# Zero Emission Vehicle Availability Estimating Inventories in Canada: 2020/2021 Update

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With a focus on buildings, renewables and mobility, our 35+ experts support our clients – governments, utilities and others – through three key services: we **assess** opportunities (technical, economic, market); **design** strategies (programs, plans, policies); and **evaluate** performance (with a view to continuous improvement).

# **Executive Summary**

This report summarizes the fourth and fifth Canada-wide primary data collection effort to quantify the zero-emission vehicles (ZEVs) in inventory across the country on behalf of Transport Canada. The data was collected in November 2020 and in February 2021.

With each subsequent report, policy support for ZEVs has increased. Since the last report in March 2020, new vehicle purchase incentives were announced in two provinces and – for the first time – two territories. Additional public charging stations have also been installed in all provinces.

November 2020 saw a 73% increase in Canada-wide inventory levels over November 2019, while February 2021 saw an 81% increase over February 2020. This suggests that automakers are responding to increased demand for ZEVs.

Data Collection Period	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	Total
Feb - 2021	1,315	224	48	75	1,326	3,105	51	89	16	14	6,263
Nov - 2020	1,251	183	33	72	1,265	2,885	50	63	12	8	5,822
Feb - 2020	692	164	26	36	536	1,944	21	22	4	8	3,453
Nov - 2019	595	115	22	37	543	2,010	10	12	6	6	3,356
Dec - 2018	1,118	253	19	57	1,043	1,789	81	29	-	2	4,391

#### Table ES-1. Vehicle Inventory by Province and Data Collection Period

These absolute inventory values should also be considered alongside the rate of sales to assess how well they meet the demands of the market. This comparison can be done using days of supply – a metric used by dealerships to assess whether inventory levels are expected to be adequate according to historic sales.

In this report, days of supply are calculated both with and without Tesla (a change from the previous reports in this series). Tesla uses a factory order model most commonly seen in the luxury vehicle market. Factory order models do not typically stock a variety of vehicles for purchase on the lot, instead allowing consumers to place customized orders online. As can be noted in the tables below, this has a considerable impact on province and Canada-wide days of supply due to the skewing effect resulting from Tesla's particularly high sales rates during this period combined with low inventory levels.

Data Collection Period	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	Total
Feb - 2021	27	49	103	84	34	37	89	99	92	64	35
Feb - 2021											
(Tesla excluded)	67	120	177	119	98	49	109	130	147	86	62
Nov - 2020	25	35	43	65	32	31	69	71	46	31	30
Nov - 2020											
(Tesla excluded)	56	89	87	132	86	40	115	126	79	37	51
Feb – 2020	19	47	53	50	22	29	47	43	28	67	26
Nov - 2019	12	24	39	35	16	24	16	20	20	31	19

#### Table ES-2. Days of Supply by Province and Data Collection Period

LEGEND								
Over-supply (>80 days of supply)								
Target level of supply (40-80 days of supply)								
Under-supply (<40 days of supply)								

If days of supply are calculated without Tesla in November 2020, only Newfoundland is under-supply (and only by a small margin). By February 2021, the same calculation results in all provinces being within or above target levels of supply. It should be noted that the days of supply metric has limited use when assessing emerging EV markets, where apparent 'over-supply' can be a result of low historic sales rather than high inventory levels. In these emerging markets, a higher days of supply target may be warranted to recognize that historic sales are likely a poor indicator of true demand given the historic lack of availability.

While the overall availability of ZEVs has improved compared to previous reports, the majority of dealerships in Canada have zero ZEVs in inventory (see figure below). Less than a quarter of dealerships nation-wide have three or more ZEVs in stock. Outside of Quebec, BC and Ontario, only 18% of dealerships have any ZEVs available at all, and only 4% have 5 or more.



### Figure ES-1. Number of ZEVs available per dealership

The report highlights several important observations:

- **Inventory levels increased significantly** compared to previous reports, showing signs that at least some automakers are starting to catch up with demand. Overall inventory levels appear to be within the optimal range.
- A majority of dealerships in Canada still have no ZEVs in stock. While inventory levels are trending in the right direction, many shoppers entering dealerships across Canada will not find a ZEV available that can be driven off the lot the same day.
- Inventory continues to be **unevenly distributed** between provinces and automakers. A number of automakers continue to focus their inventory in Quebec, BC and to a lesser extent,

Ontario, leaving other parts of the country with much less inventory overall, and much less diversity in ZEV model options.

The past year has seen announcements signalling a shift towards ZEVs from many major automakers. These announcements have come against the backdrop of the COVID-19 pandemic, which saw major disruptions to the automotive market, both in terms of consumer demand and in terms of the automotive supply chain. The potential for a resurgence in consumer demand combined with the risk of constraints on key automotive components mean that inventory levels of all vehicles (ZEV and otherwise) could quickly become limited in the coming months. It will be important to continue conducting periodic snapshots of ZEV inventory levels in order to monitor the situation and understand the degree to which inventory levels are meeting demand.

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# 1 Introduction

Demand for zero emission vehicles (ZEVs)<sup>1</sup> has continued to grow across the country as a result of governmental financial support, charging infrastructure investments, and an increasingly diverse range of ZEV options on the market. Historically, consumers have faced challenges finding ZEVs for purchase due to limited stocking by dealerships – in particular consumers outside of Quebec, Ontario, and British Columbia, the provinces leading ZEV adoption in Canada. The last year has seen a number of announcements from key automakers signalling their intention to embrace ZEVs, however, pointing to increasing selection and availability of ZEV models in the future.

This report summarizes the fourth and fifth Canada-wide primary data collection effort to quantify the ZEVs in inventory across the country on behalf of Transport Canada. The data was collected in November 2020 and in February 2021. Dunsky has also collected and reported on similar data sets on three previous occasions: December 2018, November 2019 and February 2020. A partial dataset was also collected in March 2019, the results of which were provided to Transport Canada in a memo.

# 1.1 Methodology

The data presented in this report was collected through two methods:

- 1. Automaker<sup>2</sup> inventory databases: Where available, inventory data was collected directly through automaker websites. This was the case for 9 of the 19 automakers included in this study.
- 2. Dealership phone surveys: For those automakers that do not provide a public-facing inventory database on their website, individual dealerships were contacted by phone by researchers posing as interested buyers and asked how many of each ZEV model were available to purchase at the dealership. Phone surveys were used for the remaining 10 automakers included in this study.

Between these two methods, ZEV inventory levels were collected for 3182 dealerships across Canada, estimated to represent approximately 78% of total Canadian dealerships.

	Data Collection Methodology	Estimated Number of Dealerships with EVs Across Canada
Audi	Web	54
BMW	Phone	51
Chevrolet	Web	470
Chrysler	Web	480
Ford	Web	466
Honda	Phone	295
Hyundai	Phone	221
Jaguar	Phone	27

#### Table 1. Data Collection Methodology and Estimated Number of Dealerships by Automaker

<sup>&</sup>lt;sup>1</sup> Zero Emission Vehicles include battery electric, plug-in hybrid electric, and hydrogen fuel cell vehicles.

<sup>&</sup>lt;sup>2</sup> The term 'automaker' is used in this report to refer to automotive brands. Brands that are part of the same automotive company (e.g. Audi and Volkswagen as two brands under Volkswagen Auto Group) are referred to as individual 'automakers'.

Kia	Web	171
Mercedes	Web	59
Mini	Web	30
Mitsubishi	Phone	93
Nissan	Phone	200
Porsche	Web	20
Subaru	Phone	94
Tesla	Phone	10
Toyota	Phone	241
Volkswagen	Phone	147
Volvo	Web	53
Total Web		1,803
Total Phone		1,379
Total		3,182

It should be noted that both the web and the phone survey data collection methods have limitations. The web-based data collection method is an efficient means of collecting a large amount of data. If the inventory database does not accurately reflect actual inventory, however, it may mis-represent the actual customer experience of shopping by suggesting there are either more or less ZEVs on the lot than is truly the case.

While the phone survey more closely approximates the customer shopping experience, it does include other opportunities for data collection error. For example, automakers may offer several versions of the same vehicle with different powertrains, such as plug-in hybrid and conventional hybrid versions of the Hyundai loniq and Toyota Prius, which may introduce confusion. In an attempt to mitigate this, phone survey staff were given clear descriptions of each powertrain configuration and warned of specific cases where there might be possible confusion between available vehicle models. An example of the script used for phone surveys is included in the Appendix.

# 1.2 Structure of report

This report is structured as follows:

### CONTEXT: ELECTRIC MOBILITY IN CANADA

An overview of the ZEV market and supportive policies and programs across Canada.

### ZEV INVENTORY: DATA AND OBSERVATIONS

A description and analysis of ZEV inventories by province and manufacturer, including absolute inventory levels, inventory relative to sales, split by drivetrain, and selection of makes and models.

### CONCLUSION

A summary of the key takeaways from this study.

# 2 Context: Electric Mobility in Canada

The timeline below highlights key provincial and federal policies related to ZEVs (Figure 1).





Since the last report (March 2020), financial incentive programs were announced in Yukon, Northwest Territories, Nova Scotia and Prince Edward Island, offering up to \$5,000 for the purchase of a ZEV (up to \$3,000 in Nova Scotia).

Most current ZEV drivers do the majority of their vehicle charging at home<sup>3</sup>. Public charging infrastructure can be important for longer trips or for those without home charging access, however, and therefore limited charging infrastructure may discourage adoption. Below, Figure 2 and Figure 3 summarize the public electric vehicle charging infrastructure available in each province.



#### Figure 2. Number of Level 2 and DCFC Ports by Province: BC, Ontario, and Quebec<sup>4</sup>

<sup>&</sup>lt;sup>3</sup> Fleetcarma. (2019). *Charge the North.* Available online at: <u>https://www.fleetcarma.com/resources/charge-the-north-summary-report/</u>

<sup>&</sup>lt;sup>4</sup> Data from Natural Resources Canada Electric Charging and Alternative Fuelling Stations Locator. Available online at: <u>https://www.nrcan.gc.ca/energy/transportation/personal/20487#/analyze?country=CA</u>. Data extracted March 10, 2021.



#### Figure 3. Number of Level 2 and DCFC Ports by Province: Rest of Canada

Since the last report, market actors (including private corporations, municipal governments, utilities, and others, often with the support of Natural Resources Canada) have installed additional public charging infrastructure in all provinces, leading to a 24% increase in level 2 ports and a 49% increase in Direct-Current Fast-Charger (DCFC) ports Canada-wide. The largest absolute increase in number of ports in a single province was in Ontario, where 854 level 2 and 236 DCFC ports were installed between December 2019 and March 2021. Of note in Canada's emerging ZEV markets, the number of DCFC fast chargers increased considerably in Saskatchewan, Manitoba, and New Brunswick, and the first fast chargers were installed in PEI. Newfoundland and Labrador remains the only province with no DCFC fast charging ports, although 15 fast charging sites are expected to open in early 2021.

# 2.1 ZEV Registrations

While 2020 was an unusual year for vehicle sales due to the COVID-19 pandemic<sup>5</sup>, recent ZEV registrations data suggests a continuation of growth in the Canadian ZEV market. Focusing on third quarter (Q3) ZEV registrations<sup>6</sup>, an estimated 18,771 light-duty ZEVs were registered in 2020, representing a 16% increase over Q3 2019<sup>7</sup>. This compares to a drop of 4% for the overall light-duty vehicle market over the same time period<sup>8</sup>. In Q3 2020, ZEVs represented 3.7% of registrations across Canada.

<sup>&</sup>lt;sup>5</sup> GoodCarBadCar. (2020). Canada Felt the Coronavirus Impact. Available online at this link

<sup>&</sup>lt;sup>6</sup> Sales data for Q3 (i.e. July, August, and September) is the most recent data published by Statistics Canada.

<sup>&</sup>lt;sup>7</sup> Statistics Canada. (2021). Zero-Emission Vehicles in Canada: Third Quarter of 2020. Available online at this link.

<sup>&</sup>lt;sup>8</sup> Driving.ca. (2020). Who's Up, Who's Down? The Trend Line for Canada's 10 Biggest Auto Brands in Q3. Available online at <u>this link</u>

Registrations in Ontario, Quebec, and British Columbia continue to drive nation-wide registrations – 92% of Q3 ZEV registrations were in these three provinces<sup>91011</sup>. In Q3, Ontario, Quebec, and British Columbia saw ZEVs with 2.0%, 6.7%, and 8.4% market shares, respectively.

#### Table 2. Top-Selling Electric Vehicles in Canada, Q3 2020<sup>12</sup>

Model	Powertrain	Q3 2020 Registrations
Tesla Model 3	BEV	4302
Tesla Model Y	BEV	2365
Hyundai Kona Electric	BEV	2032
Toyota Prius Prime	PHEV	1272
Chevrolet Bolt	BEV	1146

Source: IHS Markit Catalyst for Insight – New Registration, Data as of December 31, 2020

<sup>&</sup>lt;sup>9</sup> Statistics Canada. (2021). Zero-Emission Vehicles in Ontario: Third Quarter of 2020. Available online at this link

<sup>&</sup>lt;sup>10</sup> Statistics Canada. (2021). Zero-Emission Vehicles in Quebec: Third Quarter of 2020. Available online at this link

<sup>&</sup>lt;sup>11</sup> Statistics Canada. (2021). Zero-Emission Vehicles in British Columbia: Third Quarter of 2020. Available online at this link

<sup>&</sup>lt;sup>12</sup> IHS Markit data

# 3 ZEV Inventory: Data and Observations

This section presents the ZEV inventory data that was collected under this study and highlights observations from the data. The data is presented in four main subsections:

- 1. **ZEV Inventory Levels**, where the absolute inventory numbers are presented by province and by automaker.
- 2. **Inventory Relative to Sales,** where the data is presented in terms of "days of supply" based on the sales rate of each model.
- 3. **Availability of Distinct ZEV Models**, where the number of distinct ZEV model options are presented by province and by automaker.
- 4. Availability by Dealership, with a focus on the number of ZEVs available in each dealership.

# 3.1 ZEV Inventory Levels

Table 3 below summarizes the inventory across Canada, presented by province and by automaker.

	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	Total
Audi	38	4	1	4	109	74	1	3	0	0	234
BMW	10	9	1	1	25	27	1	0	0	0	74
Chevrolet	172	20	6	18	88	457	5	19	2	0	787
Chrysler	68	3	0	1	40	110	0	3	0	0	225
Ford	1	2	0	0	12	640	0	0	0	0	655
Honda	39	1	0	0	18	76	0	0	0	0	134
Hyundai	252	58	15	28	264	369	25	13	6	3	1033
Jaguar	13	5	0	1	11	4	0	3	0	0	37
Kia	288	0	0	0	183	381	8	0	0	0	860
Mercedes	1	0	0	0	2	1	0	0	0	0	4
Mini	46	4	1	0	11	43	2	1	0	1	109
Mitsubishi	96	12	4	7	65	86	0	3	1	0	274
Nissan	68	4	3	4	78	196	0	2	1	0	356
Porsche	15	26	1	1	167	44	0	3	0	0	257
Subaru	0	0	0	0	0	34	0	0	0	0	34
Tesla	12	4	0	0	14	8	0	0	0	0	38
Toyota	77	26	0	6	129	194	6	12	2	4	456
Volkswagen	28	0	0	1	21	125	0	0	0	0	175
Volvo	27	5	1	0	28	16	2	1	0	0	80
Nov - 2020	1251	183	33	72	1265	2885	50	63	12	8	5822

#### Table 3. Vehicle Inventory by Province and Automaker – November 2020

LEGEND: 1 100 200 300 400 500 600 700

BMW       37       14       2       4       70       46       4       0       0       2       179         Chevrolet       189       13       6       12       148       619       3       26       2       0       1018         Chrysler       129       7       0       4       66       138       0       4       0       0       348         Ford       12       1       0       1       5       409       0       0       0       448         Honda       30       1       0       0       15       74       0       1       0       121         Hyundai       205       79       28       28       324       421       21       27       9       8       1150         Jaguar       3       4       0       2       10       1       0       1       0       2       100       2         Jaguar       3       4       0       2       10       1       0       0       2       100         Mini       39       4       2       1       14       42       2       1       0						atoman				<b>pi 01100</b>	lo i oouit	<u> </u>
BMW       37       14       2       4       70       46       4       0       0       2       179         Chevrolet       189       13       6       12       148       619       3       26       2       0       1018         Chrysler       129       7       0       4       66       138       0       4       0       0       348         Ford       12       1       0       1       5       409       0       0       0       428         Honda       30       1       0       0       15       74       0       1       0       121         Hyundai       205       79       28       28       324       421       21       27       9       8       1150         Jaguar       3       4       0       2       10       1       0       1       0       2       100       1         Jaguar       3       4       0       2       10       1       0       0       2       100         Mirai       39       4       2       1       14       42       2       1       0		BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	Total
Chevrolet       189       13       6       12       148       619       3       26       2       0       1018         Chrysler       129       7       0       4       666       138       0       4       0       0       348         Ford       12       1       0       1       5       409       0       0       0       428         Honda       30       1       0       0       15       74       0       1       0       0       121         Hyundai       205       79       28       28       324       421       21       27       9       8       1150         Jaguar       3       4       0       2       10       1       0       1       0       21         Kia       262       4       0       0       139       593       2       0       0       1000         Mercedes       0       0       0       0       14       42       2       11         Mini       39       4       2       1       14       42       2       1       0       319         Porsche	Audi	35	1	1	0	70	67	1	2	0	0	177
Chrysler       129       7       0       4       66       138       0       4       0       0       348         Ford       12       1       0       1       5       409       0       0       0       428         Honda       30       1       0       0       15       74       0       1       0       0       121         Hyundai       205       79       28       28       324       421       21       27       9       8       1150         Jaguar       3       4       0       2       10       1       0       1       0       21         Kia       262       4       0       0       139       593       2       0       0       100       0       21         Mira       262       4       0       0       139       593       2       0       0       100       0       21         Mira       39       4       2       1       14       42       2       1       0       21       100       21       100       21       100       21       100       21       100       21	BMW	37	14	2	4	70	46	4	0	0	2	179
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Honda       30       1       0       0       15       74       0       1       0       0       121         Hyundai       205       79       28       28       324       421       21       27       9       8       1150         Jaguar       3       4       0       2       10       1       0       1       0       0       21         Kia       262       4       0       0       139       593       2       0       0       21         Kia       262       4       0       0       139       593       2       0       0       0       1000       0         Mercedes       0       0       0       0       1       0       0       0       1000       0       1000       0       1000       0       1000       0       1000       0       1000       0       1000       0       1000       0       1100       0       1000       0       1000       0       1000       1000       1000       1000       1000       1000       1000       1100       10000       10000       10000       10000       10000       10000	Chrysler	129	7	0	4	66	138	0	4	0	0	348
Hyundai       205       79       28       28       324       421       21       27       9       8       1150         Jaguar       3       4       0       2       10       1       0       1       0       21         Kia       262       4       0       2       10       1       0       1       0       0       21         Kia       262       4       0       0       139       593       2       0       0       0       1000         Mercedes       0       0       0       0       1       0       0       0       1       0       0       0       1       1000       1       0       1000       1       10000       1000       10000       10000       1000       10000	Ford	12	1	0	1	5	409	0	0	0	0	428
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Mitsubishi       146       18       6       0       62       157       15       4       3       0       411         Nissan       56       9       1       4       69       175       0       4       1       0       319         Porsche       50       28       2       10       156       37       0       5       0       0       288         Subaru       0       0       0       0       6       46       0       0       0       52         Tesla       6       2       0       0       11       3       0       0       0       22         Toyota       90       31       0       8       111       169       3       13       1       2       428         Volkswagen       25       0       0       1       21       84       0       0       0       131         Volvo       1       8       0       0       29       23       0       1       0       0       62	Mercedes	0	0	0	0	0	1	0	0	0	0	1
Nissan         56         9         1         4         69         175         0         4         1         0         319           Porsche         50         28         2         10         156         37         0         5         0         0         288           Subaru         0         0         0         0         6         46         0         0         0         52           Tesla         6         2         0         0         11         3         0         0         0         22           Toyota         90         31         0         8         111         169         3         13         1         2         428           Volkswagen         25         0         0         1         21         84         0         0         0         131           Volvo         1         8         0         0         29         23         0         1         0         0         62	Mini	39	4	2	1	14	42	2	1	0	2	107
Porsche         50         28         2         10         156         37         0         5         0         0         288           Subaru         0         0         0         0         6         46         0         0         0         52           Tesla         6         2         0         0         11         3         0         0         0         22           Toyota         90         31         0         8         111         169         3         13         1         2         428           Volkswagen         25         0         0         1         21         84         0         0         0         131           Volvo         1         8         0         0         29         23         0         1         0         0         62	Mitsubishi	146	18	6	0	62	157	15	4	3	0	411
Subaru         0         0         0         0         6         46         0         0         0         52           Tesla         6         2         0         0         11         3         0         0         0         0         22           Toyota         90         31         0         8         111         169         3         13         1         2         428           Volkswagen         25         0         0         1         21         84         0         0         0         0         131           Volvo         1         8         0         0         29         23         0         1         0         0         62	Nissan	56	9	1	4	69	175	0	4	1	0	319
Tesla         6         2         0         0         11         3         0         0         0         0         22           Toyota         90         31         0         8         111         169         3         13         1         2         428           Volkswagen         25         0         0         1         21         84         0         0         0         0         131           Volvo         1         8         0         0         29         23         0         1         0         0         62	Porsche	50	28	2	10	156	37	0	5	0	0	288
Toyota         90         31         0         8         111         169         3         13         1         2         428           Volkswagen         25         0         0         1         21         84         0         0         0         0         131           Volvo         1         8         0         0         29         23         0         1         0         0         62	Subaru	0	0	0	0	6	46	0	0	0	0	52
Volkswagen         25         0         0         1         21         84         0         0         0         0         131           Volvo         1         8         0         0         29         23         0         1         0         0         62	Tesla	6	2	0	0	11	3	0	0	0	0	22
Volvo         1         8         0         0         29         23         0         1         0         0         62	Toyota	90	31	0	8	111	169	3	13	1	2	428
	Volkswagen	25	0	0	1	21	84	0	0	0	0	131
Feb - 2021         1315         224         48         75         1326         3105         51         89         16         14         6263	Volvo	1	8	0	0	29	23	0	1	0	0	62
	Feb - 2021	1315	224	48	75	1326	3105	51	89	16	14	6263

Table 4. Vehicle Inventor	by Province and Automaker – Feb	ruary 2021 and previous results

Nov - 2020	1251	183	33	72	1265	2885	50	63	12	8	5822
Feb - 2020	692	164	26	36	536	1,944	21	22	4	8	3,453
Nov - 2019	595	115	22	37	543	2,010	10	12	6	6	3,356
Dec – 2018	1,118	253	19	57	1,043	1,789	81	29	-	2	4,391

When data was collected in November 2019, inventory across Canada had dropped considerably compared to 2018. This was thought to be at least partially attributable to an unexpected increase in demand for ZEVs as consumers looked to benefit from the federal incentive program announced in March 2019 and launched in May, leading to sales outpacing replacement inventory through the rest of 2019. Inventory levels in February 2020 saw only a modest increase, suggesting that automakers were still struggling to keep pace with demand close to a year after the announcement of the federal incentive.

At the time of data collection in November 2020, inventory levels had increased significantly. By February 2021, inventory had increased again, representing an 81% increase compared to February 2020. This suggests that automakers have adjusted stocking to account for increased demand, catching up to the changes introduced to the market by provincial and federal policies. These absolute inventory values should also be considered alongside the rate of sales to assess how well they meet the demands of the market, as presented in the 'Inventory Relative to Sales' section that follows.

# 3.1.1 Availability by Province

Keeping with trends noted in the previous reports, the majority of inventory remains concentrated in British Columbia, Ontario, and Quebec; the data showed 93% of Canada's light-duty ZEV inventory in these provinces in 2020 and 92% in 2021, while Quebec alone had 50% of inventory in both periods. The focus on stocking ZEVs in Quebec is likely a result of strong historic sales in the province due to policies supporting demand (with the highest combined federal-provincial purchase incentives of all provinces) along with regulation that tackles supply-side challenges (the province's ZEV mandate).

That said, there were considerable relative improvements in inventory levels for the remaining provinces compared to the previous reporting period. Collectively, the three Prairie provinces saw a 54% increase in inventory between February 2020 and February 2021, while the four provinces in Atlantic Canada saw overall inventory levels more than triple. Much of the increase in these provinces is attributable to Hyundai, while a large number of automakers do not have any inventory at all in Atlantic Canada and Saskatchewan.

Nova Scotia saw the largest increase in inventory out of any province. The number of ZEVs available in the province jumped from only 12 vehicles in November 2019 to 63 in November 2020 and 89 in February 2021, with 12 different automakers showing at least one vehicle in stock in the latest dataset.

Below, the inventory data is normalized by population to allow for comparison between provinces for all four rounds of data collection.



#### Figure 4. ZEVs Available for Purchase per 100,000 People, by Province

Once again, 2019 saw a decline in vehicles over 2018 in many provinces. By 2020 and 2021, however, inventory levels had recovered such that they now exceed 2018 stock in almost all provinces. Even when normalized by population, Quebec still remains the leader in ZEV inventory, followed by British Columbia.

# 3.1.2 Availability by Automaker

Inventory for specific automakers remains unequally distributed between provinces. Hyundai is the only automaker with ZEVs in all ten provinces, although others come close to cross-country coverage with Chevrolet, Toyota, Audi, Mini, Mitsubishi, Nissan, and BMW all having inventory in 8 or more provinces in either November 2020 or February 2021. This is a significant change for Chevrolet in particular, which had previously shown an even stronger focus on BC and Quebec and no inventory at all in Atlantic Canada in the previous reports.

Several automakers continue to focus the vast majority of their inventory in Quebec and BC, including Volkswagen (83%), Kia (86%), Honda (86%) and Ford (98%). Quebec and BC are the two strongest ZEV markets in Canada, and are also the only two provinces that set minimum requirements for ZEV sales per automaker.

As was the case with the previous reports, Tesla's inventory is extremely low. This reflects the automaker's factory order business model – Tesla relies less on 'brick and mortar' dealerships, instead allowing customers to order vehicles online directly from the factory. Tesla does operate showrooms across Canada where consumers can test drive vehicles, but on-site stock in these showrooms is limited.

Below, Figure 5 provides a summary of the ZEV inventory by automaker as a percent of total ZEV inventory in Canada.



#### Figure 5. National ZEV Inventory by Automaker as a Percentage of Total

In 2019, a single automaker – Chevrolet – was responsible for more than half of Canada's total inventory. November 2020 and February 2021 saw a return to a more balanced representation of

automakers. In both periods, four automakers accounted for more than half of the nation-wide supply: Hyundai, Kia, Chevrolet, and Ford.

Hyundai had the most inventory out of any automaker in both November 2020 and February 2021, more than tripling compared to February 2020. Hyundai's corporate sibling Kia saw an even greater relative increase, with an almost 10-fold increase from only 103 vehicles in February 2020 to 1000 in February 2021, although Kia's inventory is heavily concentrated in a few provinces, with only 2 vehicles available in all of Atlantic Canada in February 2021.

# 3.2 Inventory relative to sales

Inventory levels should be considered within the context of vehicle sales rates in order to assess how well they can be expected to meet demand. This section assesses the adequacy of ZEV inventories using a common dealership inventory metric that combines inventory levels with historic vehicle sales rates – days of supply. The text box below offers additional context on this metric, while Equation 1 and Equation 2 outline how it is calculated.

# DAYS OF SUPPLY: A METRIC FOR DEALERSHIP INVENTORY

Car dealerships use inventory management practices to balance the selection of vehicles available to customers with the demand for those vehicles. Days of supply is a common metric used to manage inventory, developed using historical sales data and used when determining which and how many models should be ordered. Using sales data, dealerships are able to calculate the number of a particular model of vehicle that are sold per day (see equations below). These values are then used to fill orders for new vehicles to ensure that enough vehicles will be available to meet expected demand.

Dealerships will typically have guidelines for the minimum and maximum number of days they aim to stock vehicles for. The previous reports in this series used the thresholds of between 50 and 100 days of supply as the optimal inventory range based on the thresholds used in other studies. This report has updated the optimal days of supply range to between 40 and 80 based on industry feedback.

Equation 1. Step 1: Calculation of Sales per Day Number Vehicles Sold in Q3 ÷ Days in Q3 = Q3 Sales per Day

**Equation 2. Step 2: Calculation of Days of Supply** Current Inventory ÷ Q3 Sales per Day = Days of Supply

Below, Table 5 summarizes days of supply for the data collected in November 2020. The inventory levels from Table 3 are combined with sales data from Q3 2020. Table 6 summarizes days of supply for the data collected in February 2021. The inventory levels from Table 4 are combined with sales data from Q4 2020.

As noted in the ZEV Sales section, Tesla uses a factory order model – an inventory model most commonly seen in the luxury vehicle market. Factory order models do not typically stock a variety of vehicles for purchase on the lot, instead allowing consumers to place customized orders online. In

previous reports we noted that the days of supply metric may be of limited use for Tesla given this inventory model. In this report, we calculate days of supply including all automakers, then again excluding Tesla. As can be noted in the tables below, this has a considerable effect on province and Canada-wide days of supply due to the skewing effect resulting from Tesla's high sales per day rates combined with low inventory levels.

In the tables below, dark blue indicates oversupply (>80 days), yellow indicates target supply (40-80 days), and light blue indicates undersupply (<40 days).

Table 0. Days of		by 1100	mee un								
	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	Total
Audi	47	61	N/A	N/A	141	126	N/A	N/A	0	0	105
BMW	22	276	92	92	43	67	92	0	0	0	49
Chevrolet	104	142	184	414	104	48	153	350	46	0	63
Chrysler	209	276	0	46	102	67	0	N/A	0	0	94
Ford	5	46	0	0	39	153	0	0	0	0	138
Honda	399	46	0	0	184	50	0	0	0	0	77
Hyundai	42	152	92	152	89	16	177	70	N/A	39	31
Jaguar	171	230	0	N/A	145	61	0	276	0	0	148
Kia	107	0	0	0	187	69	184	0	0	0	92
Mercedes	12	0	0	0	18	5	0	0	0	0	10
Mini	132	368	92	0	42	65	N/A	46	0	N/A	82
Mitsubishi	38	37	184	107	38	17	0	92	92	0	28
Nissan	50	92	276	184	266	86	0	92	N/A	0	88
Porsche	10	61	31	18	71	29	0	138	0	0	43
Subaru	0	0	0	0	0	49	0	0	0	0	45
Tesla	0	1	0	0	1	0	0	0	0	0	0
Toyota	28	100	0	92	74	17	69	158	31	92	27
Volkswagen	44	0	0	46	161	52	0	0	0	0	55
Volvo	50	33	46	0	35	24	92	46	0	0	35
Nov - 2020	25	35	43	65	32	31	69	71	46	31	30
Nov - 2020 <b>(Tesla excluded)</b>	56	89	87	132	86	40	115	126	79	37	51

#### Table 5. Days of Supply by Province and Manufacturer – November, 2020

#### Table 6. Days of Supply by Province and Manufacturer – February, 2021 and previous results

	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	Total
Audi	36	9	31	0	56	51	23	184	0	0	47
BMW	83	322	92	74	102	78	123	0	0	N/A	96
Chevrolet	129	80	276	276	200	53	276	598	N/A	0	72
Chrysler	516	161	0	123	156	76	0	N/A	0	0	136
Ford	74	46	0	N/A	29	98	0	0	0	0	94
Honda	197	N/A	0	0	138	108	0	92	0	0	127
Hyundai	54	182	368	161	138	26	161	113	276	184	49
Jaguar	55	368	0	N/A	153	31	0	N/A	0	0	129
Kia	112	53	0	0	168	110	26	0	0	0	113

Mercedes	0	0	0	0	0	23	0	0	0	0	7
Mini	65	184	N/A	92	46	65	N/A	46	0	184	67
Mitsubishi	50	64	110	0	43	37	125	61	92	0	44
Nissan	56	414	92	74	302	89	0	N/A	N/A	0	97
Porsche	36	136	92	920	88	35	0	N/A	0	0	65
Subaru	0	0	0	0	110	54	0	0	0	0	58
Tesla	0	1	0	0	0	0	0	0	0	0	0
Toyota	35	158	0	74	70	17	92	120	23	92	29
Volkswagen	48	0	0	92	114	35	0	0	0	0	42
Volvo	1	39	0	0	26	34	0	46	0	0	22
Feb - 2021	27	49	103	84	34	37	89	99	92	64	35
Feb - 2021 (Tesla excluded)	67	120	177	119	98	49	109	130	147	86	62

Nov - 2020	25	35	43	65	32	31	69	71	46	31	30
Nov - 2020 (Tesla excluded)	56	89	87	132	86	40	115	126	79	37	51
Feb – 2020	19	47	53	50	22	29	47	43	28	67	26
Nov - 2019	12	24	39	35	16	24	16	20	20	31	19
Nov - 2018	49	100	87	128	23	37	501	115	0	56	36

LEGEND
Over-supply (>80 days of supply)
Target level of supply (40-80 days of supply)
Under-supply (<40 days of supply)
No sales in Q3 (for 2020) or Q4 (for 2021) but at least one vehicle available in inventory

The data collected in November 2019 showed a drop in days of supply over 2018. In November 2020 and February 2021, nation-wide days of supply increased, nearing 2018 levels but remaining below the target of 40-80 days. However, when Tesla is excluded from the calculation, days of supply fall within target levels in 2020 and in 2021, accounting for the fact that Tesla sales have increased to represent 40% of total Canadian ZEV market in 2020 while contributing very little in terms of overall inventory.

# 3.2.1 Results by Province

In November 2020, when considering all automakers, days of supply were below target in the majority of provinces and in Canada as a whole. If Tesla is excluded, however, the picture changes dramatically – when days of supply are recalculated without Tesla, only Newfoundland is undersupply (and by a small margin).

By 2021, the days of supply had increased across Canada. When all automakers are considered, only three provinces fell below target levels – Quebec, Ontario, and British Columbia. Because the

majority of the ZEV market is found in these provinces, the Canada-wide days of supply also fell below target. When Tesla is excluded from the calculation however, all provinces were found to be either within or above target supply levels as well as Canada as a whole.

The days of supply metric contextualizes the absolute inventory values presented in Table 3 and Table 4, and the two metrics should be considered in tandem to allow for a fulsome picture of how inventory is tracking with sales rates. As was the case in the previous reports, British Columbia, Ontario, and Quebec have high absolute inventory values compared to other provinces. The days of supply metric confirms that this inventory matches historic demand in both November 2020 and February 2021 when Tesla is excluded from the calculation.

It should be noted that the days of supply metric has limited use when assessing emerging EV markets, where apparent 'over-supply' can be a result of low historic sales rather than high inventory levels. In these emerging markets, a higher days of supply target may be warranted to recognize that historic sales are likely a poor indicator of true demand given the historic lack of availability.

# 3.2.2 Results by Automaker

When assessed on a Canada-wide basis, one third of automakers were within target days of supply in November 2020 and one half were within target in February 2021. Province-by-province inventory varies considerably by automaker, however. Some of the automakers leading in absolute Canadawide inventory levels, such as Kia, continue to meet or exceed demand (as measured through days of supply) in the provinces leading Canada's ZEV adoption but fall short in other provinces. Others appear to largely meet demand across most of the country, such as Chevrolet and Hyundai.

Tesla had the highest Canada-wide sales per day in both Q3 and Q4 of 2020 of any automaker. Tesla's popularity was also consistently high across provinces – it had the highest sales per day in 80% of provinces in both quarters. These high sales values are paired with low inventory values – a result of the factory order model. This combination of high sales and low inventory resulting in a skewing of the data, which is the rationale for providing province and Canada-wide days of supply both with and without the automaker in the tables above.

# 3.3 Vehicle Choice: Availability of Distinct ZEV Models

The number of unique makes and models available in each province are shown in Figure 6 below, highlighting the selection available to consumers who are shopping for a ZEV. As with the previous reports, consumers in Quebec, Ontario, and British Columbia continue to have access to the greatest number of makes and models.



#### Figure 6. Number of Makes Available by Province



#### Figure 7. Number of Models Available by Province

Although sales in Ontario slowed following the removal of the province's incentive program in 2018, the province continues to have a considerable selection of ZEV models. As pointed out in the previous report, this may be explained by the fact that Ontario does have the largest auto market in the country and the greatest number of dealerships. In addition, the province's ZEV vehicle purchase incentive (which was in place from 2010 to 2018) may have contributed to some overall momentum for the ZEV market that is showing lasting impacts, having encouraged dealerships to invest in ZEV stocking and sales, including ZEV-specific repair and servicing equipment, staff training, installation of charging infrastructure, and more. These investments may have motivated dealership to continue stocking these vehicles even in the face of reduced sales.

The number of models available varies by automaker, as shown in Figure 8 below.



#### Figure 8. Number of ZEV Models Available by Automaker across Canada

Approximately half of automakers still offer only a single ZEV model as of February 2021. Across all years, BMW has consistently had the highest number of models among all automakers, ranging from 5-7 unique models seen in inventory (varying by data collection period). Subaru represents a new ZEV market entrant, seen for the first time in the November 2020 data collection period. For other automakers, the number of models offered have declined over time, notably Chevrolet and Ford, due to the discontinuation of select models.

In addition to overall selection of ZEV models, powertrain type is also an important consideration for ZEV shoppers. The ZEV categories include battery electric vehicles (BEVs) which run only on electricity, plug-in hybrid electric vehicles (PHEVs) which offer sufficient electric-only range for typical daily driving distances while relying on an internal combustion engine for longer trips, and fuel cell electric vehicles (FCEVs), which are powered by hydrogen. Figure 9 and Figure 10 show the percent

of vehicles available in inventory in each province by powertrain type by data collection period. Only BEVs and PHEVs were found to be in inventory.



Figure 9. Split of BEV vs PHEV Available for Purchase by Province – November, 2020





In 2019, BEVs were 72% of the market, while in 2018 they were 37%. The surge in BEVs in 2019 was primarily due to increased stocks from Chevrolet, which was responsible for more than half of inventory in that year and discontinued PHEV models

BEVs accounted for 56% of inventory in November 2020 and 60% in February 2021 Canada-wide. In general, there are some indications that the market will shift towards BEVs moving forward as consumer range anxiety concerns decrease, infrastructure continues to grow, and the price of BEVs decline. Canadian-wide Q3 sales were 72% BEV while Q4 sales were 73% BEV suggesting high demand for BEV vehicle types moving forward.

# 3.4 Availability by Dealership

Looking at ZEV availability on an individual dealership basis can provide insights into the consumer's ZEV shopping experience. One way to measure this experience is through the number ZEVs in stock at a given dealership and available for a shopper to choose from. Figure 11 below shows the percentage of dealerships for each automaker with at least one ZEV available in inventory.



#### Figure 11. Percentage of dealerships with at least one ZEV available

While having at least one ZEV available at a dealership can at least ensure that interested shoppers can see a ZEV model in person, having more than one ZEV in stock can help to ensure that a shopper is likely to find a model that fits their expectations in terms of options (e.g. trim level, colour) and that they can make a purchase that day if they find a vehicle they like. Figure 12 shows the number of ZEVs available per dealership nation-wide.



### Figure 12. Number of ZEVs available per dealership

In both November 2020 and February 2021, more than half of dealerships (58% and 55%, respectively) had no ZEVs in inventory, although this is an improvement from 67% of dealerships without ZEVs in February 2020. Less than a quarter of dealerships had three or more ZEVs in inventory in both periods. It should be noted that this varies considerably by automaker. As was noted in the previous report, some of the automakers with the greatest inventory have ZEVs in a relatively low portion of their total dealerships – notably Kia and Ford. This is a result of the majority of their stock being concentrated in Quebec, Ontario, and BC.

Figure 13 below, the number of ZEVs available per dealership is presented by province for February 2021.



Figure 13. Number of ZEVs available per dealership by province, Feb 2021

This figure highlights a strong distribution of ZEVs in both BC and Quebec, with at least one ZEV available in 60% and 70% of dealerships, respectively. In fact, BC and Quebec both have a significant portion of dealerships with 5 or more ZEVs in stock (24% and 26%, respectively). Ontario has at least one ZEV in 41% of dealerships, but only 6% have 5 or more ZEVs. In the remaining provinces, only 18% of dealerships have at least one ZEV in stock, and only 4% have 5 or more.

# 3.5 Wait Times

Wait time is another important consideration for consumers looking to purchase a vehicle, especially in the case of automakers that do not have significant inventory. For example, a low inventory may be acceptable for some shoppers if a ZEV can be ordered and received promptly. Dealerships that were surveyed by phone and that did not have any ZEV vehicles available were asked how long the wait would be before a ZEV was available. Figure 14 includes the wait times suggested by these dealerships.



#### Figure 14. Expected Wait Times for Dealerships with Zero ZEVs Available

The increase in wait times from November 2020 to February 2021 may at least in part be attributable to factory shutdowns and part shortages caused by the COVID-19 pandemic<sup>13</sup>.

Only about 10% of the roughly 1500 dealerships with no inventory offered a wait time when asked. It is unclear why the vast majority of dealerships would have been unable or unwilling to provide a wait time estimate. Of those that did provide a wait time, the majority of dealerships (64% in November 2020 and 62% in February 2021) responded that the wait time would be longer than three months. This would require considerable patience and planning ahead for a new ZEV purchase, particularly those buying from a dealership that expect wait times to exceed six months (31% in 2021 and 10% in 2020).

Figure 15 and Figure 16 below display expected wait times by province for data collected in November 2020 and February 2021, respectively.



Figure 15. Expected Wait Times by Province (Number of Responses) – November 2020

<sup>&</sup>lt;sup>13</sup> Driving. (2021). What the global chip shortage means for the auto industry and car buyers. Available online at this link



### Figure 16. Expected Wait Times by Province (Number of Responses) – February 2021

The relative portion of respondents who indicated that wait times would exceed 6 months grew across all provinces (with the exception of PEI, where no dealerships surveyed provided an estimated wait time when data was collected in November 2020). It should be noted that the sample sizes are small given the low response rate to this question (the data label in the figures above indicates the number of respondents), however this data suggests that wait times may be increasing across the country.

Given the disruptive impact of COVID-19 on supply chains across many industries, dealerships were asked if the ZEV wait times were a result of the pandemic. The results are shown in Figure 17 below.



Figure 17. Dealership Response to "Is the wait due to the COVID-19 pandemic"

Although the COVID-19 may have had some impact on ZEV availability, these results show that the majority of the dealerships offering a response do not see the pandemic as the main factor leading to wait times.

Those fielding the survey also took note of information dealership representatives provided without prompting; this information included recommendations for future ZEVs that would be available in the near-term, recommendations for non-ZEV alternatives, and mention of government rebates for ZEVs. The results are included in Table 7 below.

	Nov. 2020		Feb. 2021	
Unprompted Responses	Yes	No	Yes	No

### Table 7. Unprompted Responses from Dealerships

Recommended future ZEVs that would be available soon	6	1093	0	1096
Recommended non-ZEV instead	6	1093	4	1092
Mentioned government rebates	6	1093	29	1067

Very few dealerships spontaneously mentioned upcoming availability of ZEVs, however very few also recommended non-ZEV alternatives. Although still infrequent, considerably more mentioned government rebates, including in Nova Scotia, where new purchase rebates were announced in February 2021.

The low response rate to the wait time questions and limited unprompted responses likely also reflects the limitations of the phone-based approach. We presume that an in-person secret shopper approach would be more effective at receiving responses to these additional questions and would give a more fulsome representation of the typical ZEV shopping experience.

# 4 Conclusion

This report summarizes two snapshots of ZEV inventory in dealerships across Canada: One captured in November 2020, one in February 2021. Previous reports in this series summarized data collected in 2018, 2019 and early 2020. In each report, absolute inventory numbers are highlighted then contextualized using historic sales rates to measure inventory in terms of days of supply. Inventory levels are analyzed by province and by automaker. Additional data is also provided regarding the split of powertrain types, the number of vehicles per dealership, and – for those dealerships with no ZEVs in stock – the wait time to receive a vehicle. The report highlights several important observations:

- Inventory levels increased significantly compared to previous reports, showing signs that at least some automakers are starting to catch up with demand. If Tesla's sales are excluded from the calculation, the inventory levels for remaining automakers seem to fall within the target range given current demand. Hyundai in particular has made clear efforts to ensure that dealerships in every part of the country have a healthy inventory of multiple ZEV options, even in markets that so far have had somewhat limited ZEV sales.
- A majority of dealerships in Canada still have no ZEVs in stock (55% nation-wide, 82% if BC, Quebec and Ontario are excluded). While inventory levels are trending in the right direction, many shoppers entering dealerships across Canada will not find a ZEV, especially in the Prairies and in Atlantic Canada. Determined ZEV shoppers may be willing to do the necessary research to track down their preferred vehicle, but those who are simply curious about ZEV ownership may not be exposed to this option while shopping for their next vehicle. It will be important to continue tracking inventories in these regions, especially as new provincial rebate programs are introduced.
- Inventory continues to be unevenly distributed between provinces and automakers. A number of automakers continue to focus their inventory in Quebec, BC and to a lesser extent, Ontario, leaving other parts of the country with much less inventory overall, and much less diversity in ZEV model options. A shopper in Quebec in February 2021, for example, would have had up to 36 ZEV models to choose from, whereas shoppers in PEI and Newfoundland and Labrador would only have seen 7 models in dealership inventories.

The ZEV market is a continually evolving market that requires careful planning on the part of automakers and dealerships in order to anticipate demand for new products. The Canadian federal government continues to support demand for ZEVs through financial incentives, charging infrastructure deployment and support for targeted ZEV education efforts. Meanwhile, several provincial and territorial governments have recently joined BC and Quebec in providing additional financial incentives for ZEV purchases, in addition to efforts by local governments, electric utilities and private organizations to tackle a range of barriers to adoption of ZEVs.

The past year has also seen announcements signalling a shift towards ZEVs from many major automakers. These announcements have come against the backdrop of the COVID-19 pandemic, which saw major disruptions to the automotive market, both in terms of consumer demand and in terms of the automotive supply chain. The potential for a resurgence in consumer demand combined

with the risk of constraints on key automotive components mean that inventory levels of all vehicles (ZEV and otherwise) could quickly become limited in the coming months. It will be important to continue conducting periodic snapshots of ZEV inventory levels in order to monitor the situation and understand the degree to which inventory levels are meeting demand.

# 5 Appendix

# 5.1 Dealership Script

#### MANUFACTURER [DON'T READ]

- 1. BMW
- 2. Honda
- 3. Hyundai
- 4. Nissan
- 5. Porsche
- 6. Tesla
- 7. Toyota
- 8. Volvo
- 9. Mitsubishi
- 10. Jaguar
- 11. Volkswagon
- 12. Subaru

TO RECEPTIONIST: Hello, I'm interested in your electric vehicles. Would it be possible to speak to a salesperson? TO SALESPERSON: Hello, we are thinking about buying a PLUG-IN electric vehicle. I've actually been researching electric vehicles on the \_\_\_[Manufacturer]\_\_\_ website. I'm interested in buying a PLUG-IN electric vehicle. Do you have any \_\_\_[Model 1]\_\_\_ at your lot available for purchase? Which colors? How many?Do you have any \_\_\_[Model 2]\_\_ at your lot available for purchase? Which colors? How many?Do you have any \_\_\_[Model 3]\_\_\_ at your lot available for purchase? Which colors? How many?Do you have any \_\_\_[Model 3]\_\_\_ at your lot available for purchase? Which colors? How many?Do you have any \_\_\_[Model 3]\_\_\_ at your lot available for purchase? Which colors? How many?Do you have any \_\_\_[Model 3]\_\_\_ at your lot available for purchase? Which colors? How many?Do you have any \_\_\_[Model 3]\_\_\_ at your lot available for purchase? Which colors? How many?Do you have any \_\_\_[Model 3]\_\_\_ at your lot available for purchase? Which colors? How many?Do you have any \_\_\_[Model 3]\_\_\_ at your lot available for purchase? Which colors? How many?Do you have any \_\_\_[Model 3]\_\_\_ at your lot available for purchase? Which colors? How many?Etc

BMW - Record the number on lot of each Model:

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15+	DK
BMW - 330e																	
BMW - X3 xDrive30e																	
BMW - 745Le xDrive																	
BMW - 530e																	
BMW - X5 xDrive40e																	
BMW - i3 (Battery only EV)																	

HONDA - Record the number on lot of this Model:

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15+	DK
Honda - Clarity																	

HYUNDAI - Record the number on lot of each Model:

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15+	DK
Hyundai - IONIQ Electric																	

Hyundai - IONIQ Plus									
Hyundai - Sonata Plug-in Hybrid									
Hyundai - Kona Electric									

NISSAN - Record the number on lot of this Model:

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15+	DK
Nissan - LEAF																	

JAGUAR - Record the number on lot of this Model:

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15+	DK
Jaguar - i-PACE																	

VOLKSWAGEN - Record the number on lot of this Model:

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15+	DK
Volkswagen - e-Golf																	

MITSUBISHI - Record the number on lot of this Model:

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15+	DK
Mitsubishi - Outlander Plug-in Hybrid																	

PORSCHE - Record the number on lot of each Model:

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15+	DK
Porsche Cayenne S E Hybrid																	
Porsche Panamera S E Hybrid																	
Porsche Taycan																	

TESLA - Record the number on lot of each Model:

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15+	DK
Tesla - Model 3																	
Tesla - Model S																	
Tesla - Model X																	
Tesla - Model Y																	

TOYOTA - Record the number on lot of this Model:

Toyota - Prius Prime									
Toyota - Rav4 Prime									

VOLVO - Record the number on lot of each Model:

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15+	DK
Volvo S90 T8 eAWD Plug in Hybrid																	
Volvo XC60 T8 eAWD Plug in Hybrid																	
Volvo XC90 T8 eAWD Plug in Hybrid																	

Subaru - Record the number on lot of this Model:

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15+	DK
Subaru - Crosstrek Plug-in hybrid																	

[DON'T READ] If any of the Models have over 15+ cars on the lot, please specify exact amount.

#### [ASK ONLY IF NO ELECTRIC VEHICLES AVAILABLE ON LOT]

If I ordered [MODEL WITH SHORTEST WAIT TIME] today, how long would I need to wait before I could drive it home?

- 1. NOT APPLICABLE ELECTRIC MODELS ARE AVAILBLE ON LOT
- 2. Less than 1 month
- 3. 1-2 months
- 4. 3-6 months
- 5. More than 6 months
- 6. Not sure

Is the delay because of the COVID-19 Situation?

- 1. Yes
- 2. Partially
- 3. No
- 4. Not Sure

Thank you for this. I'll come down and take a look. [END CALL]

# [DO NOT READ OR PROMPT SALESPERSON ON THE BELOW QUESTIONS. INTERVIEWER COMPLETE THE REST OF SURVEY]

Did salesperson recommend a non-Electric Vehicle instead?

- 1. Yes
- 2. No

Did salesperson recommend future electric vehicle models that would be available soon?

- 1. Yes
- 2. No

Did salesperson mention the availability of any government rebates? 1. Yes

- 2. No

Did the salesperson make any other comments about Electric Vehicles - either positive or negative?

