3: PERCENTAGE OF TOTAL VEHICLE SALES IN CANADA LIGHT TRUCKS (SUVS, PICKUPS & VANS) VS. OTHER CARS



Alarming, these climbing SUV numbers are expected to shift into overdrive over the next half-decade: While on the one hand shutting down domestic passenger car production⁵⁴, North America's two biggest automakers, GM and Ford, are planning a SUV-sales push over the next half-decade, according to a recent report by Reuters.⁵⁵ Detailed production plans show the two car makers plan to build more than 5 million SUVs and pickup trucks in North America in 2026, but only about 320,000 EVs.⁵⁶

Despite *long-term* promises by both car makers to reach zero emissions by mid-century (or earlier), the *near-term* plans will most certainly “wipe out any gains in overall fuel efficiency or reduction in auto emissions” over the next half decade, according to industry experts cited in the report.

The plans mean that the SUVs made by GM and Ford will outpace the production of traditional cars by more than eight to one in 2026, with about 93 per cent of these SUVs fueled by gasoline. It also means these larger, heavier, more carbon-polluting cars are certain to dominate North American roadways for at least the next decade.

**TABLE 2:
21 OF CANADA'S 25 TOP-SELLING CARS FOR 2020 WERE SUVs, PICKUPS OR VANS⁵⁷**

Model	Sales 2020	Vehicle Type	Model	Sales 2020	Vehicle Type
1. Ford F-Series	128,650	SUV/Pickup/Van	14. Ford Escape	23,747	SUV/Pickup/Van
2. Ram Pickup	83,673	SUV/Pickup/Van	15. Chrysler Grand Caravan	22,910	SUV/Pickup/Van
3. Toyota RAV4	67,977	SUV/Pickup/Van	16. Dodge Grand Caravan	22,910	SUV/Pickup/Van
4. Chevrolet Silverado	52,767	SUV/Pickup/Van	17. Subaru CrossTrek	22,161	SUV/Pickup/Van
5. GMC Sierra	51,512	SUV/Pickup/Van	18. Jeep Wrangler	21,261	SUV/Pickup/Van
6. Honda Civic	50,805	Sedan/Hatchback	19. Toyota Tacoma	16,946	SUV/Pickup/Van
7. Honda CR-V	50,135	SUV/Pickup/Van	20. Kia Seltos	16,881	SUV/Pickup/Van
8. Toyota Corolla	37,156	Sedan/Hatchback	21. Kia Forte	16,715	Sedan/Hatchback
9. Hyundai Kona	31,733	SUV/Pickup/Van	22. Toyota Highlander	16,457	SUV/Pickup/Van
10. Mazda CX-5	30,583	SUV/Pickup/Van	23. Hyundai Santa Fe	15,721	SUV/Pickup/Van
11. Hyundai Tucson	28,444	SUV/Pickup/Van	24. Jeep Grand Cherokee	15,521	SUV/Pickup/Van
12. Nissan Rogue	25,998	SUV/Pickup/Van	25. Ford Explorer	15,283	SUV/Pickup/Van
13. Hyundai Elantra	25,006	Sedan/Hatchback			

EV NUMBERS, MEANWHILE, REMAIN SMALL

The production and sales of zero-carbon electric vehicles (EVs) in Canada, meanwhile, are still tiny by comparison. New EVs in this country accounted for just 3.5 per cent of total passenger vehicle sales in 2020.⁵⁸

The number is well short of the targets set by Transport Canada in January 2019. Back then, the federal agency said it hoped that 10 per cent of all light-duty cars sold in the country would be electric by 2025, 30 per cent by 2030 and 100 per cent by 2040. Yet, barely 18 months later, the agency was obliged to backtrack: in November 2020, the agency said the country would likely reach barely four-to-six per cent EV sales by 2025 and 10 per cent by 2030.⁵⁹

The paltry sales numbers of EVs on this continent reveal the priorities of North America's largest carmakers lie elsewhere. GM and Ford sold less than 50,000 EVs between them across the United States in 2018, less than two per cent of the 2.4 million in U.S. sales of gasoline-fueled cars and trucks that year.⁶⁰ Other automakers that also promote and sell gasoline-fueled SUVs and pickups sold paltry few EVs relative to overall sales (Table 2). Only the start-up all-electric carmaker Tesla showed significant sales (that eclipse the rest). The growing numbers of their vehicles have helped grow the EV market share slightly in both Canada and the United States in recent years.⁶¹

**TABLE 3:
2018 EV (BATTERY AND PLUG-IN HYBRID EV) SALES IN THE UNITED STATES BY AUTOMAKER⁶²**

Automaker	Total Vehicle Sales	EV Sales	Per cent EV of Total Sales
Ford	2,386,588	9,216	0.39%
GM	2,017,205	36,325	1.80%
Fiat Chrysler	181,485	9,312	5.13%
Toyota	2,224,156	27,595	1.24%
Honda	1,445,627	19,550	1.35%
Nissan	1,344,597	14,715	1.09%
Volkswagen	354,053	1,354	0.38%
Mercedes-Benz	349,084	3,485	1.00%
BMW	311,014	22,926	7.37%
Tesla	197,517	197,517	100.00%

The role of Canadian automakers in manufacturing EVs is even less significant. The production of Canadian-made electric vehicles amounts to a small fraction of a per cent of the roughly 2 million vehicles produced in this country.⁶³ Recent news that Ford promises to produce five new EVs in Oakville, Ontario,⁶⁴ and a similar vow by Fiat Chrysler to build Canadian-made EVs in its plant in Windsor, Ontario, would change that – but the plans are for the future, starting in 2024.⁶⁵

Trucks are representing more of the industry this year than they ever have. ... Our company needed more truck capacity, and we could see that writing on the wall a year ago. Seeing the opportunity, we took it and ran with it.

–GM Canada President Scott Bell in November 2020, explaining why GM will reopen its Oshawa plant to make more gas burning Chevrolet Silverados and Sierras.⁶⁶

3. A ZERO-EMISSIONS SMOKE SCREEN

THE IRONY IN THE CURRENT AUTOMAKER PUSH to sell as many large, carbon-polluting SUVs and pickups as possible lies in their frequent excuse for doing so: they need the money, they say, to pay for developing cleaner EVs *in the future*.

The truth is SUVs – often referred to as the auto industry’s “cash cows”⁶⁷ – have been making carmakers rich for some time, even as overall car sales have slumped in recent years. In the third quarter of 2020, when the global pandemic was still ravaging much of the global economy, GM nevertheless reported profits of US\$4 billion (up 74 per cent over the same quarter in 2019). Ford profited by US\$2.4 billion and Fiat Chrysler by US\$1.4 billion (climbing up from a purchase-related loss the year before).⁶⁸ Net incomes for Toyota and Volkswagen in that quarter were US\$4.6 billion and US\$3.8 billion, respectively.⁶⁹

BIG CARS, BIG PROFITS

Both GM and Ford describe their money making as “dependent” on SUVs and pickups.^{70 71} Fiat Chrysler’s annual report explains these larger passenger vehicles are “more profitable on a per vehicle basis than other vehicles” and says they accounted for close to three-quarters of its total U.S. retail vehicle shipments in 2019.⁷²

Today, Ford, GM, and Fiat Chrysler have stopped producing most sedan and hatchback models altogether. (Ford has no new sedans in its North American lineup, while GM sells just three.⁷³) Instead, their focus is on the more profitable, larger vehicles.⁷⁴

“We can’t build enough,” GM Chairman and CEO Mary Barra said in November 2020, describing plans to reopen the company’s Oshawa, Ontario plant to manufacture pickups.⁷⁵ When the facility comes online in January 2022, the company is expecting a “significant increase” in its full-size pickup truck capacity, she said. “We just keep seeing demand for trucks continue to grow. It’s a permanent.”

For automakers, the allure of SUVs is clear: the costs of making SUVs are only marginally greater than those of making typical passenger cars – some share the same platform – but the bigger vehicles command far higher prices.⁷⁶ The average price of an SUV is about \$10,000 more than for an equivalent sedan or hatchback in Canada.⁷⁷ The margin is vital: In 2017, for example, the price difference helped push 2017 car industry revenues up 2.9 per cent above the previous year, even though overall sales were down 2.1 percent.⁷⁸

Our profitability is dependent upon the success of SUVs and full-size pick-up trucks.

–GM Annual Report 2019⁷⁹

Ford’s results are dependent on sales of larger, more profitable vehicles, particularly in the United States.

–Ford Annual Report 2019⁸⁰

EXECUTIVE PAYOUTS RIDE SUV WAVE

SUV-propelled profits are not just good for companies and shareholders; they also translate handsomely into personal payouts for top carmaker management. In 2018, for example, when SUV sales helped GM post US\$8.1 billion in profits, the company’s chairman and CEO Mary Barra reportedly earned US\$21.87 million, including a US\$4.45 million incentive-based bonus and US\$14.5 million in stock awards.⁸¹

GM President Dan Ammann’s total earnings of US\$8.97 million also included a US\$1.92 million incentive-based bonus, while Dhivya Suryadevara, executive vice president and chief financial officer, received US\$1.19 million in bonus money to round out her \$5.5 million take that year. Other GM-paid bonuses in 2018 included US\$1.59 million and US\$1.23 million for Executive Vice President Mark Reuss and North American President Alan Batey, respectively.⁸²

Other carmaker executives also fared well in the 2018 year of climbing SUV sales. Ford CEO Jim Hackett was paid a total of US\$17.75 million that year, while Fiat Chrysler CEO Michael Manley—who took the top job mid-year—earned US\$708,498.⁸³

COSTLY EVS USED AS AN EXCUSE

While SUVs generally sell for about \$10,000 more than standard cars, but require little additional investment to produce, manufacturing EVs has been generally considered to cost about \$15,000 (US\$12,000) more than building comparable small-to-midsize, gasoline-powered cars, according to researchers with McKinsey & Company management consulting.⁸⁴ The analysts suggest higher EV prices for consumers alone typically can't recoup these costs, especially among non-premium brands, and building EVs is likely to remain relatively expensive for the next five to seven years.⁸⁵ More recently, however, a report by the Swiss investment bank UBS said it expects Volkswagen to begin selling profitable EVs by 2022, and that the costs of EV manufacturing will be generally the same as making conventional vehicles by 2024.⁸⁶

Ironically, carmakers point to high EV costs to justify their current SUV push. They argue that earning big profits right now from selling more carbon-polluting SUVs and trucks is needed to pay for the future transition to electric transportation. According to GM Chairman and CEO Mary Barra, for example, the company's future shift to electric and autonomous vehicles will rely on the large amounts of cash from its SUV-propelled success. "We're going to go hard at [electric vehicles]," she said, following reports of higher-than-expected earnings in November 2020. "The North America performance ... allows us to do that."⁸⁷

The automaker argument is puzzling in the face of the accelerating success of all-electric car company Tesla. The automaker is the leading seller of electric vehicles in Canada, the United States and several countries elsewhere. In December 2020, Tesla was valued at about as much as the total worth of nine of the world's largest automakers combined, including GM, Ford, Fiat Chrysler, Toyota and Honda, despite selling a small fraction of the cars.⁸⁸

Importantly, it achieved its top spot without first selling vast numbers of carbon-polluting, gas-guzzling SUVs to consumers. Instead, the California-based company's recent profits rely in a large measure on selling pollution credits – often to the same rival companies that are building more SUVs. The credits for each vehicle sold are available through California's zero-emissions vehicles standards and U.S. clean fuel rules, known as the Corporate Average Fuel Economy (CAFE).⁸⁹

Pickups are GM's largest and most important market segment in Canada and across the continent. They also help GM fund our transition to the electric, autonomous and highly connected future we see ahead.

–GM Canada President Scott Bell in November 2020⁹⁰

These results are providing capital for our EV and our AV growth initiatives, and they demonstrate the underlying strength and resiliency of our business.

–GM Chairman and CEO Mary Barra in November 2020⁹¹

4. CARMAKERS' SUV PUSH OUTMUSCLES EVS

ONE KEY REASON SUV SALES DWARF THOSE OF EVs is that automakers appear to prefer it that way. Research shows demand for EVs among Canadian car buyers has been steadily increasing.⁹² Yet, meager spending on EV advertising by carmakers and the limited availability of electric models at dealerships suggest companies are less interested in selling zero-emissions vehicles than coaxing drivers into lucrative, carbon-polluting SUVs.

Advertising tells the story: these days, carmakers spend billions for ads to convince car buyers to purchase millions of SUVs and other gasoline-powered cars. Images of rugged SUVs climbing mountains, traversing streams and otherwise overcoming the nature's obstacles fill television and magazine ads. Others show soccer moms in towering, indomitable SUVs, better protected against the perils of suburban traffic. In the countryside and the city, SUVs are portrayed as dependable and safe.

In 2020, the British non-profit organization, the New Weather Institute, reported that automakers around the world spent US\$35 billion in car advertising in 2019. Most of that money, said the group, was spent on SUV ads to claim a larger share of the lucrative large-car market. The SUV ad push has been gathering momentum for years. In 2018, for example, Ford spent about 85 per cent of its U.S. ad budget to market SUVs and pickup trucks, up dramatically from the budget's roughly 50/50 split between ads for these larger vehicles and ads for other cars just two years earlier in 2016.⁹³

In Canada, government estimates suggest the auto industry spends about \$446 million on advertising its products, but this is considered by many to be a significant underestimation of the true advertising budget for Canadian car makers.⁹⁴ Most of these ads – almost four out of every five ads sampled from Canadian newspapers and magazines in 2019 and 2020 by the environmental group Equiterre – were aimed at selling SUVs and other light-duty trucks. More than half (58 per cent) were promoting SUVs.

Meanwhile, data suggests the ad spending pays off: 47 per cent of new car buyers in Canada say they are influenced by media, and most use newspapers to search for discounts and financing deals or to compare prices. Almost 40 per cent of first-time buyers use daily newspapers to help them make their final purchase decision, and 42 per cent say they are influenced by magazine ads.

Importantly, car maker ads have also been increasingly exaggerating the fuel efficiency of their vehicles in recent years.⁹⁵ In 2016, the European Federation for Transport and Environment found that new cars consumed an average of 42 per cent more fuel on the road than advertised in sales brochures. This gap has been growing steadily from 28 per cent in 2012 and 14 per cent in 2006.

EV AD SPENDING IS DWARFED

Automaker advertising dollars to promote EVs, on the other hand, is scant or non-existent. An analysis of U.S. ad spending by six top car companies (not including Tesla) – i.e., GM, Ford, Fiat-Chrysler, Toyota, Nissan and Volkswagen – found that automakers generally spent little (and in some cases, nothing) on EV advertising, particularly when compared to ad spending on their top-selling gasoline-powered vehicles.⁹⁶

In 2017, according to the study, ad spending in the United States for the best-selling gas-powered models of each car manufacturer was US\$540 million across six models (US\$90 million per model), according to the study. The same car makers spent just US\$29 million across nine models to advertise their EVs – an average of US\$3.2 million per model.

That is, money spent to advertise top gasoline vehicles – many of them fuel-thirsty SUVs – were 28 times more than ad spending on EVs.

More recently, GM's decision to run a television ad featuring two of its upcoming EV models during the Super Bowl in February 2021 was a startling change of tack. Many industry watchers wondered aloud whether the ad – occupying some of the world's highest-profile ad space – signaled an inflection point in North America's acceptance of electric vehicles. Others pondered whether GM – previously an ardent supporter of former President Donald Trump's rollback of vehicle emission rules (GM CEO Mary Barra, sat next to the president when he announced them in 2017) and on the frontline in a legal battle against California's right to regulate tailpipe pollution (until dropping out of the suit in November 2020) – was trying to play catch-up in reviving its public image in the new climate-sensitive era of President Joe Biden.⁹⁷

EVS HARD TO FIND

A lack of automaker enthusiasm for selling more EVs in Canada is also apparent on dealership lots. In February 2020, for example, two-thirds of all carmaker dealerships across this country didn't have a single electric vehicle available, according to a Transport Canada report prepared by Dunskey Energy Consulting.⁹⁸

The total 3,453 EVs available across the country was down 24 per cent from two years earlier. In 2019, more than three-quarters of EV stock (78 per cent) and 80 per cent of EV sales were found in just two provinces, Quebec and British Columbia. Both have Zero Emission Vehicle (ZEV) standards and purchase incentives in place. ZEV mandates are electric vehicle quotas that require automakers to introduce a growing percentage of battery, plug-in hybrid or hydrogen fuel cell vehicles in each year's new vehicle lineup. ZEV standards ensure a supply of EVs to meet buyer demand and encourage car companies to develop and promote EV options.

The Transport Canada report suggests supplies of EVs in this country are not keeping up with demand, and, in Quebec, wait times to get an electric car range from several months to a year. The waits mean salespeople are often reluctant to try to sell EVs when months could pass before commissions are paid.

The report for Transport Canada also suggests some dealerships don't push EVs because of the added effort of buyer education, battery-charging infrastructure and losses from onsite service and repairs in the future. Other roadblocks identified are battery shortages and carmakers shipping EVs to China and Europe instead of North America.⁹⁹ Just three automakers (Chevrolet, Ford, and Hyundai) made up more than half the EV inventory across the country, suggesting choices remain limited for buyers. (Tesla, maker of Canada's best-selling all electric vehicle, relies on a unique sales model that relies on online or direct from factory orders rather than on-site inventories at its showrooms.¹⁰⁰)

In the United States, three-quarters of car dealerships had no EVs on their lots, according to a 2019 survey by the Sierra Club.¹⁰¹ Of those that did, two-thirds didn't display the EVs prominently, the group reports. In a quarter to a third of these dealerships, sales staff offered no information about how to charge an EV or about available government incentives for buying one.

A shift in consumer preferences away from larger, more profitable vehicles (including trucks and utilities) ... could result in an immediate and substantial adverse effect on our financial condition or results of operations.

—Ford 2019 Annual Report¹⁰²

5. CARMAKER CARBON CULPABILITY

THE AUTOMOBILE INDUSTRY'S APPARENT CHOICE to ignore evidence of foreseeable harm to the climate and to health from tailpipe greenhouse gas emissions has many wondering about parallels with the tobacco industry's failure to act on health warnings about cigarettes. Some – including people within the industry – wonder if governments might pursue future lawsuits to recover costs associated with climate change impacts, similar to lawsuits against cigarette manufacturers in the 1990s. "We consider that [lawsuits] to be a real business risk," said Honda's Vice President of Environmental Business Development Steve Center, in 2019.¹⁰³

Arguments for automaker culpability are supported by their long history ignoring or downplaying climate change. North America's largest automakers, GM and Ford, for example, have known that car emissions cause global warming since the 1960s¹⁰⁴. Yet, they ignored the information from their own researchers and chose instead to make millions of carbon-polluting SUVs and other fossil fuel-hungry cars for decades afterward.

A report by E&E News, based on a five-month investigation and hundreds of company documents, reveals that groundbreaking climate scientists working for both GM and Ford in the 1960s and 70s revealed evidence of global warming to top automaker executives, warning that warmer temperatures could cause sea-level rise and collapsing ice sheets.¹⁰⁵

Even so, the car companies supported climate denial groups like Global Climate Coalition, which lobbied against climate action at the Rio Earth Summit and the Kyoto Protocol, until as recently as twenty years ago. Between 1985 and 2008, Ford and GM gave more than US\$3 million to conservative, anti-climate groups like the American Enterprise Institute, according to the report.

Efforts to evade rules for fuel efficiency – rules for reducing emissions of climate-altering carbon – have also been a longtime problem among carmakers. Between 2008 and 2016, for example, Volkswagen infamously sold 130,000 cars in Canada¹⁰⁶ and nearly 600,000 in the United States with software installed to bypass emissions control systems.¹⁰⁷ The “defeat devices,” as they became known, ran emissions controls during testing but not during normal vehicle operation. They also allowed dangerous tailpipe pollution up to 40 times greater than that allowed by law. Many other automakers have also been implicated in manipulating technology to get around fuel efficiency controls.¹⁰⁸

Similarly – and despite many recent avowals to want to fight climate change – many automakers have spent years battling against regulations seeking to lower vehicle emissions. In 2019, research commissioned by *The Guardian* found that car companies – while publicly claiming to support the fight against climate change and the push for more EVs – nevertheless spent millions of dollars over four years through industry associations to lobby against climate-fighting efforts.¹⁰⁹

A study by InfluenceMap, an independent research group, tracked company lobbying activities worldwide and found that, since 2015, Fiat Chrysler, Ford, Daimler, BMW, Toyota and General Motors have been top opponents of regulations to reach the 1.5°C warming limit set by the Paris climate agreement.

According to the research, Fiat Chrysler has been the most active climate-regulation opponent among car makers and a “key player” in the industry’s efforts to weaken U.S. clean fuel rules (i.e., CAFE). The CAFE standards – which by reference set Canada’s own emissions rules – were changed in March 2020 by then-President Donald Trump to require substantially smaller increases in the fuel efficiency of new cars every year for the next five years, from 5 per cent per year to 1.5 per cent.¹¹⁰

Fiat Chrysler was firmly behind Trump’s CAFE overhaul, according to the InfluenceMap report. GM and Ford were also key in supporting industry association lobbying against the standards, according to the report, but both companies have since changed their stance.

GM along with Fiat Chrysler, Toyota and other smaller car companies also supported legal action launched by the White House in late-2019 to strip California and other states of the right to set their own vehicle emissions regulations. GM, however, withdrew from the litigation following the presidential election in November 2020.¹¹¹

VOCAL EV SKEPTICISM

Today, rhetoric by some automaker executives continues to downplay the impact of tailpipe emissions on climate change or to question the effectiveness of EVs as a solution to the problem. In April 2020, for example, Honda Canada’s new CEO Jean Marc Leclerc suggested the current push to encourage more EVs in this country was linked to “a political agenda.”¹¹² He warned that Canada can’t meet its greenhouse emissions targets through a zero-emissions vehicle policy alone, because of the “massive disconnect right now” between the political desire to end tailpipe carbon pollution quickly and market demand.

More recently, Toyota President Akio Toyoda said in December 2020 that EVs were “overhyped” and would likely make cars unaffordable for most average people.¹¹³ He also warned that ridding Japan’s roads of gasoline-powered cars could cause the “collapse” of the car industry as we know it.

A year earlier, Toyota’s marketing chief declared that demand for EVs simply doesn’t exist.¹¹⁴ Jack Hollis, group vice-president and general manager of Toyota North America, made the claim while justifying his company’s decision to fight California’s clean air rules in court.

6. STOP THE SUV SURGE NOW

CANADIAN GOVERNMENTS, WHICH SEEM TO ACCEPT automaker promises to cut emissions later, need to step up now to stop the SUV-fueled surge in vehicle greenhouse gas emissions. According to McKinsey & Company management consultants “the role of the regulator in today’s EV landscape cannot be overstated.”¹¹⁵ Increasingly strict government emissions rules have been shown to spur carmaker to invest in EVs. In Europe, for example, stringent emissions standards requiring automakers to cut emissions from their vehicles to 95g of CO₂ per kilometer are credited with a tripling of EV sales in 2020 compared to 2019.¹¹⁶ In 2021, 15 per cent of all new cars across European Union nations are expected to be electric. Subsidies and tax exemptions encourage buyers to get beyond the higher EV prices and behind the EV wheel.

At the same time, current tailpipe emissions rules have not dissuaded most automakers from using banked or purchased credits – rather than real vehicle emissions reductions – to comply with the Canada’s fleet average greenhouse gas regulations in 2018.¹¹⁷ The same has been true in the United States for the past four years in a row.¹¹⁸ Only Tesla, Honda, and Subaru achieved U.S. compliance based on the tailpipe emission performance in 2019. A growing bank of these carbon credits are considered by some to have become a kind of auto industry “insurance policy” against the need to comply with future emissions standards through to 2025 and beyond.

A variety of strict, more targeted policies and regulations are needed, first, to end the current automaker SUV sales push and, second, to encourage the more rapid expansion of the EV market in Canada through consumer incentives and a meaningful zero-emissions vehicle mandate for car companies.

A NATIONAL ZEV MANDATE OVERDUE

In Canada, ZEV mandates – which require automakers to introduce a growing percentage of battery, plug-in hybrid or hydrogen fuel cell vehicles in each year’s new vehicle lineup – are in place in British Columbia and Quebec, provinces that also offer EV buyer rebates. The two provinces also lead the country in EV sales. Ten per cent of all new vehicles in Quebec are now EVs, while more than nine per cent of all sales in British Columbia are electric.¹¹⁹ Quebec, which began its first incentive program in 2012, sells about half of all EVs sold in Canada.¹²⁰ In 2020, British Columbia had the highest rates of ZEV uptake in North America.¹²¹

A national ZEV mandate, however, is nowhere to be seen. Despite its apparent effectiveness and a recent poll by Clean Energy Canada and Abacus Data from February of 2020 that shows 84 per cent of Canadians support the policy,¹²² a strict-but-fair Canada-wide ZEV program has regularly met resistance from Canadian carmakers. The Canadian Vehicle Manufacturers’ Association has previously said a ZEV mandate would be unlikely to increase EV sales in Canada.¹²³

Nevertheless, climate and energy groups, academics and others, agree a national ZEV standard would be effective in pressing automakers to make more EVs available to Canadians and to prioritize the Canadian market when selling their EVs (instead of shipping their electric stock overseas).¹²⁴ Careful implementation of a national ZEV standard can both offer lead time and flexibility for automakers while effectively guaranteeing Canada can meet its goal of selling only zero-emission vehicles by 2040.

Canada should also consider increasing and expanding its national EV purchase incentives program. While EVs are typically more affordable over time thanks to gasoline savings, the price of purchasing one is generally higher than buying a gas-powered vehicle. For many, the up-front cost is a barrier. Government-funded purchase incentives have been shown to lead to higher EV sales, which in turn can help offset government spending for other social benefits. In 2020, for example, Environmental Defence models showed that the benefits for each EV on the road in the Greater Toronto Area (assuming 100 per cent of cars and SUVs are electric) would be close to \$10,000 in offset government spending on health, social programs and climate change.¹²⁵

In its new climate plan announced in December 2020, the federal government committed new money for its ZEV purchase rebate program and for funds to install new charging and refueling stations for zero-emission vehicles. The climate plan also sets the stage for a federal Clean Fuel Standard (CFS) aimed at reducing the carbon intensity of gasoline, diesel and oil.

Other suggestions include introducing a large-scale “cash for clunkers” program to encourage drivers to turn in old, high-polluting cars for vehicles with low or zero-emission. While the auto industry argues that replacing a 20-year-old vehicle with a new one can reduce greenhouse-gas emissions, “on a like-to-like vehicle basis, by 30 per cent or more, whether the consumer chooses a traditional gasoline engine or an EV,”¹²⁶ experience in other jurisdictions suggest these so-called scrappage programs only meaningfully reduce emissions if the replacement vehicles are EVs.¹²⁷ Indeed, scrappage programs in the context of rising SUV sales could lead to higher emissions if smaller passenger cars are replaced with heavier, gasoline-powered trucks and SUVs.¹²⁸

CONCLUSION

AUTOMAKERS IN CANADA ARE ORCHESTRATING a concerted push to sell as many carbon-polluting SUVs and pickups as they can, while they can. These larger, heavier vehicles are lucrative, and the market for them is hot – thanks, in part, to billions in ad dollars that convince drivers that bigger is better. Meanwhile, these companies say they’re committed to selling zero-emissions vehicle – but not until someday down the road.

Growing SUV emissions, however, are accelerating the climate crisis in real time, and automakers are failing to do enough *right now* to keep global warming to within 2 degrees Celsius, according to a recent report by the Transition Pathway Initiative.¹²⁹ The organization based at the London School of Economics measures climate risks and company preparedness for a low-carbon economy.

Almost half of car companies are currently not on track to meet minimum 2030 targets set by the Paris Climate Accord, and almost four out of every five automakers are not doing enough to keep the rise in global temperatures below 2 degrees by that date.¹³⁰ Even as GM and Ford promise a carbon-neutral car-making future that’s decades away, both companies are not in line to meet minimum Paris climate benchmarks by the end of the current decade. Automaker industry efforts to decarbonize are being back-loaded further into the future, according to the report.

David Adams, president of Global Automakers of Canada, suggests the industry is waiting not simply for technology to make EVs profitable, but for a time down the road when carmakers can switch directly to selling big, power-consuming, electrified SUVs. “SUVs and pickup trucks represent 75 per cent of the market in car sales today and the industry has had trouble producing electrified versions of these models because of the limits on battery technology,” Adams told reporters.¹³¹ Others suggest recent battery breakthroughs and falling battery costs – down nearly 90 per cent in the last decade – are quickly making electric SUVs both possible and affordable to produce.¹³²

The government must act to stop automakers from filling Canada’s roadways with carbon-polluting SUVs and pickup trucks. Top among the actions that governments and regulators can take include:

- **introducing new federal taxes applied to the sale of new SUVs or pickups**, to reliably discourage consumer purchases of these larger vehicles while generating money to pay for incentives for EV buyers. A so-called “feebate” program, similar to programs in Denmark, France, the Netherlands and the United Kingdom, could offer rebates to EV consumers that are financed directly by a “transportation electrification fee” charged for the purchase of vehicles with high emissions.¹³³

- **strengthen vehicle emission standards for criteria pollutants and greenhouse gases** in line with, the most stringent standards in North America, requiring ever-better fuel efficiency and fewer tailpipe emissions for each model year sold by automakers in Canada. These standards should align with expectations of a zero-emission vehicle fleet size predicted by new national zero-emission vehicle (ZEV) target dates (see below). The country's regulators should work with their U.S. counterparts to co-develop more aggressive emissions standards for 2026 to 2030 to match those set for the European Union.

Meanwhile, to encourage Canadian car buyers to get into zero-emissions vehicles rather than gasoline-powered SUVs, the federal government should:

- **institute a strict national zero-emission vehicle (ZEV) standard** that requires automakers to sell a minimum percentage of EVs as a portion of total new vehicle sales each year, beginning with the 2022 model year, reaching 100 per cent of vehicle sales by 2035 at the latest.
- **improve financial incentives for buyers** – including consumer cash rebates and/or tax breaks (e.g., sales tax relief, income tax credits, etc.) – to increase affordability for new and used EVs and other zero-emission cars, especially for lower- and middle-income Canadians.

We need these regulations as soon as possible. Automaker promises of shifting to fewer emissions down the road will make very little difference when we suddenly find that those future changes came years too late.

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