POLICY UPDATE

MAY 2017

# ADJUSTMENT TO SUBSIDIES FOR NEW ENERGY VEHICLES IN CHINA

ICCT **POLICY UPDATES** SUMMARIZE REGULATORY AND OTHER DEVELOPMENTS RELATED TO CLEAN TRANSPORTATION WORLDWIDE.

On January 1, 2017, China implemented an updated subsidy program for battery electric vehicles (BEVs); plug-in hybrid electric vehicles (PHEVs), including extended-range vehicles; and fuel cell vehicles (FCVs)—together commonly called *new energy vehicles* (NEVs). A jointly issued policy update on December 29, 2016,[1] by China's Ministry of Finance (MOF), Ministry of Industry and Information Technology (MIIT), Ministry of Science and Technology (MOST), and National Development and Reform Commission detailed the updated program design and adjusted subsidy amounts. The current policy, which will be valid through 2020 (called 2017–2020 Policy Adjustment hereafter), represents the sixth adjustment to the original policy introduced in 2009.[2]

The 2017–2020 Policy Adjustment details subsidies for manufacturers rather than end users and features the phase down of a national subsidy, tightened vehicle qualification requirements, improved incentive design, and robust anti-fraud and enforcement measures. Details of the new policy and a comparison with other markets are provided below.

## BACKGROUND

As the largest auto market in the world, China has been committed to promoting NEVs since 2009[2] with a target of having 5 million NEVs on the roads by 2020.[3] To realize this ambitious target, the Chinese government offers substantial fiscal subsidies, at both the national and sub-national level. Over the past 7 years, a series of policies have regulated NEV subsidies, as illustrated in Figure 1.

1 MOF. (2016). Notice on adjusting the fiscal subsidy policies on NEV promotion and application. Retrieved from http://jjs.mof.gov.cn/zhengwuxinxi/tongzhigonggao/201612/t20161229_2508628.html

2 MOST. (2009). Notice on initiating energy-saving and new energy vehicle demonstration pilot programs. Retrieved from http://www.most.gov.cn/fggw/zfwj/zfwj2009/200902/t20090224_67588.htm

3 Chinese State Council. (2012). Energy-saving and new energy vehicles industry development planning (2012-2020). Retrieved from http://www.gov.cn/zwgk/2012-07/09/content_2179032.htm

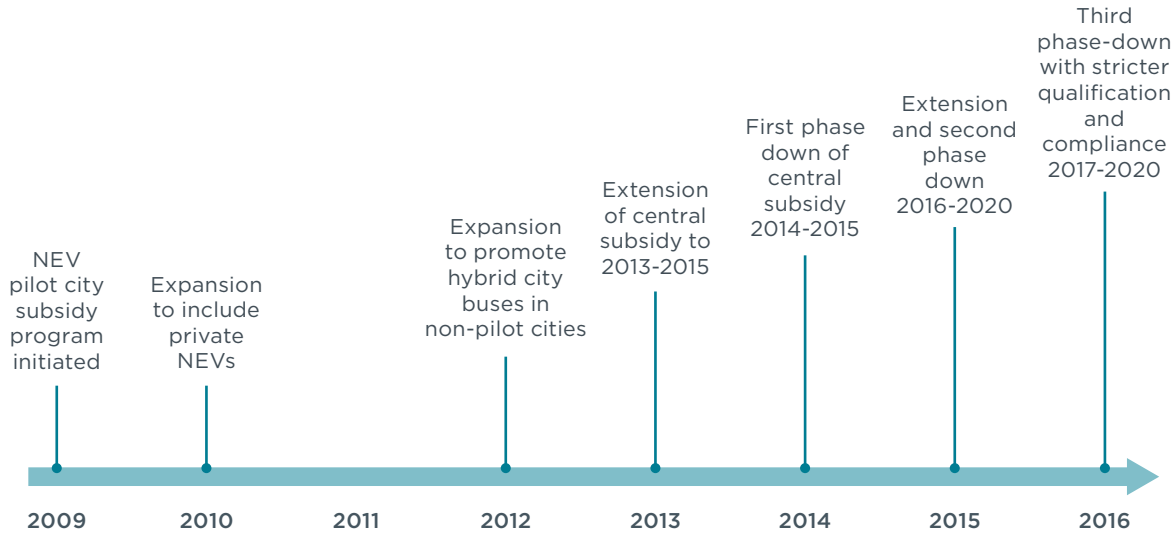



**Figure 1.** Timeline of China's national NEV subsidy policies.

By the end of 2015, the national government had spent 33.4 billion yuan (~$4.84 billion) on NEV subsidies.[4] As a result of the strong stimulus, China's NEV sales skyrocketed from annual production of a couple thousand in 2009[5] to approximately 0.33 million in 2015.[6] Despite the impressive NEV growth, issues like subsidy fraud and inconsistent product quality (including safety features) have led to doubt and criticism about the subsidy policies. Central to the debate is whether China should continue these considerable national subsidies, and, if so, how the government can ensure that the subsidies are appropriately and effectively implemented.[7] In this context, the four agencies mentioned above made the joint decision to reconstruct the NEV subsidy policies, aiming to close previous loopholes and make the policies more robust.

## REVISED SUBSIDIES COMPARED WITH THE PREVIOUS POLICY

According to the 2017–2020 Policy Adjustment, subsidies are available for qualified new energy passenger cars, buses and coaches, and freight trucks, along with vocational vehicles, such as garbage trucks. In general, the per-vehicle subsidy from 2017 to 2020 decreases by 20% every 2 years from the 2016 policy level for new energy passenger cars and buses/coaches. The 20% phase-down rate also applies to subsidy caps. In the following sections, we provide, wherever possible, the 2016 and 2017–2018 subsidy levels for comparison purposes. We do not provide 2019–2020 subsidy levels, but readers may apply the 20% phase-down rate from the 2017–2018 levels to obtain those values. In some cases, the design of the incentive (i.e., how the subsidy is determined) also changed from the 2016 policy. The 2016 policy information

4 Press office of MOF. (2016). http://www.mof.gov.cn/zhengwuxinxi/bulinggonggao/tongzhitonggao/201609/t20160908_2413434.htm

5 State Intellectual Property Office. (2016). Statistical review of patents briefing. Retrieved from http://www.sipo.gov.cn/tjxx/zltjjb/201603/P020160323522820930598.pdf

6 China Association of Automobile Manufactures. (2016). The situation of economic operation of China's automobile industry in 2015. Retrieved from http://www.caam.org.cn/xiehuidongtai/20160112/1705183569.html

7 Yun, H. (2016). Should the government continue paying for NEVs? Retrieved from http://finance.sina.com.cn/roll/2016-11-02/doc-ifxxfysn8638076.shtml

was obtained from the notice on the 2016–2020 fiscal subsidy policies on NEV promotion and application.[8]

## OVERVIEW OF POLICY DESIGN

To qualify for the subsidy, vehicles must meet minimum technical requirements[9] (see check marks in Table 1). The minimum requirements aim to omit vehicles with dated technologies and poor performance, thereby keeping the incentives focused on truly advanced technologies and improved performance. A table summarizing the technical thresholds of the requirements can be found in the Appendix. Specific requirements for each type of vehicle are detailed in the following subsections. Then, the magnitudes of the incentives are indexed to a variety of utility and performance parameters of the vehicles; these are referred to as *scaling parameters* in the context of this summary (denoted as circles in Table 1).

Table 1 shows the design elements of the subsidies for each vehicle type under both the current 2017–2020 and the 2016 policies. Details of these incentives by vehicle type are provided in the subsections that follow. As shown in Table 1, the 2017–2020 Policy Adjustment has expanded the minimum technical requirements across the three vehicle types. For example, in 2017–2020, an electric car must meet minimum energy efficiency and maximum speed requirements to qualify for the subsidy. By comparison, in 2016 and before, electric cars were subject to a single minimum requirement—maximum speed. For electric buses/coaches, some scaling parameters, such as electric range in the 2016 policy, become minimum requirements, whereas new scaling parameters, such as battery charging speed, emerge in the 2017–2020 Policy Adjustment. Such changes signal the elevation of qualification thresholds for the subsidies and improved policy design as the level of subsidy correlates more closely with utilities of consumer concern.

8 MOF. (2015). Notice on 2016-2020 fiscal subsidy policies on NEV promotion and application. Retrieved from http://jjs.mof.gov.cn/zhengwuxinxi/zhengcefagui/201504/t20150429_1224515.html

9 In some cases, these can be maximum requirements on certain performance parameters like fuel or energy consumption. For simplicity, the term *minimum requirements* is used in a general way.

**Table 1.** Illustration of incentive design of 2016 and revised (2017–2020) subsidies.

| Vehicle type | Technology | Year | Design parameters | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | EF | ER | LH | BC | BD | BM | CS | SP | FS | RP |
| Passenger Cars | BEV | 2016 | | ✓◯ | | | | | | ✓ | | |
| | BEV | 2017-2020 | ✓ | ✓◯ | | | ✓◯ | | | ✓ | | |
| | PHEV | 2016 | | ✓ | | | | | | | ✓ | |
| | PHEV | 2017-2020 | ✓ | ✓ | | | | | | | ✓ | |
| | FCV | 2016 | | ✓ | | | | | | | | |
| | FCV | 2017-2020 | | ✓ | | | | | | | | ✓◯ |
| Bus/Coach | BEV | 2016 | ✓◯ | ✓◯ | ◯ | | | | | | | |
| | BEV | 2017-2020 | ✓ | ✓ | ◯ | ◯ | ✓◯ | ✓ | ✓◯ | | | |
| | PHEV | 2016 | | ✓◯ | ◯ | | | | | | ✓ | |
| | PHEV | 2017-2020 | ✓ | | ◯ | ◯ | | ✓ | | | ✓◯ | |
| | FCV | 2016 | | ✓ | | | | | | | | |
| | FCV | 2017-2020 | | ✓ | | | | | | | | ✓ |
| Truck/ Vocational | BEV | 2016 | | ✓ | | ◯ | | | | | | |
| | BEV | 2017-2020 | ✓ | | | ◯ | ✓ | | | | | |
| | PHEV | 2016 | | ✓ | | ◯ | | | | | ✓ | |
| | PHEV | 2017-2020 | | | | ◯ | ✓ | | | | | |
| | FCV | 2016 | | ✓ | | | | | | | | |
| | FCV | 2017-2020 | | ✓ | | | | | | | | ✓ |

**EF** = *energy efficiency (kWh/100 km for passenger cars or Wh/km·kg for buses, coaches, trucks, and vocational vehicles)*
**ER** = *electric range (km)*
**LH** = *length of vehicle (m)*
**BC** = *battery capacity (kWh)*
**BD** = *battery energy density (Wh/kg)*
**BM** = *battery mass as a percentage of vehicle curb mass (%)*
**CS** = *charging speed of batteries (C)*
**SP** = *maximum vehicle speed (km/h)*
**FS** = *fuel saving compared with conventional vehicles (%)*
**RP** = *rated power (kW)*
◯ *scaling parameter*
✓ *minimum requirement for all vehicles in each category*
✓◯ both scaling parameter and minimum requirement for all vehicles in each category

Historically, consumers enjoy "matching" subsidies provided by sub-national governments in addition to the national subsidies. Previously, the sub-national governments determined the level of their own subsidies. The 2017–2020 Policy Adjustment begins to set a "cap" for local subsidy levels; that is, the total amount of subsidy per vehicle (FCV excluded) from all subnational governments cannot exceed 50% of the level offered by the national government.

## PASSENGER CARS AND LIGHT-DUTY COMMERCIAL VEHICLES

According to the 2016 policy, battery electric passenger cars had to meet minimum requirements in electric range (100 km) and in maximum speed (100 km/h) to qualify for the subsidy. The 2017–2020 Policy Adjustment adds two technical requirements—minimum battery energy density (90 Wh/kg) and maximum energy consumption. The maximum energy consumption, measured in kWh/100 km, is a function of vehicle curb weight (mass [m], in kg) using the formulas shown in Table 2.

**Table 2.** Maximum energy consumption requirements for battery electric cars.

| Curb weight (kg) | Max. energy consumption (kwh/100 km) |
|---|---|
| ≤1,000 | 0.014×m+0.5 |
| 1,000–1,600 | 0.012×m+2.5 |
| >1,600 | 0.005×m+13.7 |

For plug-in hybrid electric passenger cars, in addition to a minimum electric range requirement (50 km) in the 2016 policy, the Policy Adjustment has enhanced the fuel efficiency criteria. Fuel consumption (L/100 km) for shorter electric range (<80 km) PHEVs in a non-electric mode must be lower than 70% of the current (Phase IV) fuel consumption limits,[10] compared with 60% under the 2016 policy. Longer electric range PHEVs (≥80 km) are subject to the same energy consumption requirements as for battery electric cars, when tested under the electric mode.

Fuel cell passenger cars must meet a minimum rated power threshold (10 kW) and a minimum electric range (300 km), compared with 150 km in the 2016 policy, to receive the subsidy. The level of subsidy is scaled along rated power and capped at Chinese Yuan (CNY) 200,000[11] per car.

Table 3 presents the schedule of national subsidies for BEVs, PHEVs, and FCVs. As mentioned previously, the subsidies for BEVs and PHEVs are 20% reduced in 2017–2018 from the 2016 levels (shown in the table) and then reduced by another 20% in 2019–2020 (not shown in the table). The annual subsidy level for BEVs and PHEVs is indexed to electric range and battery energy density, whereas the subsidy level for FCVs correlates with rated power instead.

10 MIIT. (2014). Fuel consumption limits for passenger cars. Retrieved from http://www.miit.gov.cn/n1146295/n1652858/n1653018/c3780606/part/3780612.pdf

11 The exchange rate between USD and CNY was 6.8826:1 as of April 21, 2017.

**Table 3.** National subsidies for new energy passenger cars in 2016 and 2017–2018.*

| Vehicle Type | BD (Wh/kg) | ER (km) | RP (kW) | Subsidy level CNY 10,000/vehicle | |
|---|---|---|---|---|---|
| | | | | 2016 | 2017–2018 |
| BEV | 90≤BD<120 | 100≤ER<150 | - | 2.5 | 2.0 |
| | | 150≤ER<250 | - | 4.5 | 3.6 |
| | | ER≥250 | - | 5.5 | 4.4 |
| | BD>120 | 100≤ER<150 | - | 2.5 | 2.2 |
| | | 150≤ER<250 | - | 4.5 | 4.0 |
| | | ER≥250 | - | 5.5 | 4.8 |
| PHEV | - | ER≥50 | - | 3.0 | 2.4 |
| FCV | - | - | 10≤RP<30 | 20 | 0.6/kW |
| | - | - | RP≥30 | 20 | 20 |

*BD = battery energy density (Wh/kg), ER = electric range (km), and RP = rated power (kW).

In 2017–2018, light-duty commercial FCVs are eligible for a CNY 300,000 national subsidy if they meet a minimum rated power requirement (of 30 kW) and a minimum electric range requirement (300 km). Previously, the same level of subsidy applied but with a less strict requirement on electric range (150 km for light-duty buses/coaches and 200 km for light-duty trucks/vocational vehicles) and without the rated power requirement.

## BUSES AND COACHES

In the 2016 policy, battery electric buses and coaches must consume less than 0.7 Wh/km·kg of energy (electricity) and meet a minimum electric range of 150 km to qualify for the subsidy. In the 2017–2020 Policy Adjustment, the thresholds are tightened to 0.24 Wh/km·kg and 200 km, respectively. In addition, a few technical thresholds are introduced, including a cap on battery mass ratio (battery system mass as a percentage of vehicle curb weight) of 20% for all battery electric buses, a minimum charging speed requirement of 3C[12] for fast-charging electric buses, and a minimum battery energy density requirement of 85 Wh/kg for non-fast-charging electric buses.

For plug-in hybrid electric buses and coaches, the 2017–2020 Policy Adjustment continues to adopt a minimum fuel-saving rate (40%) requirement but removes the requirement on minimum electric range. Furthermore, PHEVs are subject to the same energy consumption and battery mass ratio requirements as those for BEVs.

The new policy also requires the driving cycle, used to measure electric range, to shift from a constant speed (40 km/h) approach to dynamic driving cycle approach for battery electric and plug-in hybrid buses; this will be done "at a proper time" according to the policy document.

12 A C-rate is a measure of the rate at which a battery is discharged relative to its maximum capacity. A 1C rate means that the discharge current will discharge the entire battery in 1 hour. For a battery with a capacity of 100 Amp-hrs, this equates to a discharge current of 100 Amps. Source: MIT. (2008). A guide to understanding battery specifications. For more details, see http://web.mit.edu/evt/summary_battery_specifications.pdf

Fuel cell electric buses and coaches must meet a minimum electric range requirement of 300 km and a minimum rated power requirement of 30 kW (or 30% of the rated power of the driving motor, whichever is larger) to qualify for the subsidy. The electric range threshold was 150 km in the 2016 policy.

Table 4 shows the 2016 subsidies scale along with vehicle energy efficiency and electric range for BEVs and electric range alone for PHEVs. The scale values are corrected by a factor determined by vehicle length. Mid- to heavy-duty FCVs, on the other hand, receive a uniform subsidy of CNY 500,000 per vehicle.

In the current 2017–2020 policy, the per-vehicle subsidies for BEVs and PHEVs are primarily based on battery size and are fine-tuned with factors dependent on the charging speed of batteries, battery energy density for BEVs, and fuel-saving rates for PHEVs (Table 5). The subsidy level for each type of vehicle is subject to a cap that varies depending on vehicle length. For example, the national subsidy given to a fast-charging battery electric bus with a 200-kWh battery, 4C charging speed, and 12-m vehicle length is calculated as CNY 3,000 × 200 × 0.8 = CNY 480,000. Because this value is higher than the corresponding subsidy ceiling (CNY 200,000), this bus will receive CNY 200,000 from the national government. The subsidy level and design for FCVs in 2017–2018 remains unchanged compared with the 2016 policy except for the new minimum requirement mentioned earlier.

**Table 4.** National subsidies for new energy buses and coaches in 2016.

| Vehicle type | EF[1] Wh/km•kg | Subsidy level CNY 10,000/vehicle | | | | | |
|---|---|---|---|---|---|---|---|
| | | 6≤ER[2]<20 | 20≤ER< 50 | 50≤ER< 100 | 100≤ER<150 | 150≤ER<250 | ER≥250 |
| BEV (10–12 m in length) | EF<0.25 | 22[3] | 26 | 30 | 35 | 42 | 50 |
| | 0.25≤EF<0.35 | 20 | 24 | 28 | 32 | 38 | 46 |
| | 0.35≤EF<0.5 | 18 | 22 | 24 | 28 | 34 | 42 |
| | 0.5≤EF<0.6 | 16 | 18 | 20 | 25 | 30 | 36 |
| | 0.6≤EF<0.7 | 12 | 14 | 16 | 20 | 24 | 30 |
| PHEV | | N/A | N/A | 20 | 23 | 25 | |
| Mid- to heavy-duty FCV | | 50 | | | | | |

*1. EF = energy efficiency (Wh/km·kg)*
*2. ER = electric range (km)*
*3. Single-decker buses with different vehicle lengths (LH, measured in m) will receive different levels of subsidies, which are calculated by multiplying the values in this table with different vehicle length adjustment factors. The adjustment factors for buses with different lengths are 0.2 (LH≤6), 0.5 (6<LH≤8), 0.8 (8<LH≤10), 1.0 (10<LH≤12), and 1.2 (LH>12). Subsidies for double-decker buses are equal to those for single-decker buses over 12 m long.*

**Table 5.** National subsidies for new energy buses and coaches in 2017–2018.*

| Vehicle type | Subsidy amount (CNY/kwh) | Adjustment factors | | | National subsidy ceilings (10,000 CNY/ vehicle) | | |
|---|---|---|---|---|---|---|---|
| | | | | | 6<LH≤8 | 8<LH≤10 | LH>10 |
| **Fast-charging BEV** | 3,000 | Charging speed of batteries (CS) | | | 6 | 12 | 20 |
| | | 3C<CS≤5C | 5C<CS≤15C | CS≥15C | | | |
| | | 0.8 | 1 | 1.4 | | | |
| **Non-fast-charging BEV** | 1,800 | Battery energy density (BD, Wh/kg) | | | 9 | 20 | 30 |
| | | 85<BD≤95 | 95<BD≤115 | BD≥115 | | | |
| | | 0.8 | 1 | 1.2 | | | |
| **PHEV** | 3,000 | Fuel saving rate (FS, %) | | | 4.5 | 9 | 15 |
| | | 40<FS≤45 | 45<FS≤60 | FS≥60 | | | |
| | | 0.8 | 1 | 1.2 | | | |
| **Mid- to heavy-duty FCV** | 50 | | | | | | |

** LH = vehicle length (m).*

## TRUCKS AND VOCATIONAL VEHICLES

The minimum electric range requirement (80 km) for battery electric trucks and vocational vehicles in the 2016 policy has been replaced in the current policy with two other minimum requirements—battery energy density (no lower than 90 Wh/kg) and energy efficiency (no higher than 0.5 Wh/km·kg[13] for trucks and specialized delivery vehicles and no higher than 0.13 kWh/km·ton[14] for other special-duty vehicles). The minimum electric range requirement (50 km) and a fuel consumption limit (less than 60% of the limits specified in the 2016 fuel consumption standard) for plug-in hybrid electric trucks and vocational vehicles also have been replaced by a single minimum battery energy density (minimum 90 Wh/kg) requirement to be eligible for the subsidies. Fuel cell electric trucks and vocational vehicles must meet a minimum electric range requirement of 300 km (compared with 200 km in 2016) and a minimum rated power requirement of 30 kW (or 30% of the rated power of the driving motor, whichever is larger) to qualify for the subsidy.

For BEVs and PHEVs, the levels of subsidy are solely dependent on battery size, in the form of CNY per kWh, under both the 2016 and 2017–2020 policies. The difference is that the 2016 policy adopts a fixed subsidy rate (CNY 1,800 per kWh), whereas the current policy adopts cascading rates by battery size range (Table 6) until the total amount of subsidy hits a cap of CNY 150,000 per vehicle. The subsidy level and design for FCVs in 2017–2018 remains unchanged except for the new minimum requirement mentioned earlier.

13 Calculation formula = energy consumption rate (Wh/km)/adjusted maximum payload (kg)

14 Calculation formula = energy consumption rate (kWh/km)/test mass (ton)

**Table 6.** National subsidies for new energy trucks and vocational vehicles in 2016 and 2017–2018.

| Tech path | Battery capacity (BC, kWh) | Subsidy amount (CNY) | |
|---|---|---|---|
| | | 2016 | 2017–2018 |
| BEV/PHEV | BC≤30 | 1,800/kWh | 1,500/kWh |
| | 30<BC≤50 | | 1,200/kWh |
| | BC>50 | | 1,000/kWh |
| | Per-vehicle subsidy ceilings | N/A | 150,000 |
| FCV | Per-vehicle subsidy | 500,000 | |

## ANTI-FRAUD REQUIREMENTS

As mentioned earlier, fraud was a major concern with previous policies. A typical form of fraud was that manufacturers would overstate their NEV sales volumes to obtain higher subsidies. Previous policies mandated that manufacturers would receive the subsidy based on their NEV sales. To verify the sales reported by manufacturers, government entities typically check the number of vehicle operation licenses issued. Certain manufacturers could obtain the licenses by bribing the local vehicle registration authorities without actually producing the vehicles. This is less of an issue for private NEVs, because end-users/private consumers register vehicles directly. But, for non-private vehicles, this was a big concern.

The 2017–2020 Policy Adjustment includes a few measures to close these and other loopholes. First, the subsidy is paid to the manufacturer only after sales of qualified NEVs. The regulatory agency MIIT will collaborate with various local government bodies to collect and verify proof of sale (e.g., invoices, registration proof) before releasing any subsidy. Regular or random checks will be performed by local government bodies or qualified third parties. Second, non-private NEVs are required to demonstrate at least 30,000 km of accumulated mileage, as shown on the vehicle odometer and through other relevant data, to qualify for the subsidy. Finally, all new NEVs (including private vehicles) must be equipped with an on-board monitoring system to allow real-time monitoring of the vehicles.

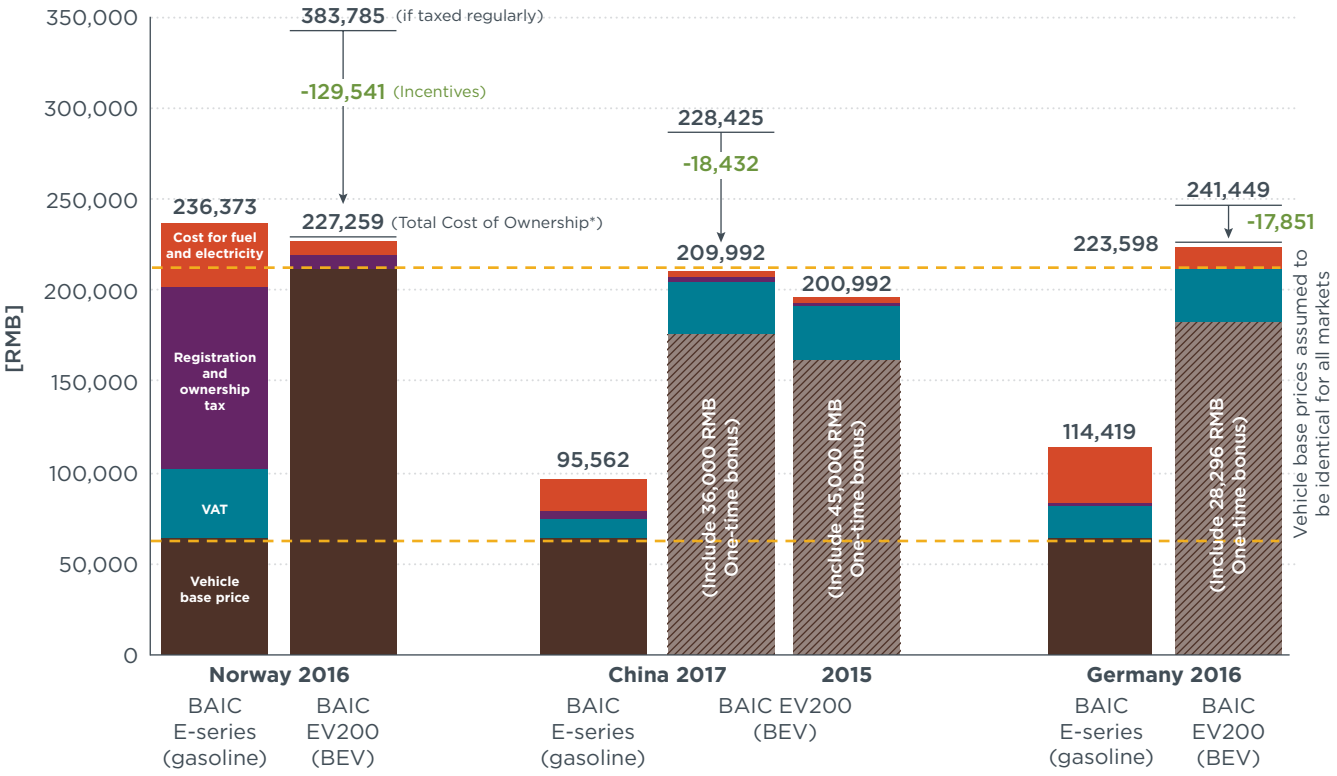
## ENFORCEMENT

Under the updated 2017–2020 policy, fraudulent manufacturers or individuals are subject to administrative, fiscal, and civil penalties, including production suspension, confiscation of illegal income (including paid subsidies), removal from MIIT's vehicle manufacturer catalog (without which the manufacturers are not legally allowed to produce any vehicles), and civil charges brought against legal representatives or high-level managers. Manufacturers or individuals who fail to or improperly report relevant data and information or fail to cooperate with the regulatory agency during data/information verification investigation will also face reduced subsidies, revoked qualification for subsidies, production suspension, and removal from MIIT's vehicle manufacturer catalog. Post-production vehicles with accident reports that are proven to be attributable to vehicle design and manufacturing defects will face reduced subsidies or may no longer be eligible for the subsidies.

## COMPARISON WITH OTHER COUNTRIES

Although the subsidy level has been reduced from 2016 to 2017, China's overall subsidy is still competitive with the incentive levels in other markets. Figure 2 compares the total cost of ownership of BAIC EV200 (BEV) and BAIC E-series gasoline car purchases in Norway, China, and Germany. BAIC EV200 was one of the top selling BEVs in China market in 2016. We assume that the same models are provided in all three markets with the same base price, and we examine the total cost of ownership after taking account of value-added tax, one-time vehicle tax, subsidies, and operation tax and fuel/electricity cost in the first 4 years. The same methodologies used in the report *Driving electrification: A global comparison of fiscal incentive policy for electric vehicles*[15] are applied in this analysis.

After taking the incentives into account, the total cost of BAIC EV200 decreases dramatically and the price gap between BAIC EV200 and the counterpart BAIC E-series is smaller. Even though the price of EV200 in 2017 is higher than the 2015 level because of the subsidy decrease, the total cost of ownership of EV200 in China is still lower than the same vehicle sold in Norway and Germany.




**Total Cost of Ownership includes vehicle purchase and registration costs, as well as ownership taxes and fuel / electricity costs for 4 years.*

**Figure 2.** Evaluation of total cost of ownership of BAIC EV200 and BAIC E-series in Norway, China, and Germany.

15 Mock, P., & Yang, Z. (2014). Driving electrification: a global comparison of fiscal incentive policy for electric vehicles. International Council on Clean Transportation. Retrieved from http://www.theicct.org/sites/default/files/publications/ICCT_EV-fiscal-incentives_20140506.pdf

**Appendix.** Comparison of technical thresholds for new energy vehicle subsidies for 2016 and 2017–2020.

| Vehicle type | Technology | Year | Technical threshold | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | EF[1] | ER (km) | BD (Wh/kg) | BM (%) | CS[2] (C) | SP (km/h) | FS (%) | RP (kW) |
| Passenger Cars | BEV | 2016 | | ≥100 | | | | ≥100 | | |
| | BEV | 2017–2020 | O[3] | ≥100 | >90 | | | ≥100 | | |
| | PHEV | 2016 | | ≥50 | | | | | ≥40 | |
| | PHEV | 2017–2020 | O[3,4] | ≥50 | | | | | ≥30[5] | |
| | FCV | 2016 | | ≥150 | | | | | | |
| | FCV | 2017–2020 | | ≥300 | | | | | | >10 |
| Bus/Coach | BEV | 2016 | ≤0.7 | ≥150 | | | | | | |
| | BEV | 2017–2020 | ≤0.24 | ≥200 | >85 | ≤20 | >3C | | | |
| | PHEV | 2016 | | ≥50 | | | | | ≥40 | |
| | PHEV | 2017–2020 | ≤0.24 | | | ≤20 | | | ≥40 | |
| | FCV | 2016 | | ≥150 | | | | | | |
| | FCV | 2017–2020 | | ≥300 | | | | | | ≥30 |
| Truck/ Vocational | BEV | 2016 | | ≥80 | | | | | | |
| | BEV | 2017–2020 | ≤0.5 or ≤0.13[6] | | ≥90 | | | | | |
| | PHEV | 2016 | | ≥50 | | | | | ≥40 | |
| | PHEV | 2017–2020 | | | ≥90 | | | | | |
| | FCV | 2016 | | ≥200 | | | | | | |
| | FCV | 2017–2020 | | ≥300 | | | | | | ≥30 |

*[1]Energy efficiency is measured in kWh/100 km for passenger cars and measured in Wh/km·kg for buses, coaches, trucks, and vocational vehicles.*
*[2]For fast-charging battery electric vehicles only*
*[3]Energy efficiency requirements for battery electric and plug-in hybrid passenger cars are a function of vehicle curb mass.*
*[4]For longer electric range (≥80km) plug-in hybrid passenger cars only*
*[5]For shorter electric range (<80km) plug-in hybrid passenger cars only*
*[6]0.5 Wh/km·kg for trucks and specialized delivery vehicles, 0.13 kWh/km·ton for other types of vocational vehicles*