



Clean Transportation Program Briefing

Oct 4, 2017

Corporate Average Fuel Consumption and New Energy Vehicles Credits Joint Management Method report released!

The Corporate Average Fuel Consumption and New Energy Vehicles Credits Joint Management Method report¹ was finalized in September and will enter implementation on April 1, 2018. The final draft of the regulation reflects the input provided in response to the first draft released in September 2016², including its WTO consultation³, and the responses given to the second release in June 2017. iCET reviewed the second (and last) draft of the regulation proposed by the Ministry of Industry and Information Technology (MIIT) and released by the Law Department of the State Council in June and submitted additional comments and recommendations at that time⁴.

A coalition of researchers and NGOs are advocating for the decoupling of New Energy Vehicle (NEV) credits from the Corporate Average Fuel Consumption (CAFC) regulation because, (i) the two regulations promote different technological developments – CAFC is meant to pursue energy saving technologies (ESVs) in internal combustion engine (ICE) vehicles, while NEV is meant to spur NEV development; (ii) MIIT arguably has limited management capacity over the existing CAFC regulation and can better implement (and evaluate the effectiveness of) the policies as separate entities; and (iii) As companies receive more credits for NEVs, it will become less likely that they will make improvements to ICE technologies. And given the fact that over 90% of new cars are ICE cars, their efficiency performance should not be compromised.

This briefing highlights major features of the new Chinese standard management, identifies major revisions made from previous versions, and suggests areas for improvement. *For those less familiar with China's CAFC regime, please refer to the glossary of terms at the end of this briefing.*

The Regulation in a Nutshell

- **Implementation scope:** National.
- **Core goals:** To advance vehicle energy efficiency and new energy technologies⁵; to establish mechanisms to support long-term vehicle efficiency and new-energy development; to promote the

¹ <http://www.miit.gov.cn/newweb/n1146295/n1146557/n1146624/c5824932/content.html>

² <http://www.miit.gov.cn/n1146285/n1146352/n3054355/n3057585/n3057592/c5259691/content.html?from=groupmessage&isappinstalled=0>

³ http://car.cnautonews.com/xnyqc/201612/t20161212_510507.htm

⁴ e.g.: <http://www.icet.org.cn/english/news.asp?id=255>

⁵ New Energy Vehicles (NEVs), the equivalent of the US's ZEV, include battery electric vehicles (BEVs), Plug in Hybrids Electric Vehicles (PHEVs) and Fuel Cell Vehicles (FCVs)

healthy growth and development of the auto industry; to ease environmental pressures in both urban and rural areas; to perform as an implementation strategy of “The People’s Republic of China Energy Conservation Law.”⁶ Unlike the last draft, the final version of the report clearly states that NEV credits publication, exchange, and transfer are a core focus.

[Chinese MIIT Regulation: Cluster 1]

- **Management principles:** The average fuel consumption of passenger cars in the People's Republic of China and the management of new energy vehicles will be governed by the measures specified in the draft. CAFC and NEV credits will be calculated independently. Corporate CAFC and NEV credits performance will also be separately evaluated, yet CAFC can be offset by NEV credits.

[Chinese MIIT Regulation: Cluster 2]

- **Regulating entities:** MIIT, Ministry of Finance (MOF), Ministry of Commerce (MOFCOM), and General Administration of Customs, the State Administration of Quality Supervision, Inspection, and Quarantine (AQSIQ) will jointly enforce the “average fuel consumption of passenger cars and new energy vehicle integral management.” The first two will oversee the enforcement of domestic manufacturers, while the latter two will support documentation submission of importers to the former two.

[Chinese MIIT Regulation: Cluster 3, 31,32]

- **Regulated vehicles:** The term "passenger car" as used in the present measures means the vehicle of curb weight not exceeding 3500 kg as specified in paragraphs 2.1.1.1 to 2.1.1.10 of the terms and definitions of the type and definition of the type of car and trailer (GB/T 3730.1)⁷. The term New Energy Vehicles (NEVs), the equivalent of the US’s ZEV, includes battery electric vehicles (BEVs), Plug-in Hybrids Electric Vehicles (PHEVs) and Fuel Cell Vehicles (FCVs).

[Chinese MIIT Regulation: Cluster 4]

- **Regulating threshold:** All domestic vehicle manufacturers and vehicle importers, with ICE (excluding NEVs) vehicle volume exceeding 30,000 units are required to comply with the NEV credits requirement according to their manufacturing or importation volume of the same year. All manufacturers must comply with the CAFC regulation and can use the NEV flexibility mechanism in implementation. *Note: The previous regulation draft stated 50,000 units as the threshold, but this has been changed.*

[Chinese MIIT Regulation: Cluster 5, 11,12 and 17]

- **Reporting:** MIIT will establish a vehicle fuel consumption and NEV integrated information management platform, including the summary and publication of fuel consumption and new energy vehicle related information. Automakers and importers will promptly report their vehicle production and importation volumes as well as vehicle FC to MIIT – as listed in Appendix I of Regulation.⁸ The reporting will include by-vehicle calculations performed by the automakers themselves.

⁶ http://www.zhb.gov.cn/gzfw_13107/zcfg/fg/xzfg/201610/t20161008_365106.shtml

⁷ <http://www.cataarc.org.cn/ShowSearch.aspx?ID=1288>

⁸ <http://zqyj.chinalaw.gov.cn/draftDetail?listType=2&DraftID=1894&1497592757400>

[Chinese MIIT Regulation: Cluster 6 and 7]

- **CAFC credits calculation method (ESV and NEV super credits):** CAFC credits are calculated based on the gap between the actual and targeted annual FC, multiplied by production or importation vehicle volume (as detailed in GB 27999⁹), e.g.: CAFC = FC gap × vehicle volume. The calculation results rely on by-model FC and are precise to two decimal places. Average corporate fuel consumption calculation is based on the combined passenger vehicle fuel consumption, which is verified according to the "light vehicle fuel consumption test method" (GB / T 19233¹⁰).

[Chinese MIIT Regulation: Cluster 7, 8, 9, 10, 11, 12]

- **Special CAFC provisions for small manufacturers:** small manufacturers (with manufacturing or importation volume of or below 2,000 for the calculation year) are given a more relaxed requirement. These looser requirements are calculated according to CAFC performance improvement between the calculation year and the previous year. Between 2016 and 2020, requirements relaxed by 60% can be gained by small enterprises that have improved their CAFC by 6% or more from the previous year. Those achieving an improvement rate of 3% are assigned a 30% more relaxed requirement. Importers with import volumes smaller than 2,000 need not comply.

[Chinese MIIT Regulation: Cluster 12]

- **NEV credits calculation method:**

- All companies with production or importation exceeding 30,000 vehicles must meet the NEV credit requirement.
- Credit stock is based on the gap between actual and required volume of NEVs credit produced (credits should be rounded).
- Production and importation rather than sales are still the basis of NEV credit calculation.
- NEV credit calculation is based on both e-mileage and an energy consumption test result, with some references (see notes under Table 1).
- The 2019 and 2020 NEV credit target is 10%, and 12%, respectively, of total production/importation volume.

[Chinese MIIT Regulation: Clusters 13-17]

⁹ <http://www.chinaev.org/uploads/hhl/GB27999-2011.pdf>

¹⁰ <http://chinaafc.miit.gov.cn/n2257/n2340/index.html>

Table 1: Credits calculation

Passenger vehicle type	Credits calculation requirement	Comments
BEV	$0.012 \times R + 0.8$	(1) R is calculated according to the joint (urban and suburban) driving cycle (measured by km). (2) P is the rated power of the fuel cell system, in kW (3) The upper credits limit is 5 points. (4) Credit calculation results are rounded to two decimal points.
PHEV (REEV included)	2	
FCV	$0.16 \times P$	

Technological benchmark:

(1) BEVs: The requirement is of 30 minutes maximum drive speed of not less than 100km/h, and pure electric mode driving range of not less than 100 km.

(2) The credits enabled depend on the relationships between energy consumption and the vehicle curb weight (m) in the following manner: For Y1, if $m \leq 1000\text{kg}$, $Y1 \leq 0.014 \times m + 0.5$; if $1000 < m \leq 1600\text{kg}$, $Y1 \leq 0.012 \times m + 2.5$; if $m > 1600\text{kg}$, $Y1 \leq 0.005 \times m + 13.7$. For Y2, if $m \leq 1000\text{kg}$, $Y2 \leq 0.0098 \times m + 0.35$; if $1000 < m \leq 1600\text{kg}$, $Y2 \leq 0.0084 \times m + 1.75$; if $m > 1600\text{kg}$, $Y2 \leq 0.0035 \times m + 9.59$. Of which, Y stands for energy consumption and M stands for the curb weight of BEVs.

(3) PHEVs: minimal driving range for credits eligibility is 50 km;

PHEVs: when minimal range is 80 km or less, then the energy consumption (GB 19578) should be less than 70% of the standard limit. Otherwise credits will be reduced to 50% of the formula.

Credits from PHEVs of more than 80 e-range but with lower energy consumption than the standard limit cannot be exchanged.

(4) FCVs: The requirement is for fuel cell system rated power to have not less than 30% of the rated power of the drive motor, and not less than 30kW. Failure to meet this requirement enables only 50% of the credits and disables credit exchange (own use only).

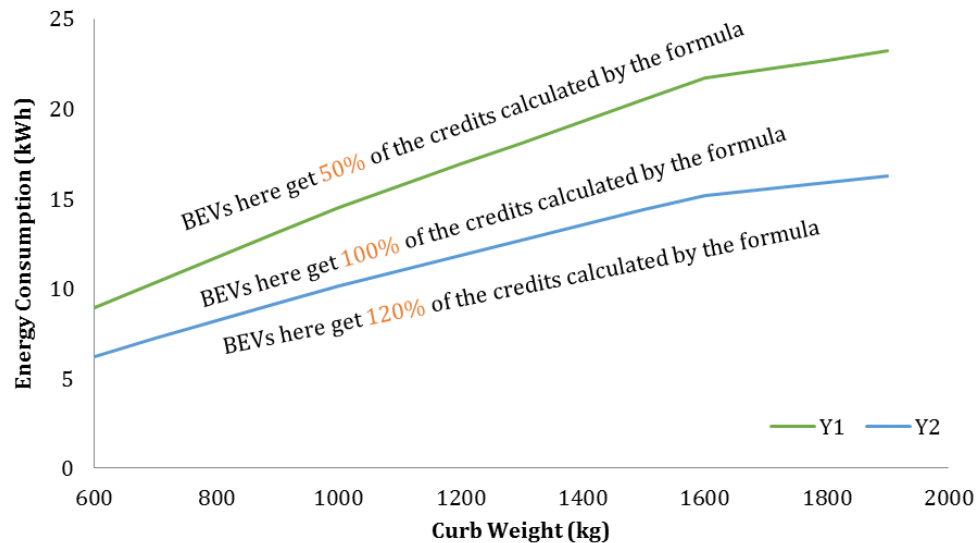


Figure 1: NEV credits obtained for BEV model by energy consumption (kWh; in policy notes: 'y') and curb weight (kg; in policy notes: 'm')

▪ **Reporting:**

- By December 20, companies are required to report their projected corporate CAFC and NEV credit estimations for the coming calendar year to MIIT.
- By March 1, the actual corporate CAFC and NEV credits should be reported to MIIT (as detailed in Appendix III of the Regulation¹¹).
- MIIT will publically release both CAFC and NEV credit figures on its dedicated platform on April 10. If revisions are required, they should be reported within 30 days from the date of the release of the original figures. MIIT will require 30 days before it will respond to any suggested revisions.
- By June, MIIT will release the figures after ensuring the accuracy of the data (no specific procedures are provided).

[Chinese MIIT Regulation: Clusters 18-21]

- **CAFC credit management (ESV and NEV super credits):** Negative CAFC credits can be compensated for by CAFC credits in two ways: 1. CAFC credits accumulated by the company (produced up to three years ago); 2. NEV-credits transferred from another company that has 25% shares in the receiving company (credits cannot be transferred again and must be used within the current year). Credit requirement not met, should be met within 90 days from the date the report was filed.

[Chinese MIIT Regulation: Clusters 22-29]

- **NEV credit management:** NEV credits can be traded freely, but cannot be banked and must be used within the same year. There is an exception for the year 2019, in which credits achieved through

¹¹ <http://zqyj.chinalaw.gov.cn/draftDetail?listType=2&DraftID=1894&1497592757400>



production may be stored for one year.

[Chinese MIIT Regulation: Clusters 22, 28]

- **NEV credits and CAFC credit linkage:** Only NEV credits can be transformed to CAFC credits using a ratio of 1:1 and used in the same year. They cannot be transferred more than once.
- **Supervision and penalties:** MIIT will supervise the CAFC and NEV credits and determine the entities that will manage compliance, including which entities will employ a shaming method for encouraging compliance. For companies that do not meet their CAFC credits and/or NEV credit requirement, or fail to report accurately and in accordance to the specified requirements and calculations, the following will occur:
 - Companies will be required to halt vehicle production or importation.
 - A public notice will be issued (“shaming” approach).
 - Next year’s requirement will not be lower than the previous unmet requirement.
 - The supervising body will rely on the “Automobile Industry Development Policy”¹² and the “Mandatory Product Certification Management Regulations”¹³ for enforcing supervision, according to the final draft of the regulation.

[Chinese MIIT Regulation: Clusters 34-36]

[The full release:](#)

<http://www.miit.gov.cn/newweb/n1146295/n1146557/n1146624/c5824932/content.html>

¹² <http://www.miit.gov.cn/n1146295/n1146557/n1146624/c3554600/content.html>

¹³ <http://www.cnca.gov.cn/cnca/rdht/qzxcprz/flfg/193003.shtml>

Major changes from the previous draft:

- ❖ **NEV super credits calculation method:** A 2018 target of 8% was excluded from the final regulation. The 2019 and 2020 NEV credit target of 10% and 12%, respectively, of total production/importation volume remained.
- ❖ **FCV credits calculation method:** In the previous regulation draft, the credits gained were 4 or 5 depending on range, while in the final regulation the formula was based on the rated power of the fuel cell system in kW (P).

Table 2: Credit comparison

	$50 \leq e-R < 80$	$e-R=80$	$e-R=100$	$e-R=150$	$e-R=183$	$e-R=250$	$e-R=266$	$e-R=350$
BEV	/	1.76 (2)	2	2.6 (3)	3	3.8 (4)	4	5 (5)
PHEV	2	2	2	2	2	2	2	2

Note: FCVs are no longer range based but rather rate power based; see figure 3.

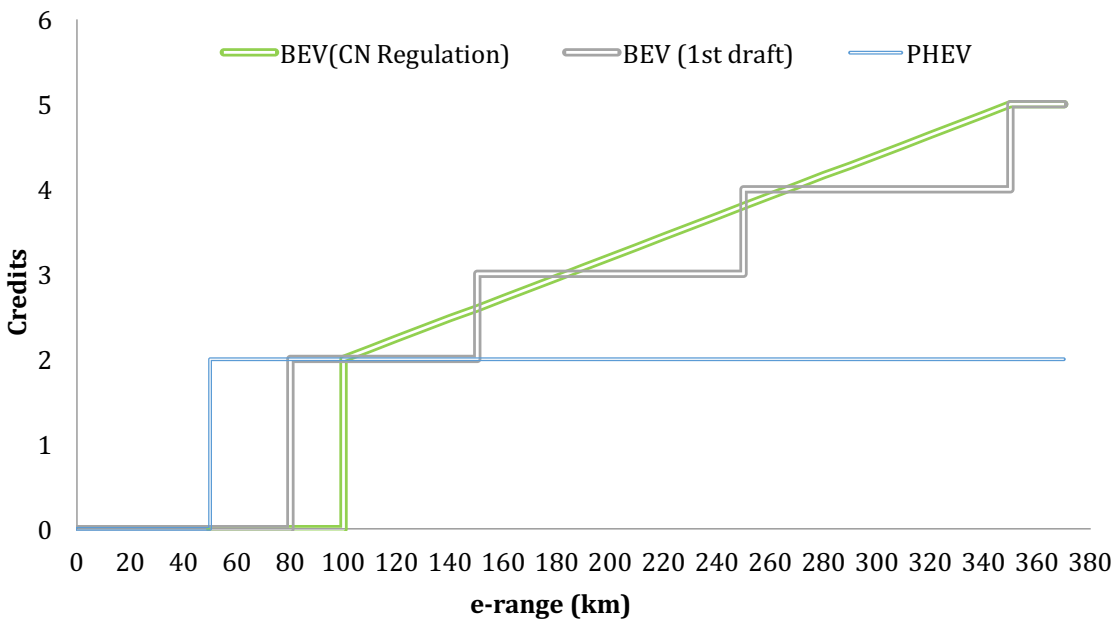


Figure 2: Comparison of NEV credits obtained for BEVs and PHEVs under the final regulation and previous drafts

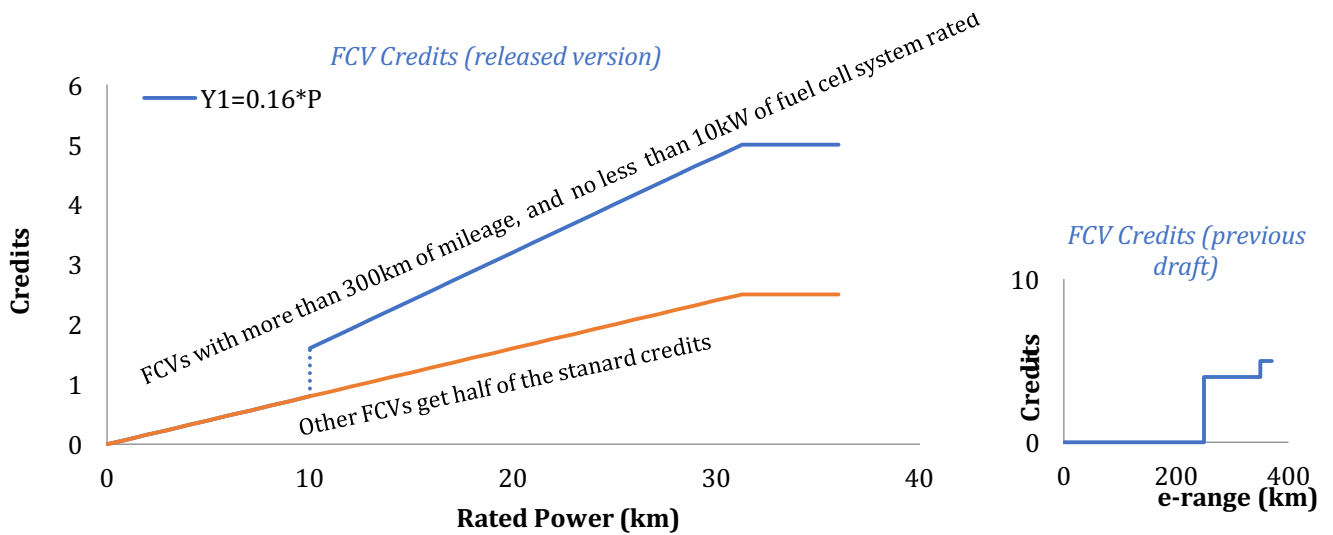


Figure 3: Comparison of FCV credits under the final regulation and previous drafts

- ❖ **Small importers** (import volume smaller than 2,000 cars per year) were listed in previous draft as not required to comply with the NEV super credit requirements.
- ❖ **CAFC credit management (ESV and NEV super credits):** The final version requires that credit requirements be met within 90 days from the date the report is filed or penalties will occur. In the draft version, there was no clear timeframe for penalties.
- ❖ **NEV super credit management:** While in principle NEV credits can be traded freely (yet cannot be banked and must be used within the same year) a special exception was added in the final draft for the first implementation year. Therefore, 2019 production credits may be stored for one year.
- ❖ **Supervision and penalties:** In the new version, as opposed to previous versions, an explicit supervision-basis is outlined. The new version states that the supervising body will rely on the "automobile industry development policy" and the "mandatory product certification management regulations" for enforcing supervision.

iCET's review of the regulation and subsequent recommendations:

In reviewing the regulation and various drafts, *iCET* is concerned that a loophole exists, which waters down the effectiveness of the regulation. It is *iCET's* view that NEV credits should not be transferred to compensate for shortage at the CAFC-credits regime, because this further weakens real CAFC improvement for the 95%-98% of China's vehicle fleet that is based on ICE technology. With current flexibility mechanism at the company's disposal (e.g. NEV super-credits), we estimated in our CAFC annual analysis report¹⁴ that as much as 35% of the CAFC target can be met simply through NEV manufacturing rather than being required to make any actual improvements to fleet-wide fuel efficiency. In the US, only over-compliance in *all* regimes (GHG requirement and ZEV requirement) can enable the accumulation of "over-compliance credits." Such credits could be used on the same year only, are capped for compliance (the value is reduced by 50% in some cases), and cannot be traded. ZEV credits can be traded and banked within the ZEV regime. Figure 4 shows the CAFC target and actual performance for various companies with and without inclusion of NEV super credits. The table shows that many companies, in fact, meet their CAFC target without relying on NEV super credits. Clearly, NEV credits are not needed and additionally, reliance on them produces an adverse effect for fuel efficiency improvements for companies.

That said, if travel provisions are still made possible in the final regulation, we highly suggest reducing the current 1:1 CAFC-credits/NEV-credits ratio (for example, to 2:1).

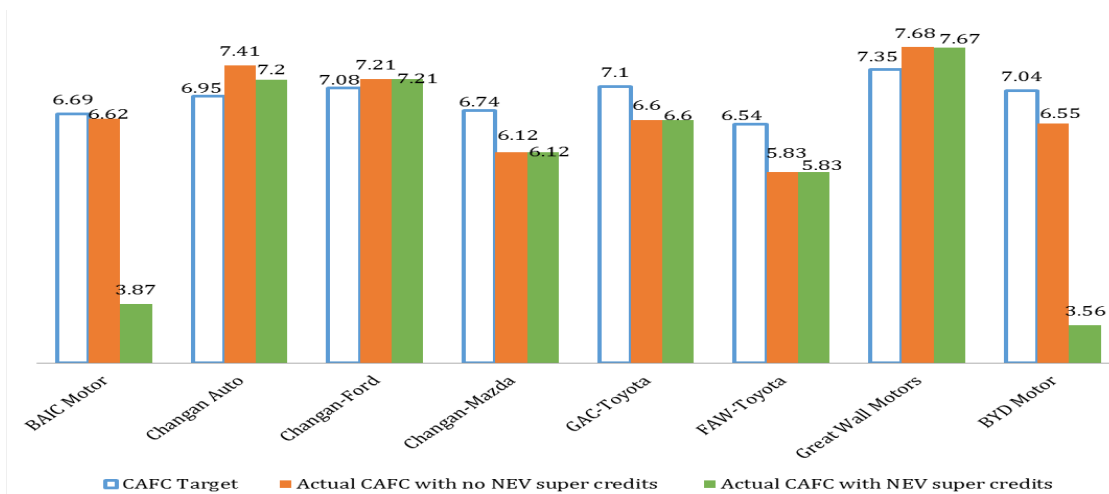


Figure 4: CAFC targets and performance, with and without NEV super credits

¹⁴ For example: <http://www.icet.org.cn/english/news.asp?id=250>

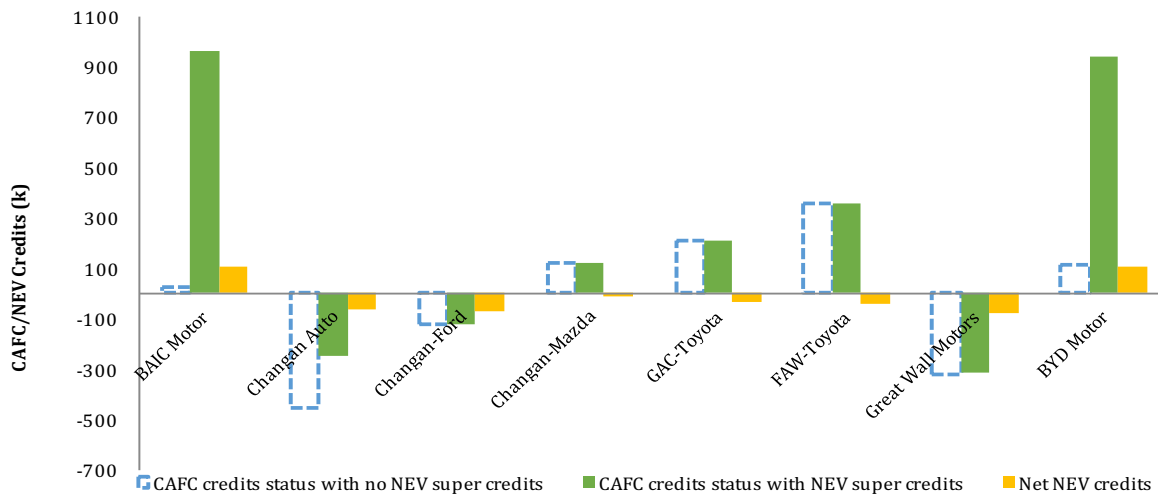


Figure 5: The level of credit excess for different companies, with and without NEV credits

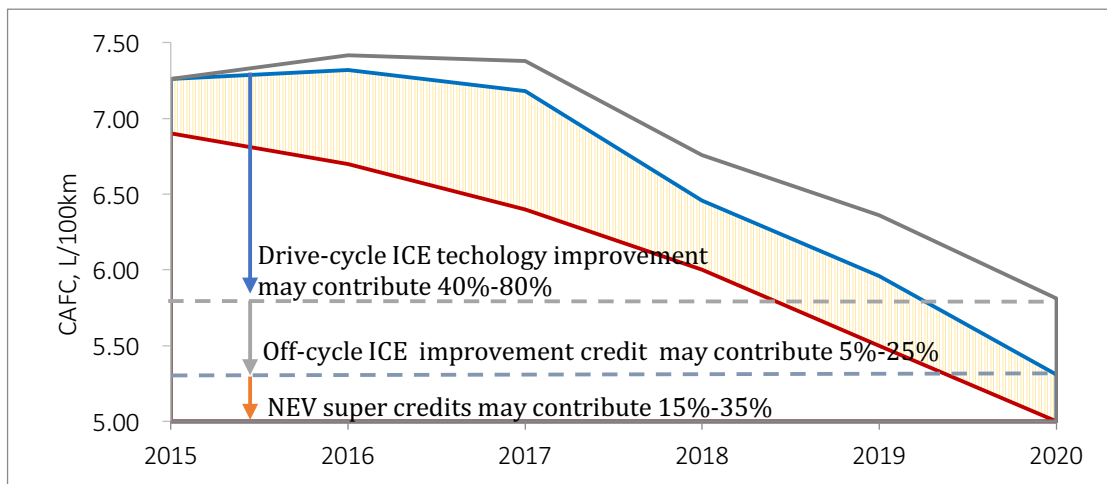


Figure 6: ICE fuel saving technology and NEVs preferential accounting impact on national FC target

- ❖ **Establish a new authority responsible for auditing compliance:** Sales, importation, FC, and credits calculation would be scrutinized, recorded, and verified through this entity instead of relying on companies themselves to provide reliable data, which enables conflicts of interest, and existing regulatory entities not experiences in hybrid-regulation management. Also, all stakeholders related to NEV development – from strategy to production to independent policy impact evaluation – should be considered integral to the implementation of the regulation. Each player can contribute to the effectiveness of the new NEV credit system.

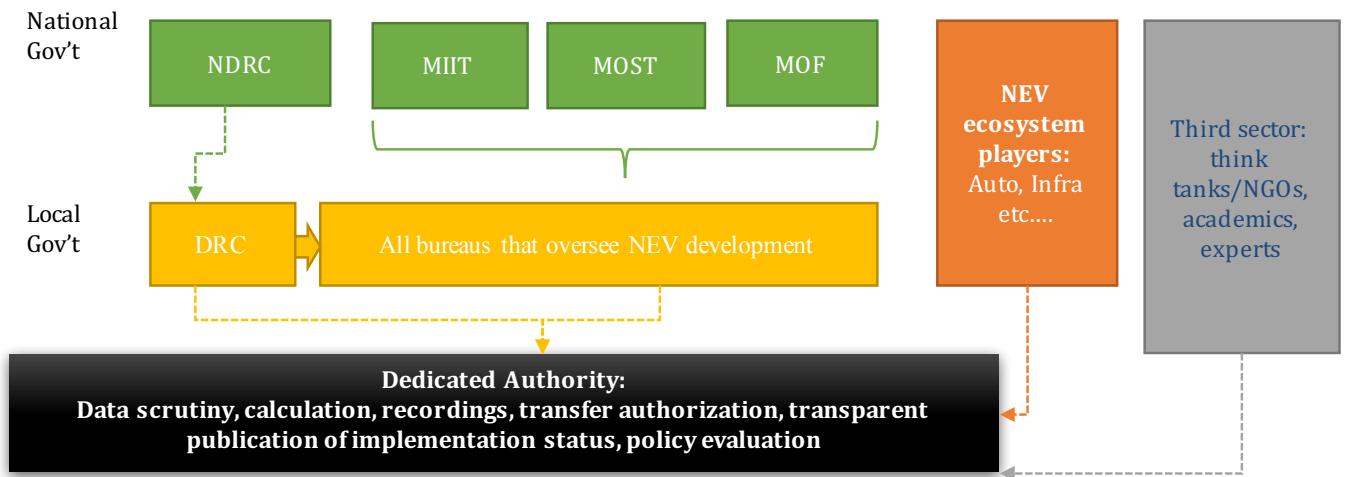


Figure 7: The roles of various national and local governments overseeing NEV development

- ❖ **Shift to sales-based credit volume determination instead of production/importation for setting the ZEV credits volume requirement.** This way, credit requirement will be linked to actual *in-use* fleet structure, while production remains the basis for compliance status only. That way, actual commercialization and environmental impact of NEV-credits mechanism can be more effectively pursued.

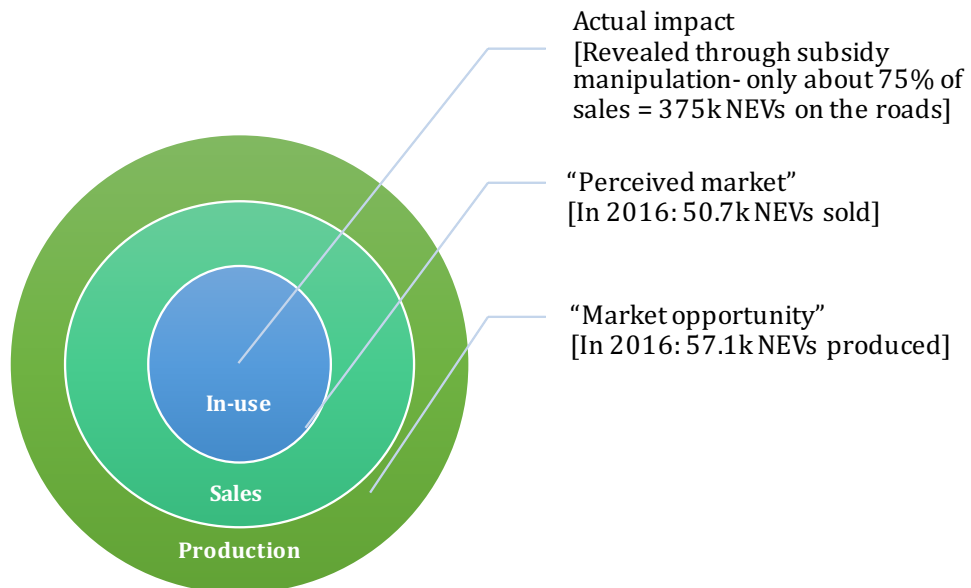


Figure 7: Passenger car production (market opportunity) is seldom equal to in-use vehicle fleet (actual impact).

- ❖ **Instead of basing credit requirements on the current year volume, shift to the previous year's average volume**, which can be verified prior to the implementation year. In other words, instead of year-start production predictions, shift to year-start fixed credit volume recognition. That way, no production volume manipulation is possible and targets will be strategically pursued by auto companies. In the case of the original ZEV-credits in California, companies could choose between an average or current year but this was recently changed to enable only one production volume determination using the average. The shift in regulation is following several years of implementation through which the current year approach arguably created an implementation loophole. The current year determination option is only possible if sales have decreased by 30%.

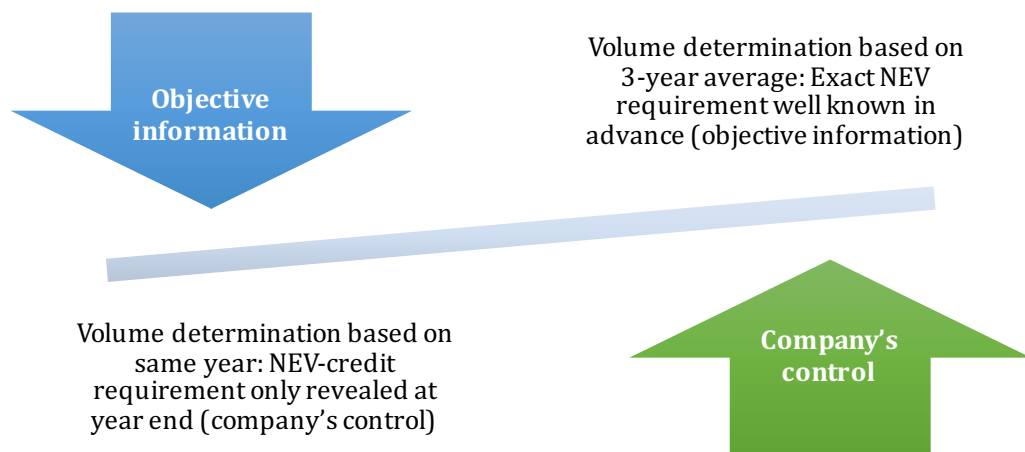


Figure 8: An objective credit-volume setting is based on a three year average, as opposed to a same-year production volume-based credit termination which is subject to the control of companies.

- ❖ **Having a penalty is key for motivating the actual implementation** of the standard and creating market conditions. Without a penalty, NEV credits may have no real value besides serving CAFC, which on its own, has already sufficient NEV flexibility mechanism that have proven to delay actual ICE vehicle engine efficiency improvements. In the case of California, companies must make up for a deficit in the following model year unless granted special permission allowing them three year to do so. Companies can only make up a deficit by selling ZEVs and not TZEVs unless it is a small manufacturer. If the company still fails to comply, it is required to not only compensate for the deficit but also pay financial penalties (\$5,000 per vehicle not produced).

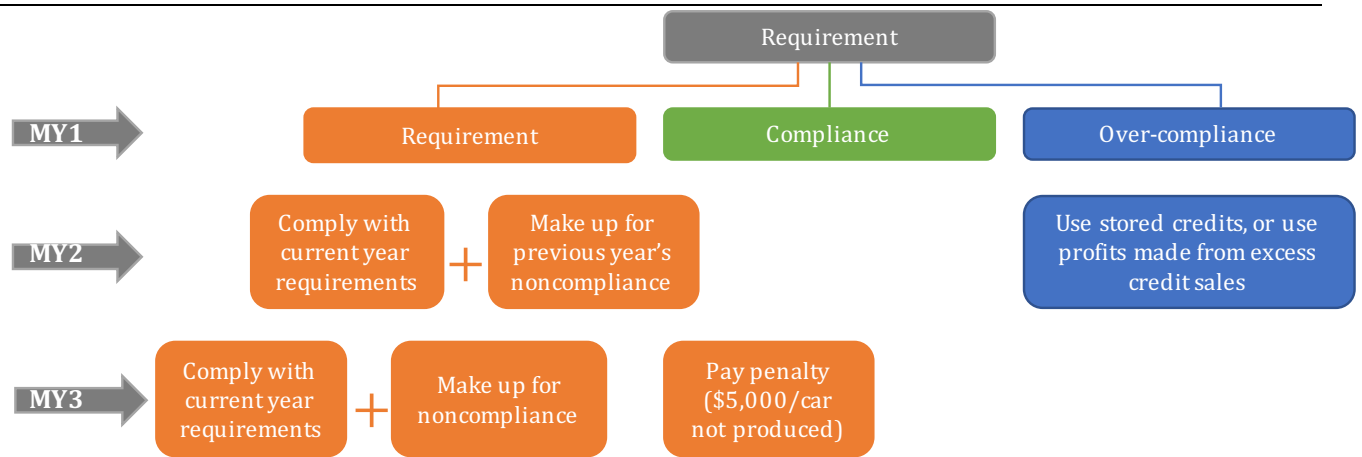


Figure 9: Suggested penalty process (penalty \$ value is the one used in the US ZEV regulation)

- ❖ **Although we embrace the shift to a formula-based credit calculation, we call for reconsidering the formula design.** In comparison with the US formula, the MIIT regulation formula, and the combined cycle it is based on, is rewarding the same BEV vehicle models with more credits than those enabled through the US ZEV regulation. We further encourage the shift to formula calculation for PHEVs (California is using the following formula: $(0.01 \times \text{EAER}) + 0.3$), without which many PHEV models will get much higher credit allotments according to the new draft than those given to them in the US. This further delays actual zero emissions vehicle technologies development.

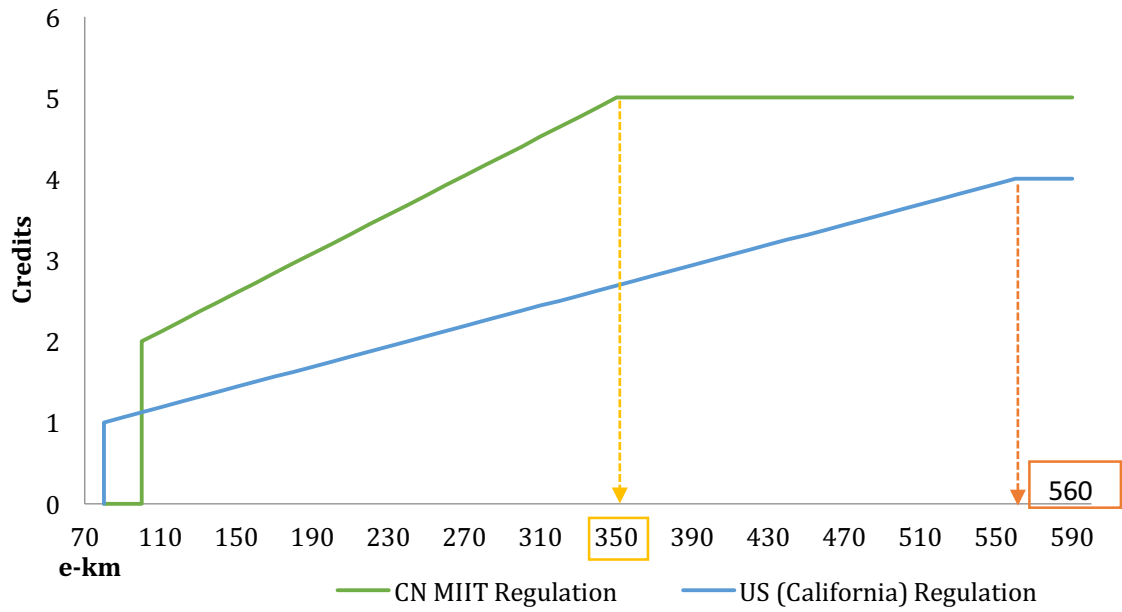


Figure 10: BEV credit comparisons between the new NEV-credits draft and ZEV credits regulation in California

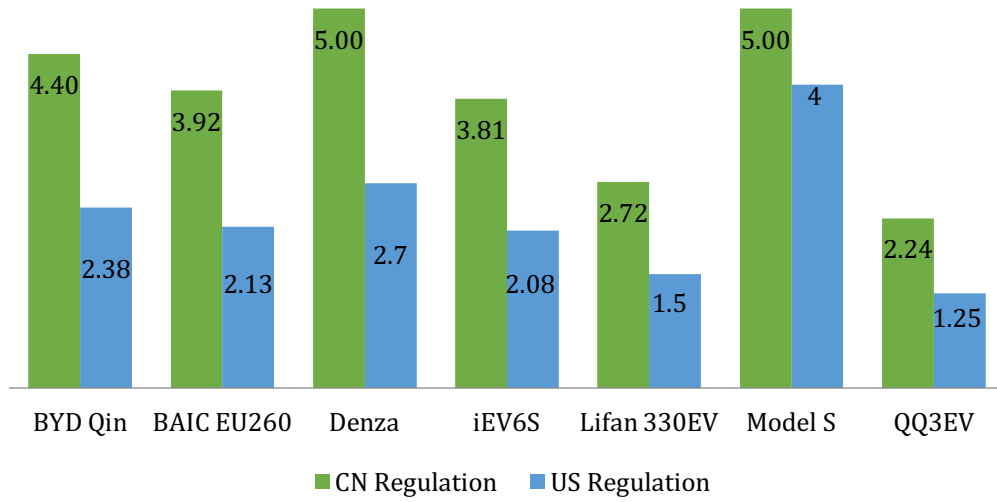


Figure 11: Combined cycle credit results for seven BEVs models under NEV-credits draft and ZEV-credits system compared

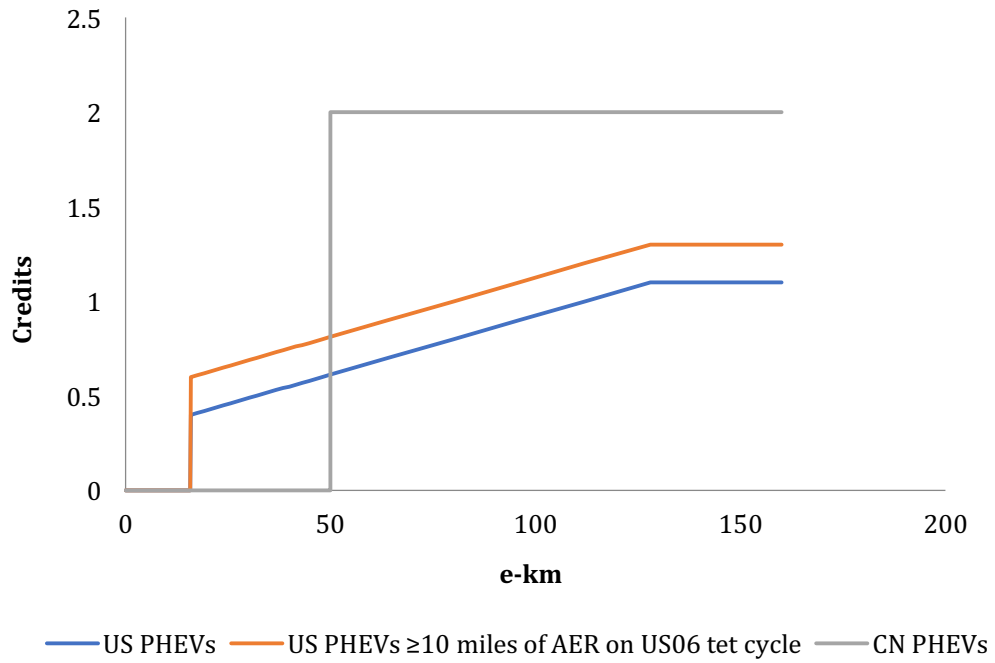


Figure 11: PHEV credit comparisons between the new NEV-credits draft and ZEV credit regulation in California

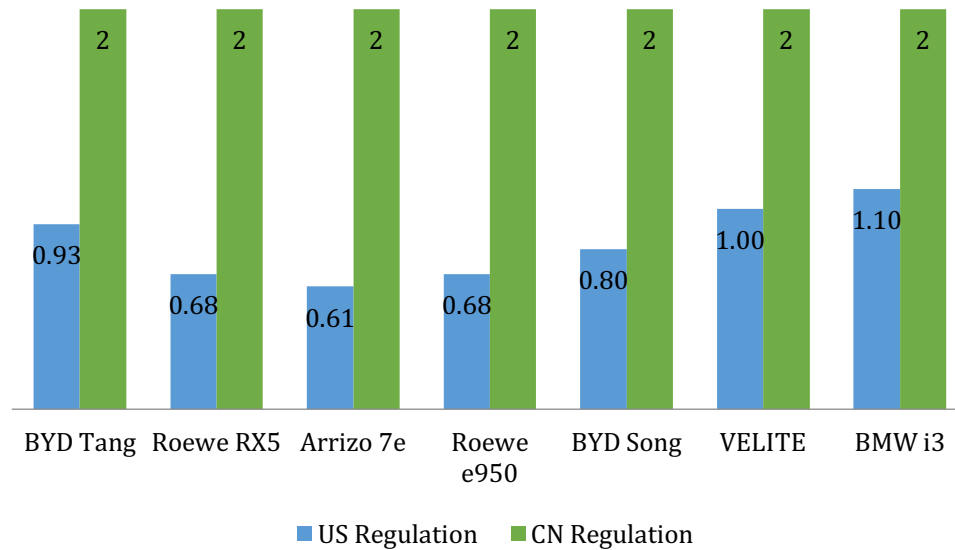


Figure 12: Comparison between credits from seven PHEVs models under NEV-credit draft and ZEV-credit system

- ❖ **Consider shifting the BEV formula test cycle to solely urban test** instead of the combined cycle under the assumption that urban driving conditions are more reflective of in-use mileage and driving behavior. The US has done this after thorough investigation. We encourage conducting similar investigation in China, especially given the lack of e-cycle information transparency. Such an investigation is excluded from this policy briefing.

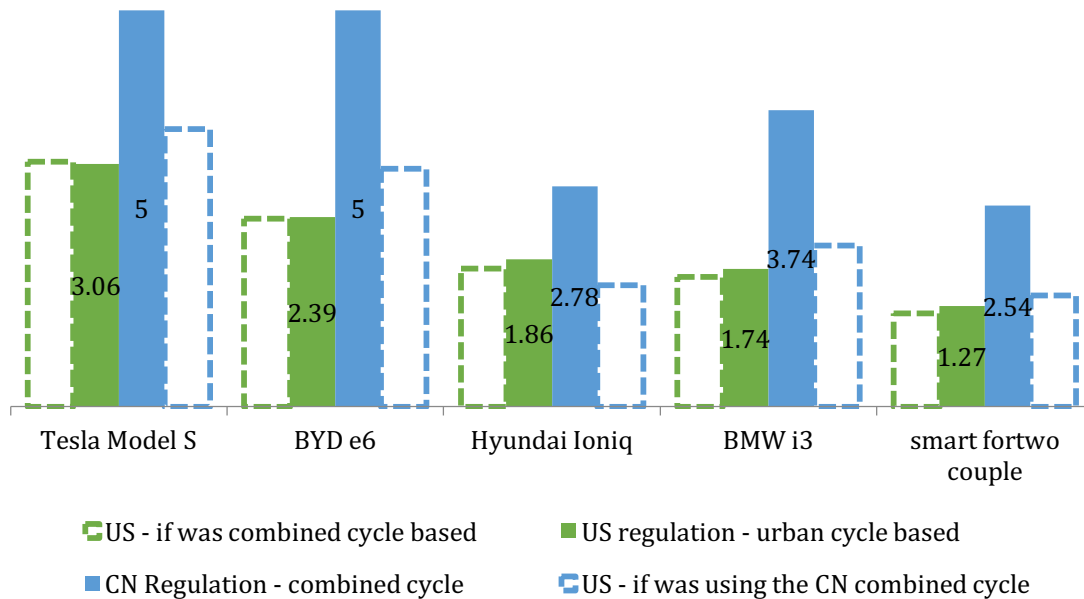


Figure 13: Urban cycle versus combined cycle credits result for seven BEV models under NEV-credits draft, California ZEV-credits system

- ❖ **Since the ultimate target is the development of zero emissions vehicle technology, PHEVs should be considered “transitional.”** Given the maturity of PHEV capacities of foreign manufacturers, China should push domestic manufacturers to pursue pure electric passenger vehicles technological advancement to gain global auto market leadership and transition to zero tailpipe emissions passenger mobility. Therefore: (1) **Set a minimal requirement for credits generated from zero emission vehicles such as BEVs/FCVs and a ceiling for credits generated through transitional vehicles such as PHEVs**, and increase minimal while reducing ceiling along the years. In the case of California, **the** transitional ZEVs (TZEV, e.g. PHEVs, HICE¹⁵) portion increased from a maximum of 2.5% to 6% from 2018 to 2025, while the pure ZEVs (BEV, BEV_x¹⁶, FCV) portion requirement increased from 2% to 16% in the same period. That way, by 2050, a 100% ZEVs implementation can be achieved, which is the ultimate target of the regulation; (2) **Reduce credits for PHEVs over the years** for advancing BEVs technology rather than PHEV technology, and increase technological requirements for eligibility to receive the same volume of credits; (3) **Consider the inclusion of more detailed battery-engine technological relations.** In the case of

¹⁵ Hydrogen Internal Combustion Engine Vehicle.

¹⁶ Extended Range BEV.

the US, it has been evident that the actual e-range of PHEVs is too complex to anticipate during the actual in-use phase, partially due to technological features of PHEVs not addressed in the existing regulations to date (for example, engine kicks-in when the battery charge level is determined to be insufficient).

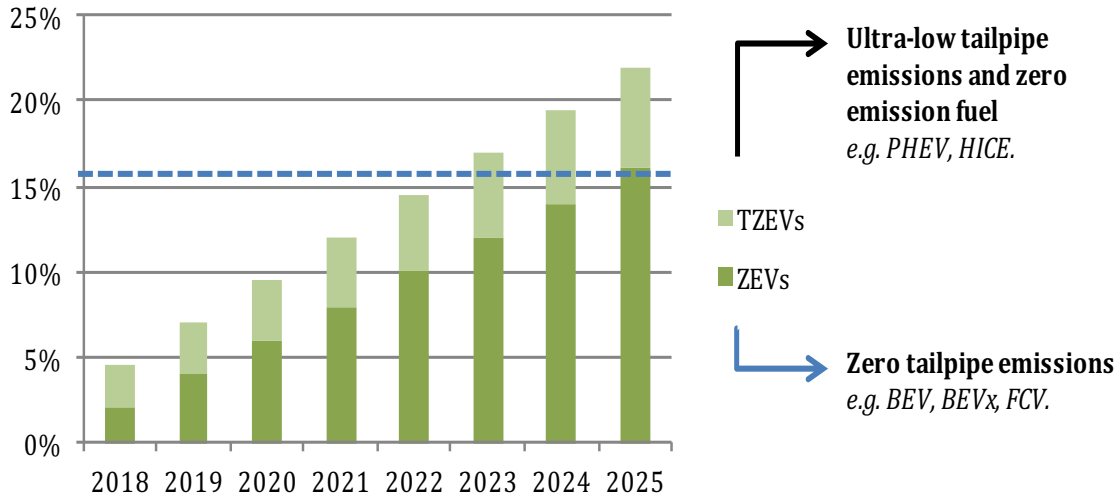


Figure 14: In California, ZEV-credit requirement increases with the years, and with it – the minimum requirement for ZEVs and the maximum utilization of transitional ZEVs (TZEVs)

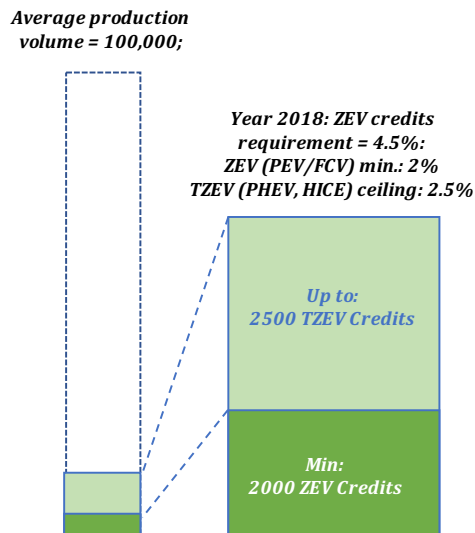


Figure 15: Example of a 2018 credit requirement in the US for a 100,000-average vehicle manufacturer



Background:

iCET was involved in the design of China's first CAFC standard and has been tracking its development ever since. For the past six years, iCET has published an annual CAFC report each summer and hosts an expert panel discussion in which automotive sector leaders and auto media representatives exchange ideas on the regulation and its implementation. An executive summary of 2016 CAFC Report is available online free of charge, here: <http://www.icet.org.cn/english/reports.asp?fid=20&mid=21>. iCET has been advocating on behalf of ZEV credits like regulation development in China since 2013. The following is a list of iCET's key work in this area:

- ✓ A translation of the ZEV credits regulation to Chinese, policy overview, a Tesla Motors case study, and a qualitative analysis of the policy development and its potential linkage to CAFE. Available free of charge, here: <http://www.icet.org.cn/english/reports.asp?fid=20&mid=21>
- ✓ Several highly successful campaigns that promote an independent ZEV credits scheme in China. The campaigns included stakeholder engagement -- key stakeholders from China and the US through high-level events (2016 Climate Leader Summit, 7th Earth Temple Forum) -- close door meetings (e.g. in Shenzhen, Beijing, Chongqing, Shanghai, and Hefei) and media releases. Related news items are available here: <http://www.icet.org.cn/english/newsroom.asp?fid=16&mid=17>
- ✓ A qualitative analysis summarized in a Q&A format with suggestions for the adaptation of the US ZEV credit system to China's NEV development. The report is available, free of charge, here: <http://www.icet.org.cn/english/reports.asp?fid=20&mid=21>
- ✓ Three years after iCET introduced the California's ZEV credit trading concept to key Chinese stakeholders, NDRC officially announced its plans to adopt the scheme and promptly requested iCET's input regarding its implementation. The MIIT already released two drafts for a CAFC management system that include NEV-credits (a ZEV-credit like mechanism). iCET was instrumental in jump-starting the ZEV process in China, and played an important role in advocating for an independent credit system since 2016. For example: <http://www.icet.org.cn/english/news.asp?id=237>
- ✓ iCET's advocacy in the US is believed to have contributed to the inclusion of ZEV in the US-China Climate Change Dialogue announced in September 2015: See: <https://www.whitehouse.gov/the-press-office/2015/09/15/fact-sheet-us-China-Climate-Leaders-Summit>

We welcome your thoughts, suggestions and inquiries! info@icet.org.cn

Glossary of terms

Term	Description	Comments
CAFC credits	Encouraging the use of off-cycle energy-saving technologies such as tire pressure monitoring systems, efficient air conditioning, idle start-stop system, and shift reminder, by rewarding vehicles that implemented one or more of these technologies with fuel saving credits up to 0.5 L/100km from their Test-Approval FC value. While two off-cycle technologies and device energy saving effects evaluation methods for passage cars (start-stop system and eco-driving indicator device) have been drafted and recently entered into the public consultation stage, ¹⁷ the evaluation of the other two off-cycle technologies is still under research (air conditioning and shift reminder) and projected to be released next year.	A calculation method of CAFC credits was first introduced in 2013 as part of the standard's flexibility mechanism, "The average fuel consumption of passenger car business accounting approach" ¹⁸ (published by MIIT, NDRC, MOC, AOC and AQISQ). Should an auto corporate average fuel consumption (CAFC) annual figure be between the corporate limit and target (T_{CAFC}), the auto corporation is not eligible for credits (0); Should its annual CAFC be below the target, credits could be gained. There are generally two types of credits: regular CAFC credits (generated from energy efficient technologies) and CAFC super credits (also referred to as CAFC regime NEV credits). To date, auto corporations have somewhat voluntarily produced NEVs and their credits have been calculated for reducing their CAFC.
CAFC (NEV) super-credits	In the existing CAFC accounting method, a single NEV is considered achieve up to 5.0L/100km and can be traded between companies for CAFC compliance purposes, providing direct benefits for its manufacturers.	

	PEV	FCV	PHEV*	ESV**
~2015	5	5	5	3
2016-2017	5	5	5	3.5
2018-2019	3	3	3	2.5
2020	2	2	2	1.5

* Plug-in electric vehicles (PHEVs) are defined as cars with an electric range of at least 50km

** Energy Saving Vehicles are defined as cars with fuel consumption lower than 2.8L/100km

¹⁷ Recommended national automobile standard "Evaluation methods of the energy-saving effects of off-cycle technology units for passenger vehicles" (exposure draft) <http://www.catarc.org.cn/NewsDetails.aspx?ID=2641>, Accessed on July 22, 2016.

¹⁸ Five ministries jointly published "Calculation method of Passenger Vehicle Corporation Average Fuel Consumption", http://www.gov.cn/gzdt/2013-03/20/content_2358627.htm, Accessed on February 20, 2017.



NEV Credits

An annual NEV Credits requirement set as a percentage of corporate production volume (excluding NEVs), based on the California ZEV-credits model. It is independent from the CAFC regulation, yet according to the proposed draft, NEV credits could be used by corporations toward compliance with the CAFC regime. See further elaborated in this policy brief.

MIIT introduced a new NEV-credit trading regulation draft under its overarching CAFC standard, "Recommended average fuel consumption of passenger cars and new energy vehicle credits synchronized management approach" in a July 2016 draft release, followed by a June 2017 revised draft.