Clean Transportation Program

Brief, January 22nd

China Fuel Consumption Standard Phase IV Implementation Workshop Highlights:
CAFC Phase IV management and enforcement are key

China's two Phase IV standard (entering into force in 2016) drafts "Fuel consumption limits for passenger cars" (GB 19578-2014) and "Fuel consumption evaluation methods and indicators for passenger cars" (GB27999-2014), composed under the leadership of China Automotive Technology Research Center (CATARC), has recently undergone review by the National Standards Committee "green channel". The committee approved the final standards version on December 22nd 2014 and held an official announcement on January 21st in Beijing. *i*CET's project manager and *i*CET's annual CAFC reports lead author, Ms. Kang Liping, was invited to attend the event. This briefing will provide our English readers with some of the event highlights.

Policy-makers comments

1. Phase IV target of 5 L/100km was set as a mandatory target to internalize the "Energy-saving and new energy automotive industry development plan", which was approved by China highest decision-maker, the State Council, and will be enforced as such. Auto companies are advised to plan ahead, incorporate new technologies and ensure corporate alignment in order to meet the annual standards requirements.

2. Phase III of the standard has introduced some management practices, accumulated data for informed planning, followed national targets, and took into consideration energy-saving technology developments and other aspects of the economy with a scientific basis.

3. The CAFC standard core management approach is credits trading. Companies failing to comply and failing to purchase credits from companies with excess of credits will pay heavy fines. CAFC credits trading draft is projected to be published by the end of the first half of 2015 and finalized by the end of the year.

4. The Government sees itself accountable for the formation of an adequate management system that would ensure national goals are achieved, while the business sector will continue to be perceived as for-profit actors in need of quantifiable management measurements.

Industry players' inputs

1. The corporate auto sector sees the 2020 target of 5 L/100km as a challenging one, however feasible.

2. Most companies have not yet identified technical solutions to meet the energy requirements of the Phase IV standard. Although traditional vehicle energy-saving technologies options are recognized, technology costs are a top priority for the corporate sector.

3. Companies are concerned upstream technology costs will be high, and could severely impact independent domestic manufacturers.

4. Most of auto-makers include diesel cars and NEV as part of their strategy for achieving phase IV target, however there are calls for consumer-supporting policies to increase demand.

5. The corporate sector cares about credits trading mechanism, however are eager to understand its structure and, specifically, would like to understand how to "carry forward " credits would be treated.

Experts' inputs

1. China's fuel consumption standards are lagging behind Japan's and the EU's, however are advanced in comparison to the US standards. Yet recent US efforts to improve fuel economy are highly advanced in comparison to any other country or regime. In terms of NEV privileges in fuel economy standards , China leads the others, with EU next, then the US and lastly Japan.

2. The development of new energy vehicles and diesel vehicles will have a significant impact on the internalization of China's 2020 targets of 5L/100km. It is mainly small size and light weight vehicle models that will be the approach companies are expected to adopt in order to meet the standard.

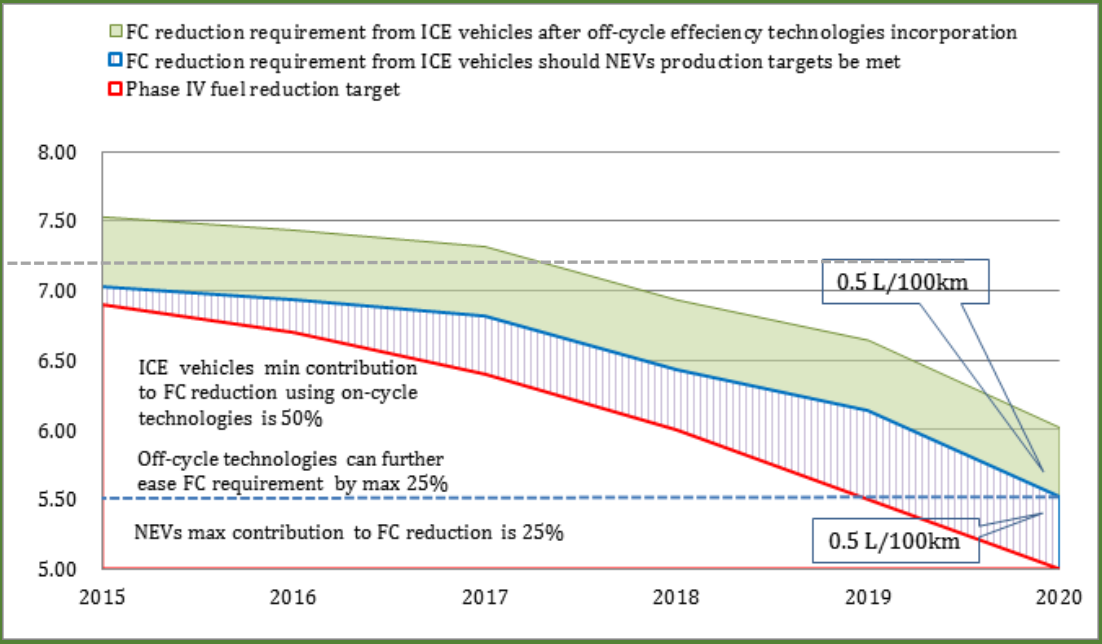
3. From a technical point of view, putting technology costs aside, relying on traditional fuel consumption reduction technologies to achieve an average fuel consumption of 5L/100km by 2020 is feasible.

4. A cost-benefit analysis shows an estimate cost of about RMB15,000 for delivering the required fuel consumption reduction (The ICCT projects RMB7000). Studies further indicate small engine-size vehicle technology upgrade costs will be lower than large engine-size vehicles improvements' costs (1.3L estimate to cost about RMB13,000 on average and over 1.3L would result in about RMB16,000).

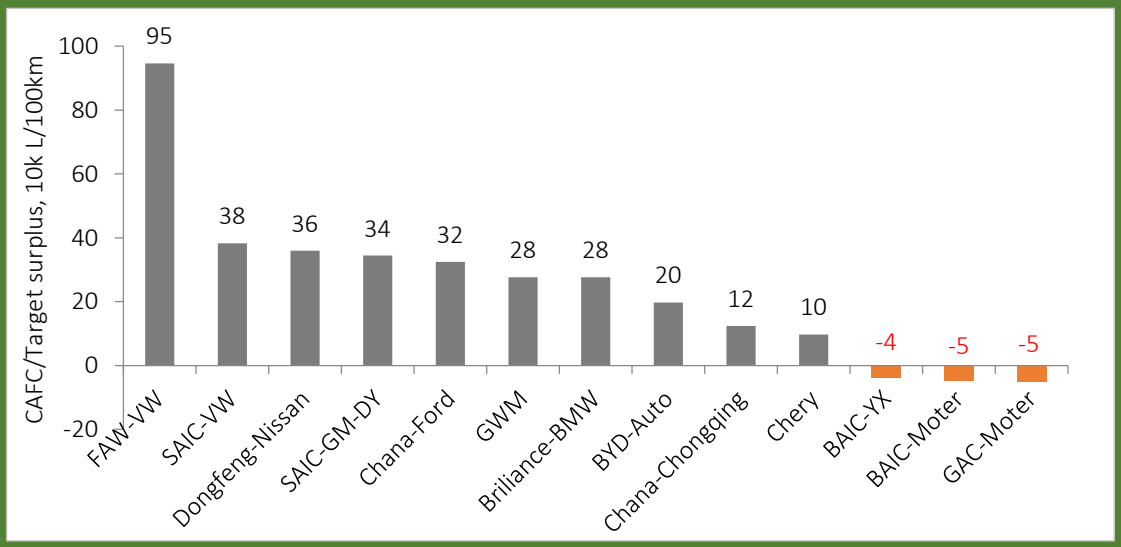
5. Existing cycle-testing methods have much to improve on for enabling accountable technology impact evaluation.

*i*CET's further Inputs

1. By adding both off-cycle energy-saving technologies and NEV sales credits China's vehicle fleet could be rewarded a total of 50% reduction in FC requirement, reaching about 1L/100km from the reference requirement of 1.9L/100km. However it is worthwhile stressing that off-cycle energy-saving technologies and NEV sales credits create uncertainties as for how stringent the 2020 target really is.



2. China is considering introducing fuel consumption credits and trade mechanisms during the Phase IV implementation stage. *i*CET is focused on tracking individual automakers' performance for informing effective regulatory framework.



Explanation of Terminologies in China's Fuel Consumption Regulatory System[1]

Target market	Standard Type	Underlying Method	Elaboration	Implementation Period
Individual cars (models)	FC Limit for individual vehicle models	N/A	Every individual vehicle models have to meet their corresponding weight-bin limit.	***Starting 2005:*** GB19578-2004 (Phase I) ***Starting 2016:*** GB19578-20XX* (Phase IV)
	FC Target for individual vehicle model	N/A	Phase III implemented in 2012, also introduced a FC target value associated with each vehicle model (according to its weight-bin classification); There is no requirement for meeting the individual vehicle model FC targets.	***Starting 2012:*** GB27999-2011 (Phase III) ***Starting 2016:*** GB27999-20XX (Phase IV
Auto-makers	$T_{CAFC2015}$ $T_{CAFC2020}$	Target CAFC for the current phase period	Automakers have to meet their corporate average fuel consumption target (CAFC) for model year 2015 and 2020 respectively (See section 1.4 for calculation method).	***Starting 2011:*** GB27999-2011 (Phase III) ***Starting 2016:*** GB27999-20XX* (Phase IV)
	$CAFC_{xxxx}/T_{CAFC2015}$ $CAFC_{xxxx}/T_{CAFC2020}$	CAFC actual annual value/ Target CAFC value	By using this method calculation, one can track the annual CAFC % gap from meeting the ultimate target (Phase III 6.9L/100km by 2015; Phase IV 5L/100km by 2020).	***Starting 2011:*** GB27999-2011 (Phase III) ***Starting 2016:*** GB27999-20XX* (Phase IV)

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[1] iCET 2014 CAFC Report: http://www.icet.org.cn/english/reports.asp