



## A FEW EXAMPLES TO MAKE THINGS CLEARER

Here are three examples of how the credit calculation formula will work in **model year 2020** for automakers with different sales volumes to clarify how the standard works in practice.

Requirement for model year 2020	Total number of new cars sold or leased in Québec (C)	Total required number of credits to be earned (A) X (C) = (D)	Minimum number of ZEV credits to be earned (B) X (C) = (E)	Sales target for the manufacturer to meet its obligations with ZEV cars worth 3 credits each (D) / 3 = (F)	Sales target for the manufacturer to meet its obligations with ZEV cars worth 1.5 credits each (D) / 1.5 = (G)	Sales target for the manufacturer to meet its obligations with LEV cars worth 0.5 credit each (D) / 0.5 = (H)
9.5% in credits (A)  including at least 6% from ZEV cars for automakers that sell more than 20 000 units each year (B)	15 000 vehicles	1 425 credits	None	475 ZEV (3.2% of total sales) (F) / (C)	950 ZEV (6.3% of total sales) (G) / (C)	2 850 LEV (D) / 0.5 = (H) (19% of total sales) (H) / (C)
	30 000 vehicles	2 850 credits	Of which 1 800 are ZEV credits	950 ZEV (3.2% of total sales) (F) / (C)	1 900 ZEV (6.3% of total sales) (G) / (C)	2 100 LEV, equivalent to 1 050 LEV credits (D) - (E) / 0.5 = (J) (7% of total sales) (J) / (C) in addition to the obligation to earn 1 800 ZEV credits* (E)
	45 000 vehicles	4 275 credits	Of which 2 700 are ZEV credits	1 425 ZEV (3.2% of total sales) (F) / (C)	2 850 ZEV (6.3% of total sales) (G) / (C)	3 150 LEV, equivalent to 1 575 LEV credits (D) - (E) / 0.5 = (K) (7% of total sales) (K) / (C) in addition to the obligation to earn 2 700 ZEV credits* (E)

\* The ZEV credits must be earned exclusively from ZEV motor vehicles or purchased from other manufacturers.

“ Québec is the first province in Canada to apply a **ZEV** standard, confirming its leadership in the fight against climate change ”

# QUÉBEC LEADS THE WAY WITH ITS ZEV STANDARD



## A SNAPSHOT OF THE ZERO EMISSION VEHICLE (ZEV) STANDARD

In 2016, Québec adopted the Act to increase the number of zero-emission motor vehicles in Québec in order to reduce greenhouse gas and other pollutant emissions, also known as the ZEV Act. In addition to contributing to the fight against climate change, the act will spur vehicle offerings and lead to greater availability of clean automobiles in Québec for the benefit of the population.



**A STANDARD THAT MEETS DEMAND AND THE NEEDS OF QUÉBEC**  
Manufacturers have an obligation to offer clean vehicles to Quebecers.

The **ZEV** standard comes into effect in **January 2018**. Starting then, manufacturers subject to it will be required to earn credits through the sale and/or lease of ZEV and LEV motor vehicles in the Québec market. The percentage of obligatory credits required is calculated for each manufacturer on the basis of the total number of new cars it sells or leases in Québec.

### MANUFACTURER CATEGORIES

The standard exclusively covers **intermediate** and **large volume motor vehicle manufacturers**. The categories are based on annual sales and leases of new light vehicles in Québec. If they wish, small volume manufacturers not covered by the standard may participate in the credits market by selling credits they acquire to other manufacturers.

THREE CATEGORIES OF MANUFACTURERS

SMALL

FEWER THAN 4,500 VEHICLES SOLD ANNUALLY

Ferrari, Jaguar, Tesla, Volvo and others.

INTERMEDIATE

4,500 – 20,000 VEHICLES SOLD ANNUALLY

BMW, Daimler, Mitsubishi, Subaru

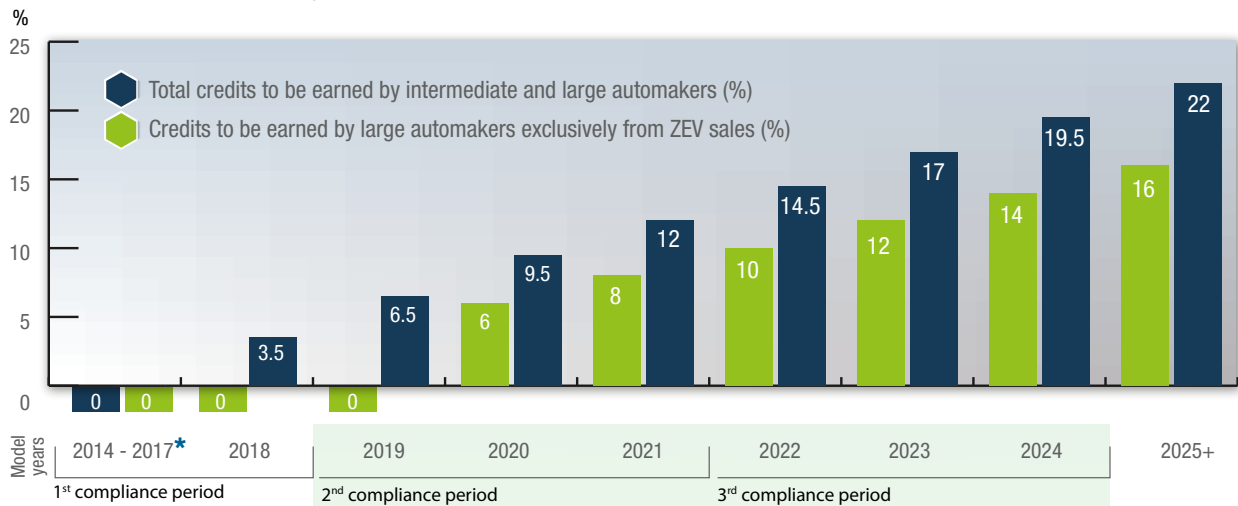
LARGE

MORE THAN 20 000 VEHICLES SOLD ANNUALLY

Fiat, Ford, GM, Honda, Hyundai, Kia, Mazda, Nissan, Toyota, Volkswagen

# HOW THE ZEV STANDARD WORKS

Manufacturers will be required to earn credits starting with model year 2018. The government has set for that year 3.5% as the percentage in credits for new light vehicle sales and leases required of individual automakers. Targets will increase gradually each year to reach 22% in 2025 and later years. It is important to note that starting in 2020, large automakers will be required to earn a minimum percentage of their credits exclusively from the sales or leases of zero-emission vehicles. In point of fact, the minimum earned credits requirement that year for intermediate and large automakers will be 9.5%, with 6% coming exclusively from ZEV sales for large manufacturers. This dovetails with current California requirements.



Starting with 2019, compliance periods last three years.

During the 2019–2021 compliance period, automakers may use previously earned credits for up to 35% of their current requirements. For the 2022–2024 and later compliance periods, they may use previously earned credits for up to 25% of their requirements.

## \* BONUS CREDITS

Many ZEV and LEV motor vehicles were sold in Québec between 2004 and 2017. The Government of Québec awards credits to automakers that report their sales and leases of zero-emission and low-emission vehicles over that period of time. These manufacturers can use the credits to meet their later model year obligations.



The higher the fully electric range of a vehicle, the greater the number of credits received by the automaker.

## IN SHORT, THE ZEV STANDARD WILL SPARK INNOVATION AND BETTER TECHNOLOGY

### HOW CREDITS ARE CALCULATED

Québec uses the same system for calculating credits as the one used in U.S. states with a ZEV standard in place. Automakers use a formula for calculating the credits they earn from new car sales that is based on the following two factors:

- Type of vehicle
- Range in fully electric operating condition



### Zero-emission vehicles (ZEV)



Fully electric vehicle  
Hydrogen combustion vehicle

A maximum of **4 credits** per vehicle

Formula:  $(0.01 \times \text{range in km}) \times 0.6214 + 0.5$

Example: 402-km range in electric operating condition  
= **3 credits**

Example: 161-km range in electric operating condition  
= **1.5 credits**



### Low-emission vehicles (LEV)



Rechargeable hybrid vehicle  
Hydrogen combustion engine vehicle

A maximum of **1.3 credits** per vehicle

Formula:  $(0.01 \times \text{range in km} \times 0.6214) + 0.3$

Example: 32-km range in electric operating condition  
= **0.5 credit**

## ZEV AND LEV MOTOR VEHICLES FOR EVERYONE

### Credits for reconditioned and low-speed motor vehicles

ZEV and LEV vehicles that have been reconditioned and registered for the first time in Québec can also earn credits. However, the number of credits decreases in proportion to the odometer reading in kilometres when a vehicle is first registered in Québec. Here is an example: If a new vehicle model is worth two credits to the manufacturer, the same model once reconditioned and imported with 35 000 kilometres on the counter is only worth one credit. It is important to note that the vehicle must meet a number of conditions in order to qualify, including being less than 4 years of age and having no more than 40 000 kilometres on the clock. As for low-speed vehicles that reach a maximum of 40 km/h, they count for exactly 0.15 credit each.

### THERE ARE VARIOUS WAYS OF ACQUIRING THE REQUIRED CREDITS

Automakers have a choice of scenarios to enable them to reach their government-set credit requirements. The three examples below illustrate the different ways an automaker can receive 500 credits.

**1** **167 ZEV** 402-km range in electric mode = **500 CREDITS**

**2** **1000 LEV** 32 km range in electric mode = **500 CREDITS**

**3** **50 ZEV** 402-km range in electric mode  
+  
**200 ZEV** 161-km range in electric mode  
+  
**100 LEV** 32-km range in electric mode  
= **500 CREDITS**

### AUTOMAKERS CAN BUY & SELL CREDITS

Earned credits may be purchased from competitors not subject to regulation but sell or lease no more than 4,500 vehicles annually, or from other automakers that are subject to the standard and have excess credits. Automakers that do not offer plug-in vehicles can therefore fulfill their obligations for a given model year with credits that are available on the market and avoid paying a charge to the government. Note that only credits earned in Québec can qualify, not those acquired in other jurisdictions that have a ZEV standard.