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Chinese Fuel Economy Review

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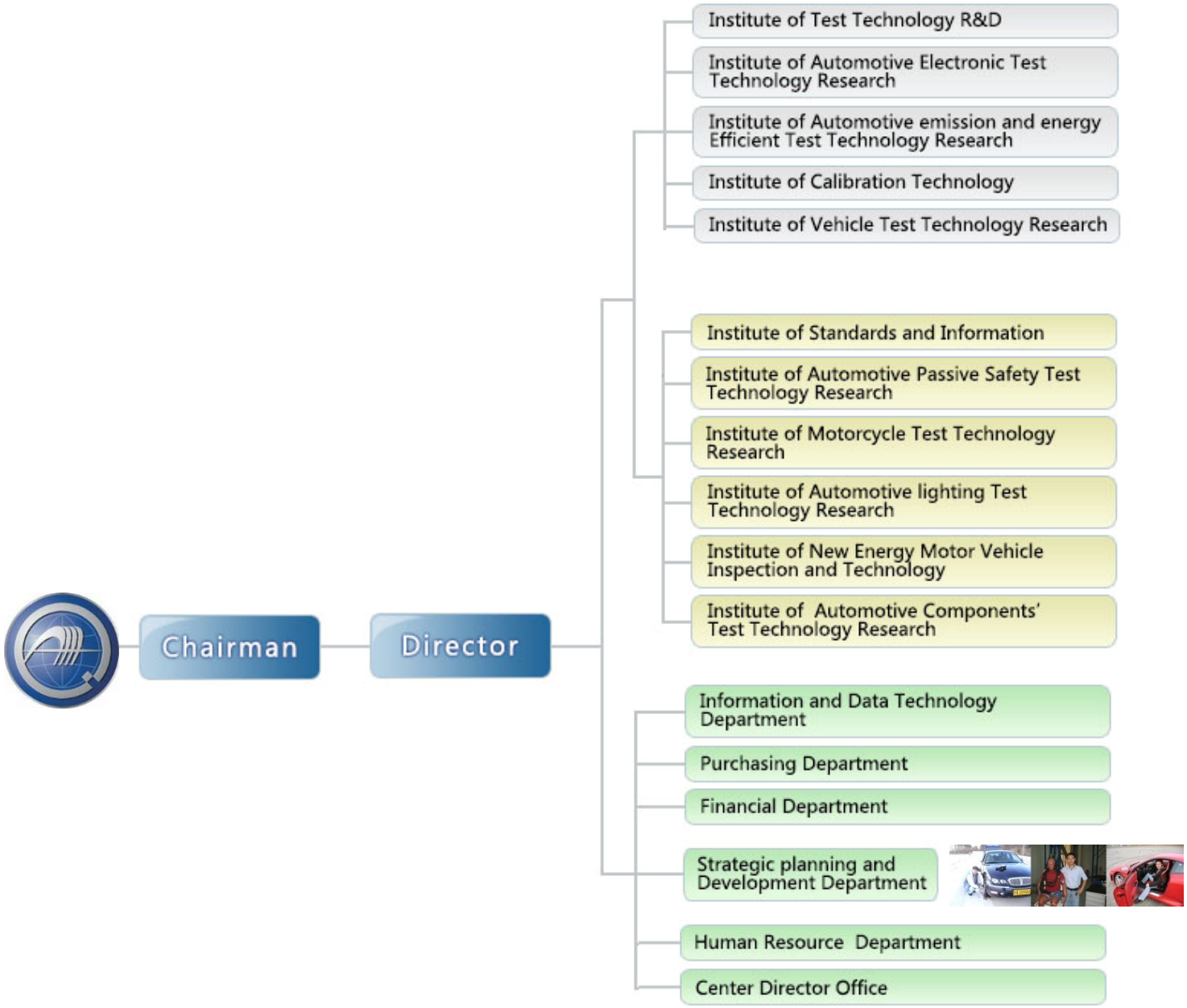
THAILAND AUTOMOTIVE INSTITUTE
สถาบันยานยนต์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Center Director Office

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- Fuel economy Strategy of National and Industry
- Event and works on fuel economy in China
- Summary

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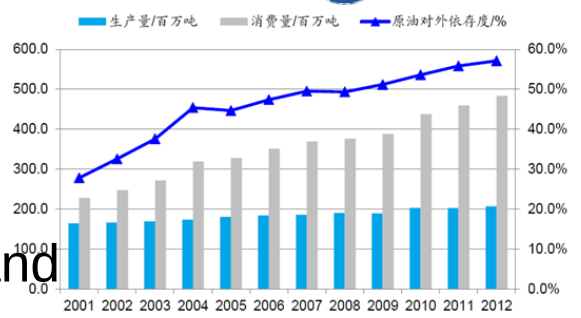
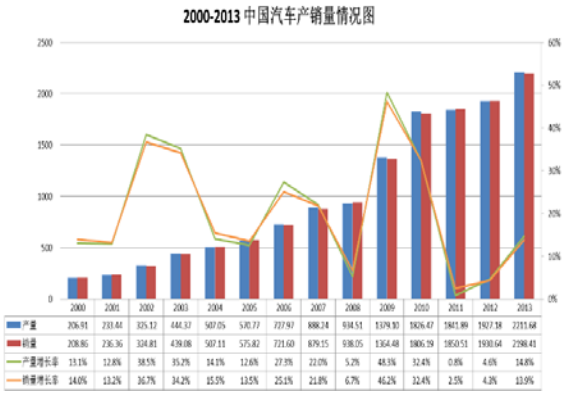
Background

There is great demand for petroleum since China's national economic and social rapid development. Especially the increased number of vehicle products and holdings major in traditional internal combustion engines become important factors.



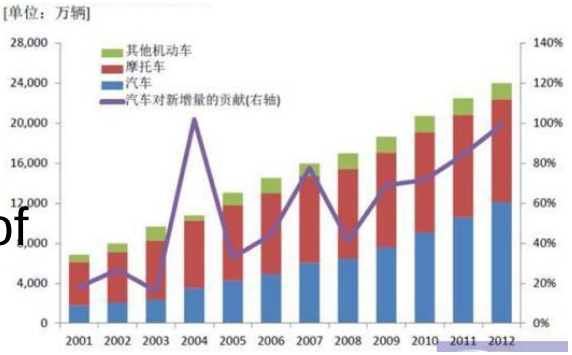
Source: CINIC 图片来源：产业信息网

China has been become one of the world‘s major oil consumer and importer. Since 2009, the CPDD *(Chinese Petroleum Depend Degree)* is broken 50% and reached 60% in 2013. By keep growing, expected to around 70% in future 2020.



Source: CAAM 图片来源：中国汽车工业协会

Energy consumption, traffic congestion, environmental pollution, casualties accident become the negative impact of automobile development, automotive technology is also changing from the traditional focus of security, environmental protection and energy saving into a new direction focusing on intelligent and new energy.



Source: TMRI 图片来源：公安部交通管理科学研究所

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National Energy Strategy

National energy development strategy action plan (2014-2020)

■Enhancing energy independent capability, incl. develop alternative energy

Developing fuel alternative fuel for transportation. Focus on new generation of Bio-fuel, EV, Hybrid and NG *(natural gas)* vehicles, expand the scale of alternative fuel usage on transportation.

■Pushing energy consumption revolution, incl. energy-efficiency Improving plan

Practicing Green Action plan. Focus on clean energy vehicles, standards of automotive fuel economy and environmental, urban public transport.

■Optimizing energy structure, incl. raising NG consumption scale

Developing NG transportation. Focus on NG station facilities, urban taxis and buses to use LNG *(liquefied natural gas)* or CNG *(compressed natural gas)*, NG usage on family car, intercity coaches and trucks, etc.

Automobile Industry Energy Strategy

National energy conservation and new energy vehicles industry development planning (2012-2020), include the requirement for EEV

(Enhanced Environment Friendly Vehicle)

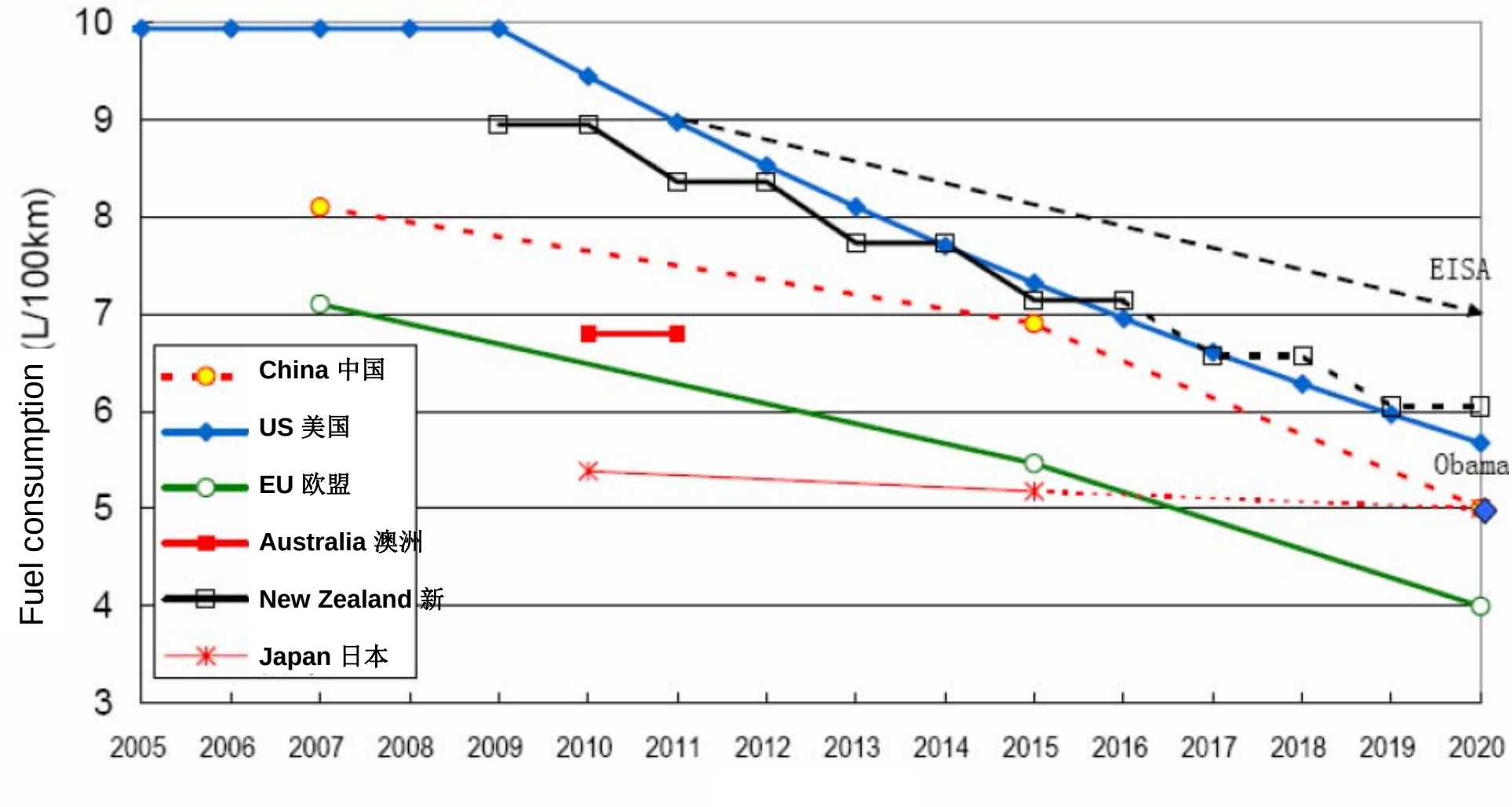
➢Main target

Improve fuel economy significantly

- Till 2015, the T_{CAFC} should reach the limit 6.9L/100 km (equals to 167g/km CO_2 emission) for passenger car and 5.9L/100 km for EEV.
- Till 2020, the T_{CAFC} should reach 5.0L/100 km (equals to 120g/km CO_2 emission) for passenger car and 4.5L/100 km for EEV.
- The fuel economy close to international advanced level for new model of commercial vehicle.

CAFC: Corporate Average Fuel Consumption
T_{CAFC}: Target of CAFC

Trend of fuel economy in major countries and regions



Source: report from fuel economy WG of SAC in 2009

Automobile Industry Energy Strategy (Continued)

➢Main task

Implement technology innovation project on EEV and new energy vehicle

- ☐Strengthen technology of EEV
- ☐Speed up R&D system

Promote demonstration project and make the new technology into application

- ☐Enhance the EEV promotion planning
- ☐Develop alternative fuel vehicles in local conditions

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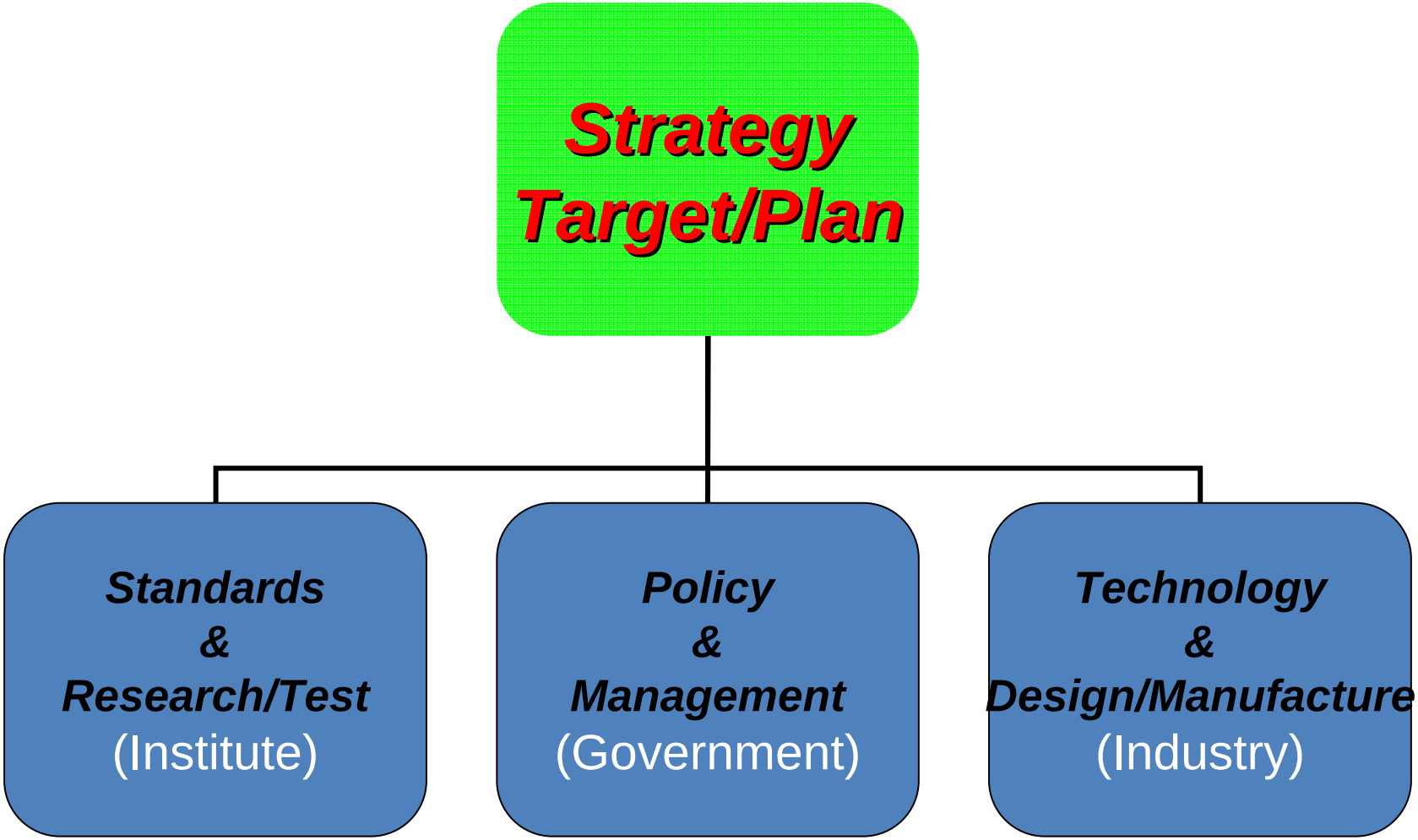
Work structure for fuel economy



List of national department related to automotive fuel economy

State Council 国务院

NDRC (National Development and Reform Commission) 发改委

MIIT (Ministry of Industry and Information Technology of the P.R.C) 工信部

MOST (Ministry of Science and Technology of the P.R.C) 科技部

MOF (Ministry of Finance of the P.R.C) 财政部

MEP (Ministry of Environmental Protection of the P.R.C) 环保部

MOT (Ministry of Transport of the P.R.C) 交通部

MPS (Ministry of Public Security of the P.R.C) 公安部

MOC (Ministry of Commerce of the P.R.C)商务部

GAC (General Administration of Customs of the P.R.C) 海关总署

NEA (National Energy Administration) 能源局

AQSIQ (General Administration of Quality Supervision, Inspection and Quarantine of the P.R.C) 质检总局

DPAC, AQSIQ (Defective Products Administration Center, AQSIQ) 召回中心

CNCA (Certification and Accreditation Administration of the P.R.C) 认监委

SAC (Standardization Administration of China) 标准委

SAC/TC114 (National Technical Committee 114 on Automobile of Standardization Administration of China) 汽标委

Recent events about fuel economy management

■In Sep. 2014, a notice aims new SC of SAC/TC114 on Vehicle Energy Saving will be established recently.

■In May 2014, MIIT the dept. of automobile industry management draft the document about strengthening management for passenger car CAFC and open for public comment , in order to push the industry reach the year 2015's target.

■In Feb. 2014, GB 30510 of fuel consumption limits for heavy-duty commercial vehicles was issued, and type approval after 1st July 2014.

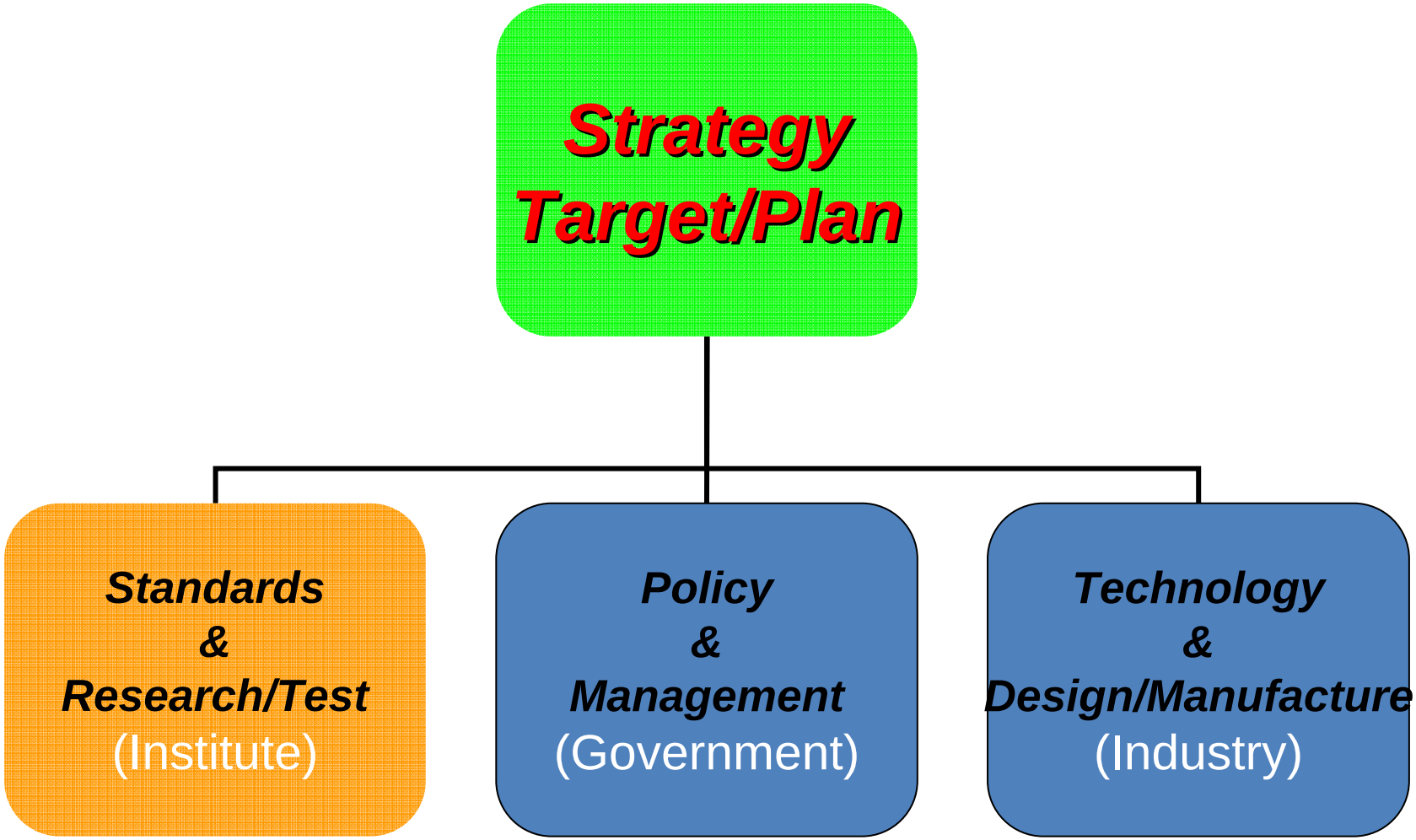
■In earlier 2014, GB 19578 and GB 27999 draft version is published for public comment. In September 2014, the WG of fuel consumption for light-duty commercial vehicle had a meeting for GB 20997 starting revise forward to stage 3.

■At the end of 2013, the second round of implementation plan for 1.6L EEV subsidy policy was carried out.

■Since 2008, according to JT standards issued by MOT, the fuel economy of commercial vehicle for passenger and cargos transportation was under pressure from GB and JT. Nowadays, MOT will try to upgrade the JT to GB.

■In 2013, an environmental labeling certification standard for light-duty vehicles issued by MEP aims to be reference for government purchasing.

Work structure for fuel economy



Automobile Standardization

The SAC issued the 2014 national standardization work key notes, fuel economy included.

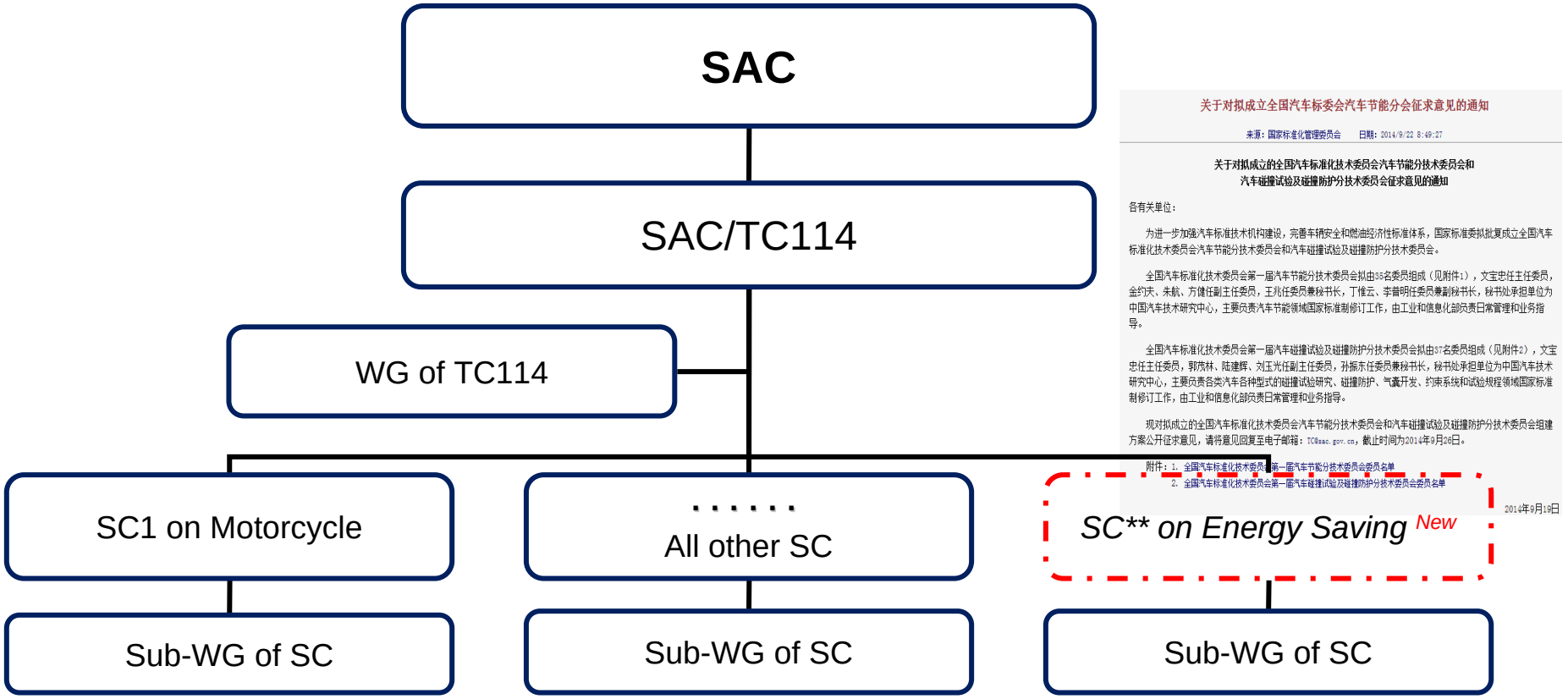
- To promote implementation of the strategic emerging industry standardization development planning. focus to the energy conservation and environmental protection, new energy vehicles industry development demands. Energy conservation and emissions reduction and related standard revision need to be carried out.

The SAC/TC114 issued the 2014 national standardization work key notes and development direction, fuel economy included.

- Optimization fuel consumption standards starting on 2020.
- Use Technical standards as the core, and gradually establish administrative management system, fiscal and taxation measures of automobile energy saving integrated management mechanism, impel the transformation and upgrading of automobile industry.

Planned since 2009, the progress of a new SC of SAC/TC114 on Energy Saving (Fuel Economy) is at the stage of public notice in 2014.

The earlier working based on TC WG of fuel consumption, for passenger car, commercial vehicle, and label



关于对拟成立全国汽车标委会汽车节能分会征求意见的通知

来源：国家标准化管理委员会　　日期：2014/9/22 8:49:27

关于对拟成立的全国汽车标准化技术委员会汽车节能分技术委员会和汽车碰撞试验及碰撞防护分技术委员会征求意见的通知

各有关单位：

为进一步加强汽车标准技术机构建设，完善车辆安全和燃油经济性标准体系，国家标准委拟批复成立全国汽车标准化技术委员会汽车节能分技术委员会和汽车碰撞试验及碰撞防护分技术委员会。

全国汽车标准化技术委员会第一届汽车节能分技术委员会拟由35名委员组成（见附件1），文宝忠任主任委员，金约夫、朱航、方健任副主任委员，王兆任委员兼秘书长，丁惟云、李普明任委员兼副秘书长，秘书处承担单位为中国汽车技术研究中心，主要负责汽车节能领域国家标准制修订工作，由工业和信息化部负责日常管理和业务指导。

全国汽车标准化技术委员会第一届汽车碰撞试验及碰撞防护分技术委员会拟由37名委员组成（见附件2），文宝忠任主任委员，郭茂林、陆建辉、刘玉光任副主任委员，孙振东任委员兼秘书长，秘书处承担单位为中国汽车技术研究中心，主要负责各类汽车各种型式的碰撞试验研究、碰撞防护、气囊开发、约束系统和试验规程领域国家标准制修订工作，由工业和信息化部负责日常管理和业务指导。

现对拟成立的全国汽车标准化技术委员会汽车节能分技术委员会和汽车碰撞试验及碰撞防护分技术委员会组建方案公开征求意见，请将意见回复至电子邮箱：TC@sac.gov.cn，截止时间为2014年9月26日。

附件：1. 全国汽车标准化技术委员会第一届汽车节能分技术委员会委员名单
2. 全国汽车标准化技术委员会第一届汽车碰撞试验及碰撞防护分技术委员会委员名单

2014年9月19日

SAC, Standardization Administration of China
TC, Technical Committee
WG, Work Group

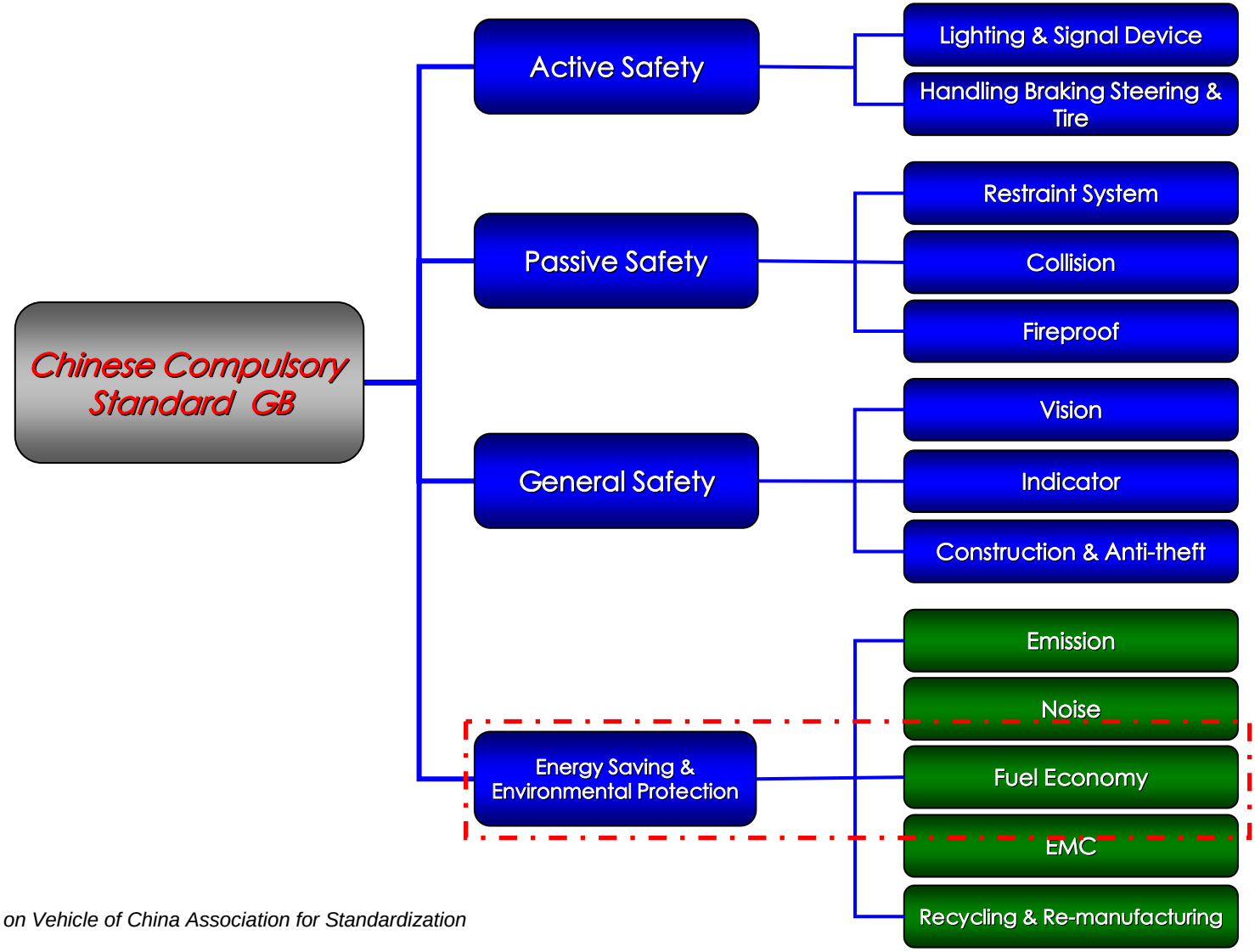
List of SAC/TC114/SC

SC No.	Name of SC 名称
SC1	Motorcycle 摩托车
SC2	Wheel 车轮
SC3	General 基础
SC6	Non-mental products 非金属制品
SC7	Special purpose vehicle 专用汽车
SC8	Instrument 仪表
SC9	Safety glass 安全玻璃
SC10	Vehicle dynamics 车辆动力学
SC11	Braking 制动
SC13	Trailer 挂车

SC No.	Name of SC 名称
SC14	Mining truck 矿用汽车
SC15	Electric 电器
SC16	Engine 发动机
SC17	Body accessories 车身附件
SC18	Body 车身
SC19	Whole vehicle 整车
SC21	Lamps & lighting 灯具及灯光
SC22	Bus 客车
SC23	Spark plug 火花塞
SC24	Piston & rings 活塞、活塞环

SC No.	Name of SC 名称
SC25	Filter 滤清器
SC26	Chassis 底盘
SC27	EV 电动车辆
SC28	Gas vehicle 燃气汽车
SC29	Electronic & EMC 电子与电磁兼容
SC30	Steering 转向系统
SC31	Transmission 变速器
Preparation *筹备中*	Energy saving / Fuel economy 汽车节能
Preparation *筹备中*	Vehicle collision test & protection 汽车碰撞试验及碰撞防护

Vehicle compulsory standard system in China



Source: Branch on Vehicle of China Association for Standardization

Vehicle compulsory standard system in China

Since 1993, China issued the first set of automobile compulsory standards.

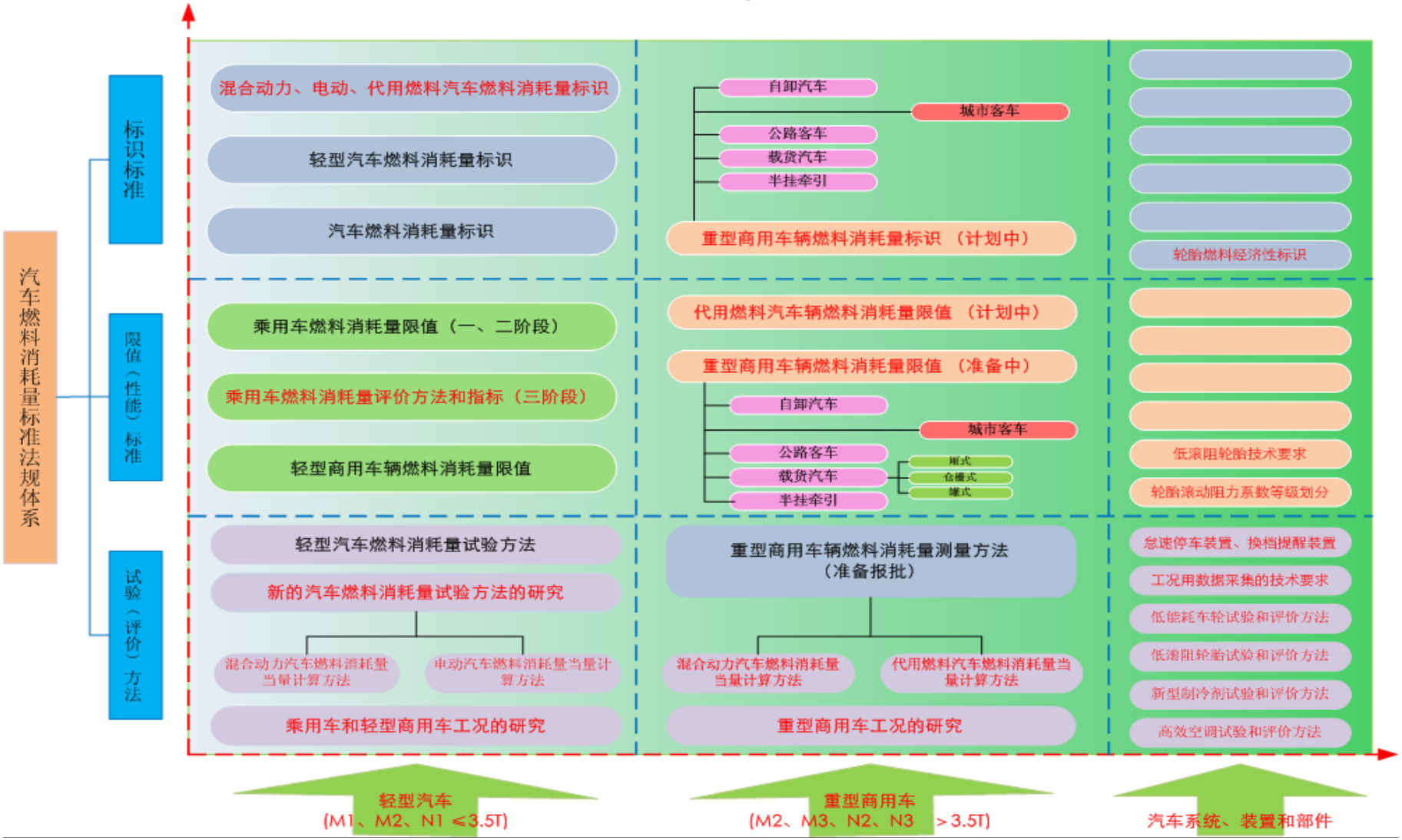
Statistics to 19th, Feb. 2014 from SAC/TC114, there are 117 compulsory standards issued for cars (including motorcycle), if added another 15 new standards under drafting, the number will be 132 in the near future.

At present, a compulsory standards issued, including 34 on Active Safety, 29 on Passive Safety , 30 on General Safety, 24 on Environmental Protection and Energy Saving.

For fuel economy of Environmental Protection and Energy Saving, there are 4 on automotive and 2 on motorcycle.

Data from SAC/TC114 report

Standard structure of fuel economy



Source: report from Branch on Vehicle of China Association for Standardization in 2010

Standard structure of fuel economy

	Categories		
	Passenger car (Light-duty) M_1@GB/T 19233 GVW≤3,500 kg M_1@GB 19578 & GB 27999	Commercial vehicle (Light-duty) N_1 & GVW≤3,500 kg M_2	Commercial vehicle (Heavy-duty) GVW>3,500 kg M_2, M_3, N_2, N_3
Limits	**GB 19578-2004** Limits of fuel consumption for passenger cars ***Stage 2 for type approval since 2008-1-1, one year interim for in production*** *Starting revise 20140014-Q-339* **GB 27999-2011** Fuel consumption evaluation methods and targets for passenger cars ***T_{CAFC} (6.9) for 109%@2012, 106%@2013, 103%@2014, 100%@2015 and after*** *Starting revise 20140015-Q-339* N/A for gas or ethanol fuel vehicles	**GB 20997-2007** Limits of fuel consumption for light duty commercial vehicles ***Stage 2 for type approval since 2008-2-1, 11 month interim for in production*** ***Stage 2 for all since 2011-1-1*** *Established a new WG and starting revise in 2014* Apply to petrol or diesel vehicles and N/A for special vehicles	**GB 30510-2014** Fuel consumption limits for heavy-duty commercial vehicles ***Type approval since 2014-7-1, one year interim for in production*** *New issued in 2014* N/A for special vehicles, limits corresponding to trucks, tractors for semi trailers, buses, dump trucks, urban buses
Test method	**GB/T 19233-2008** Measurement methods of fuel consumption for light-duty vehicles (ECE R101-00 NEQ) Apply to petrol or diesel vehicles Based on Type I emission test according to GB 18352.X		**GB/T 27840-2011** Fuel consumption test methods for heavy-duty commercial vehicles Apply to petrol or diesel vehicles
Label	**GB 22757-2008** Fuel consumption label for light vehicle N/A for HEV, EV and other single fuel vehicles		*Under drawing up*
Remarks	*WG of TC114, new SC of SAC/TC114 in the future*		

Standard structure of fuel economy (others)

	Categories					
	Passenger car GVW≤3,500 kg M_1 & N_1	Commercial vehicle M_2, M_3, GVW≥2,000kg N	Commercial vehicle GVW between 3,500kg to 49,000kg for cargos transportation	Commercial vehicle GVW ≥3,500 kg for passenger transportation	Motorcycles & mopeds	Four-wheel All Terrain Vehicle (ATV)
Limits	Company standards Limits under constant speed	Company standards Limits under constant speed and multi-mode cycle	**JT 719-2008** Limits and measurement methods of fuel consumption for commercial vehicle for cargos transportation ***Stage 1 since 2008-9-1, stage 2 after 19 months*** Apply to petrol or diesel test method based on **GB/T 12545.2** *Plan to apply for GB XXXX-2014*	**JT 711-2008** Limits and measurement methods of fuel consumption for commercial vehicle for passenger transportation ***Stage 1 since 2008-9-1, stage 2 after 19 months*** Apply to petrol or diesel test method based on **GB/T 12545.2** *Plan to apply for GB XXXX-2014*	**GB 15744-2008** The limits and measurement methods of fuel consumption for motorcycles (ISO 7860:1995 NEQ) **GB 16486-2008** The limits and measurement methods of fuel consumption for mopeds (ISO 7859:2000 NEQ) ***Implementation since 2014-7-1 both*** *Starting integrate and revise 20131115-Q-339*	N/A
Test method	**GB/T 12545.1-2008** Measurement methods of fuel consumption for automobiles—Part 1: Measurement methods of fuel consumption for passenger cars (ECE R101-00 NEQ) Related to GB/T 19233, GB 18352.3	**GB/T 12545.2-2001** Commercial vehicle—Fuel consumption test method				N/A
Label	N/A	N/A	N/A	N/A	N/A	N/A
Remarks	*WG of TC114, new SC of SAC/TC114 in the future*		Energy administration, MOT		SAC/TC114/SC1	SAC/TC3 44

Standard structure of fuel economy (others)

	Categories					
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Limits	Company standards Limits under constant speed	Company standards Limits under constant speed and multi-mode cycle	**JT 719-2008** Limits and measurement methods of fuel consumption for commercial vehicle for cargos transportation ***Stage 1 since 2008-9-1, stage 2 after 19 months*** Apply to petrol or diesel test method based on **GB/T 12545.2** *Plan to apply for GB XXXX-2014*	**JT 711-2008** Limits and measurement methods of fuel consumption for commercial vehicle for passenger transportation ***Stage 1 since 2008-9-1, stage 2 after 19 months*** Apply to petrol or diesel test method based on **GB/T 12545.2** *Plan to apply for GB XXXX-2014*	**GB 15744-2008** The limits and measurement methods of fuel consumption for motorcycles (ISO 7860:1995 NEQ) **GB 16486-2008** The limits and measurement methods of fuel consumption for mopeds (ISO 7859:2000 NEQ) ***Implementation since 2014-7-1 both*** *Starting integrate and revise 20131115-Q-339*	N/A
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Label	N/A	N/A	N/A	N/A	N/A	N/A
Remarks	*WG of TC114, new SC of SAC/TC114 in the future*		Energy administration, MOT		SAC/TC114/SC1	SAC/TC3 44

Coexisting with GB 30510 & GB/T 27840

CM, kg 整车整备质量	GB 19578-2004 limits (Stage 1), L/100km 第一阶段 ***Out of date***		GB 19578-2004 limits (Stage 2), L/100km 第二阶段		GB 27999-2011 target & Limits till year 2015 T_{CAFC} (6.9) as GB 19578-XXXX limits revised *Draft* (Stage 3), L/100km 第三阶段		GB 27999-XXXX target revised & Limits till year 2020 T_{CAFC} (5.0) *Draft* (Stage 4), L/100km 第四阶段	
CM≤750	7.2	7.6	6.2	6.6	5.2	5.6	3.9	Each cell in left *1.05, and rounded to one decimal place *seats for 3 row*
750<CM≤865	7.2	7.6	6.5	6.9	5.5	5.9	4.1	
865<CM≤980	7.7	8.2	7.0	7.4	5.8	6.2	4.3	
980<CM≤1090	8.3	8.8	7.5	8.0	6.1	6.5	4.5	
1090<CM≤1205	8.9	9.4	8.1	8.6	6.5	6.8	4.7	
1205<CM≤1320	9.5	10.1	8.6	9.1	6.9	7.2	4.9	
1320<CM≤1430	10.1	10.7	9.2	9.8	7.3	7.6	5.1	***Benchmark Mass***
1430<CM≤1540	10.7	11.3	9.7	10.3	7.7	8.0	5.3	Each cell in left *1.03, and rounded to one decimal place *seats for 3 row and above*
1540<CM≤1660	11.3	12.0	10.2	10.8	8.1	8.4	5.5	
1660<CM≤1770	11.9	12.6	10.7	11.3	8.5	8.8	5.7	
1770<CM≤1880	12.4	13.1	11.1	11.8	8.9	9.2	5.9	
1880<CM≤2000	12.8	13.6	11.5	12.2	9.3	9.6	6.2	
2000<CM≤2110	13.2	14.0	11.9	12.6	9.7	10.1	6.4	
2110<CM≤2280	13.7	14.5	12.3	13.0	10.1	10.6	6.6	
2280<CM≤2510	14.6	15.5	13.1	13.9	10.8	11.2	7.0	
2510<CM	15.5	16.4	13.9	14.7	11.5	11.9	7.3	
Remarks 注释	*right column: seats for 3 row and above, non MT (N/A for production date after 2016-1-1)* *每右列：具有三排或三排以上座椅、装有非手动档变速器 (2016年起新生产车不适用)*							

CAFC Corporate Average Fuel Consumption 企业平均燃料消耗量

More Details … …

THAILAND AUTOMOTIVE INSTITUTE สถาบันยานยนต์

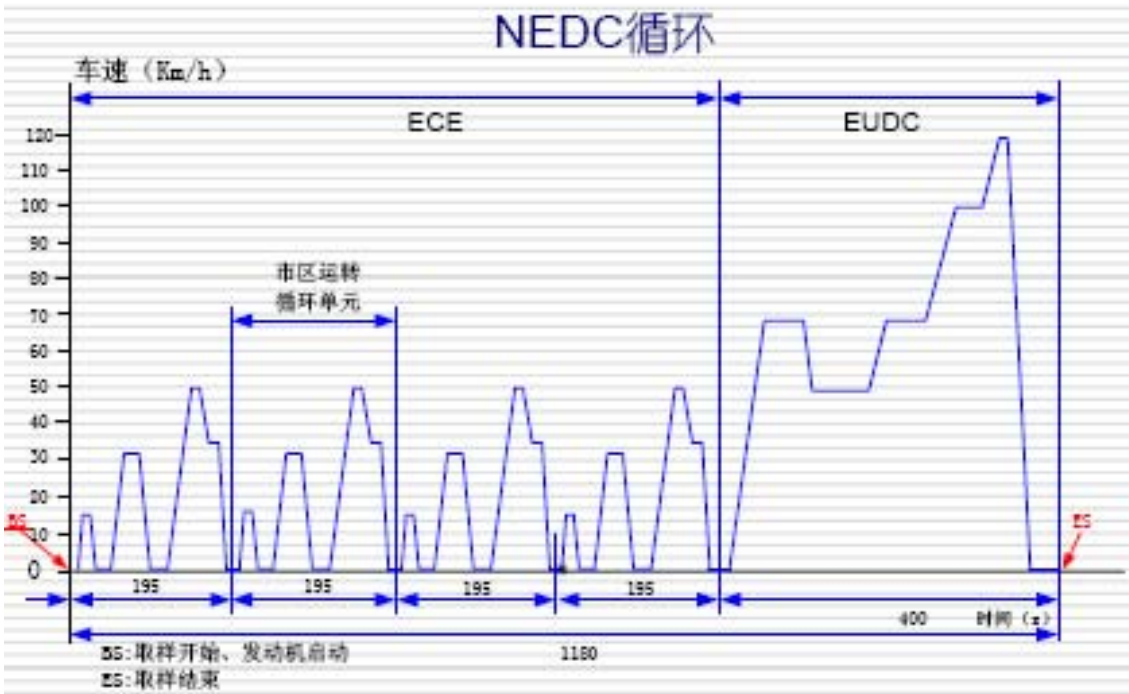
CAFC Lead-in

CM, kg 整车整备质量	GB 19578-2004 limits (Stage 1), L/100km 第一阶段 *Out of date*		GB 19578-2004 limits (Stage 2), L/100km 第二阶段		GB 27999-2011 target & Limits till year 2015 T_{CAFC} (6.9) as GB 19578-XXXX limits revised (Stage 3), L/100km 第三阶段		GB 27999-XXXX target revised & Limits till year 2020 T_{CAFC} (5.0) as GB 19578-XXXX limits revised (Stage 4), L/100km 第四阶段	
CM≤750	7.2	7.6	6.2	6.6	5.2	5.6	3.9	Each cell in left *1.05, and rounded to one decimal place *seats for 3 row*
750<CM≤865	7.2	7.6	6.5	6.9	5.5	5.9	4.1	
865<CM≤980	7.7	8.2	7.0	7.4	5.8	6.2	4.3	
980<CM≤1090	8.3	8.8	7.5	8.0	6.1	6.5	4.5	
1090<CM≤1205	8.9	9.4	8.1	8.6	6.5	6.8	4.7	
1205<CM≤1320	9.5	10.1	8.6	9.1	6.9	7.2	4.9	
1320<CM≤1430	10.1	10.7	9.2	9.8	7.3	7.6	5.1	
1430<CM≤1540	10.7	11.3	9.7	10.3	7.7	8.0	5.3	Each cell in left *1.03, and rounded to one decimal place *seats for 3 row and above*
1540<CM≤1660	11.3	12.0	10.2	10.8	8.1	8.4	5.5	
1660<CM≤1770	11.9	12.6	10.7	11.3	8.5	8.8	5.7	
1770<CM≤1880	12.4	13.1	11.1	11.8	8.9	9.2	5.9	
1880<CM≤2000	12.8	13.6	11.5	12.2	9.3	9.6	6.2	
2000<CM≤2110	13.2	14.0	11.9	12.6	9.7	10.1	6.4	
2110<CM≤2280	13.7	14.5	12.3	13.0	10.1	10.6	6.6	
2280<CM≤2510	14.6	15.5	13.1	13.9	10.8	11.2	7.0	
2510<CM	15.5	16.4	13.9	14.7	11.5	11.9	7.3	
Remarks 注释	*right column: seats for 3 row and above, non MT (N/A for production date after 2016-1-1)* *每右列：具有三排或三排以上座椅、装有非手动档变速器 (2016年起新生产车不适用)*							

Benchmark Mass

CAFC Corporate Average Fuel Consumption 企业平均燃料消耗量

Light-duty vehicle test cycle following NEDC of emission type Ⅰ test, wrong for Chinese condition ?

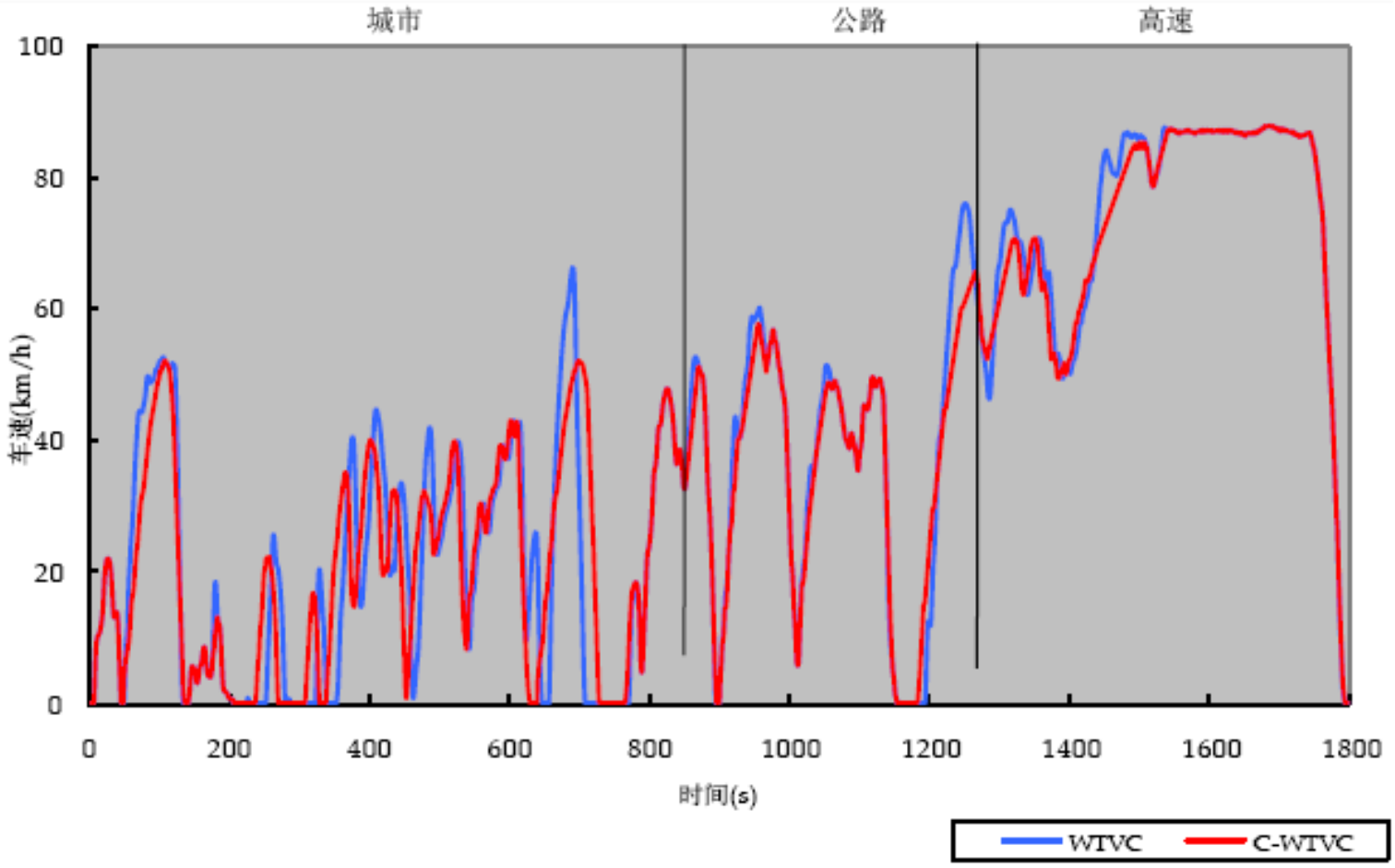


参数	单位	ECE	EUDC	NEDC
试验里程	km	4.052	6.955	11.007
循环时间	s	780	400	1180
平均车速	km/h	18.7	62.6	33.6
最高车速	km/h	50	120	120
总速比例	%	30.8	5	25
最大加速度	m/s^2	1.04	0.833	1.04
最大减速度	m/s^2	0.92	1.389	1.389

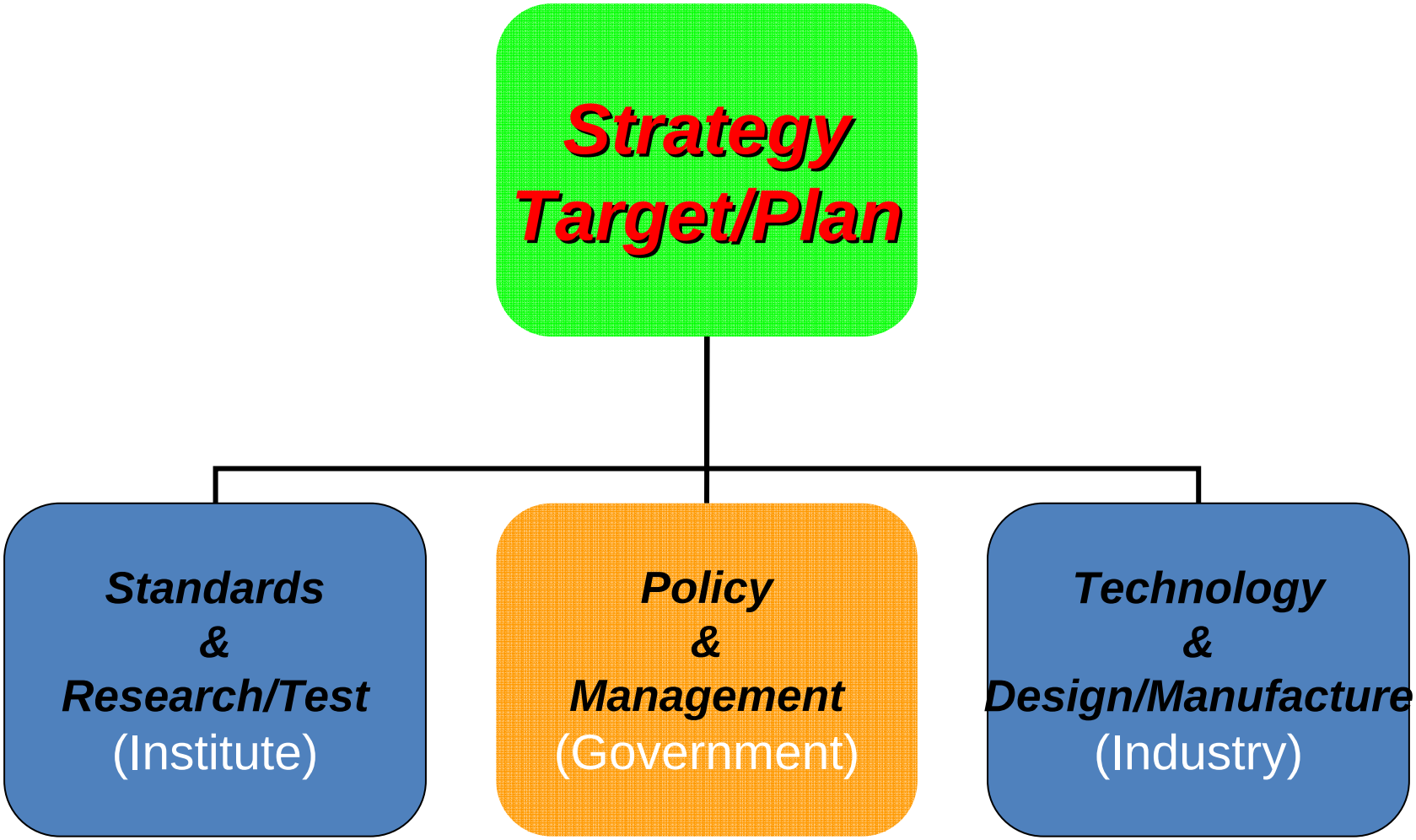
1 Distribution Rate of mileage between urban *37%* and suburb *63%*

2 The gentle acceleration and deceleration

Heavy-duty vehicle test cycle referred to WTVC but evolved into C-WTVC



Work structure for fuel economy



In March 2013, based on standard GB 27999 (passenger car, stage 3), MIIT, NDRC, MOC, GAC and AQSIQ issued regulation of CAFC accounting method.

In order to push the industry reach the $T_{CAFC\ 2015}$, MIIT draft a document about strengthening management for passenger car CAFC and open for public comment in May 2014.

More Details … …

五部门联合发布《乘用车企业平均燃料消耗量核算办法》

【发布时间:2013年03月20日】【来源:装备司】【字体:大 中 小】

中华人民共和国工业和信息化部

中华人民共和国国家发展和改革委员会

中华人民共和国商务部

中华人民共和国海关总署

国家质量监督检验检疫总局

公 告

2013年 15号

为进一步完善汽车节能管理制度，实施乘用车企业平均燃料消耗量管理，按照《国务院关于印发节能与新能源汽车产业发展规划（2012-2020年）的通知》（国发[2012]22号）要求，工业和信息化部、发展改革委、商务部、海关总署、质检总局制定了《乘用车企业平均燃料消耗量核算办法》，现予以公告，请有关单位遵照执行。

附件：乘用车企业平均燃料消耗量核算办法

工业和信息化部
国家发展和改革委员会
商 务 部
海 关 总 署
质 检 总 局

2013年3月14日

乘用车企业平均燃料消耗量核算办法

第一章 总则

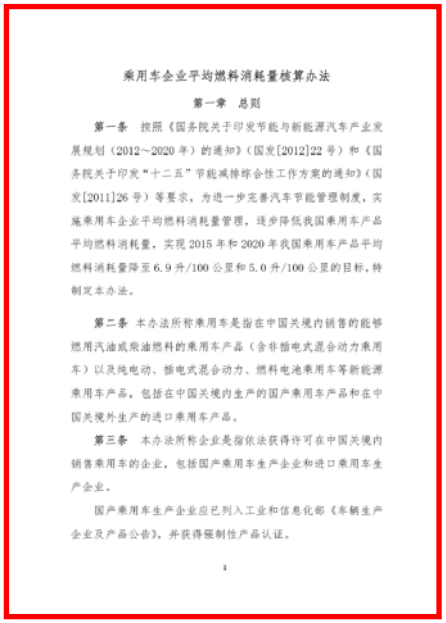
第一条 按照《国务院关于印发节能与新能源汽车产业发展规划（2012～2020年）的通知》（国发[2012]22号）和《国务院关于印发"十二五"节能减排综合性工作方案的通知》（国发[2011]26号）等要求，为进一步完善汽车节能管理制度，实施乘用车企业平均燃料消耗量管理，逐步降低我国乘用车产品平均燃料消耗量，实现2015年和2020年我国乘用车产品平均燃料消耗量降至6.9升/100公里和5.0升/100公里的目标，特制定本办法。

第二条 本办法所称乘用车是指在中国关境内销售的能够燃用汽油或柴油燃料的乘用车产品（含非插电式混合动力乘用车）以及纯电动、插电式混合动力、燃料电池乘用车等新能源乘用车产品，包括在中国关境内生产的国产乘用车产品和在中国关境外生产的进口乘用车产品。

第三条 本办法所称企业是指依法获得许可在中国关境内销售乘用车的企业，包括国产乘用车生产企业和进口乘用车生产企业。

国产乘用车生产企业应已列入工业和信息化部《车辆生产企业及产品公告》，并获得强制性产品认证。

1



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1

Policy Support and Encourage

Approved by the State Council, an implementation plan for 1.6 L EEV subsidy policy was carried out by the MOF, NDRC and MIIT together since 2009. Especially for EEV, Passenger car, displacement 1.6 Liters and below.

Now the 2nd round comes…

- New time period: 1st, Oct. 2013 to 31st, Dec. 2015
- Limits update: 10 to 15% tightened refer to stage 3
- Additional requirement: light-duty vehicle emission under type I test meets the limits of stage China 5.
- Encourage technology: STT, GDI, HEV (PHEV), Lightweight, etc.
- Subsidy fees: 3,000 RMB to consumer directly
- Inspection test: refer to GB/T 19233-2008, adjust the correction coefficient from 0.92 to 0.95 for the specimen without running-in (will be officially revised in GB/T 19233-XXXX ?), test result should both meet the limits and published data on label within tolerance.

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CM, kg 整车整备质量	L/100 km (Stage 3) 选用三阶段油耗目标	
	Seats ≤2 row	Seats ≥3 row, non-MT
CM≤750	5.2	5.6
750<CM≤865	5.5	5.9
865<CM≤980	5.8	6.2
980<CM≤1090	6.1	6.5
1090<CM≤1205	6.5	6.8
1205<CM≤1320	6.9	7.2
… …		

CM, kg 整车整备质量	L/100 km (adjusted)	
	Seats ≤2 row	Seats ≥3 row, non-MT
CM≤750	4.7	5.0
750<CM≤865	4.9	5.2
865<CM≤980	5.1	5.4
980<CM≤1090	5.3	5.6
1090<CM≤1205	5.6	5.9
1205<CM	5.9	

Environmental labeling certification

HJ 2532-2013 Technical requirement for environmental labeling products Light-duty vehicles is issued by MEP, a kind of labeling certification, seems to be the new definition of EEV China.

The car model meets the HJ standard can be a reference for government purchasing, and fuel economy is one of the key items.

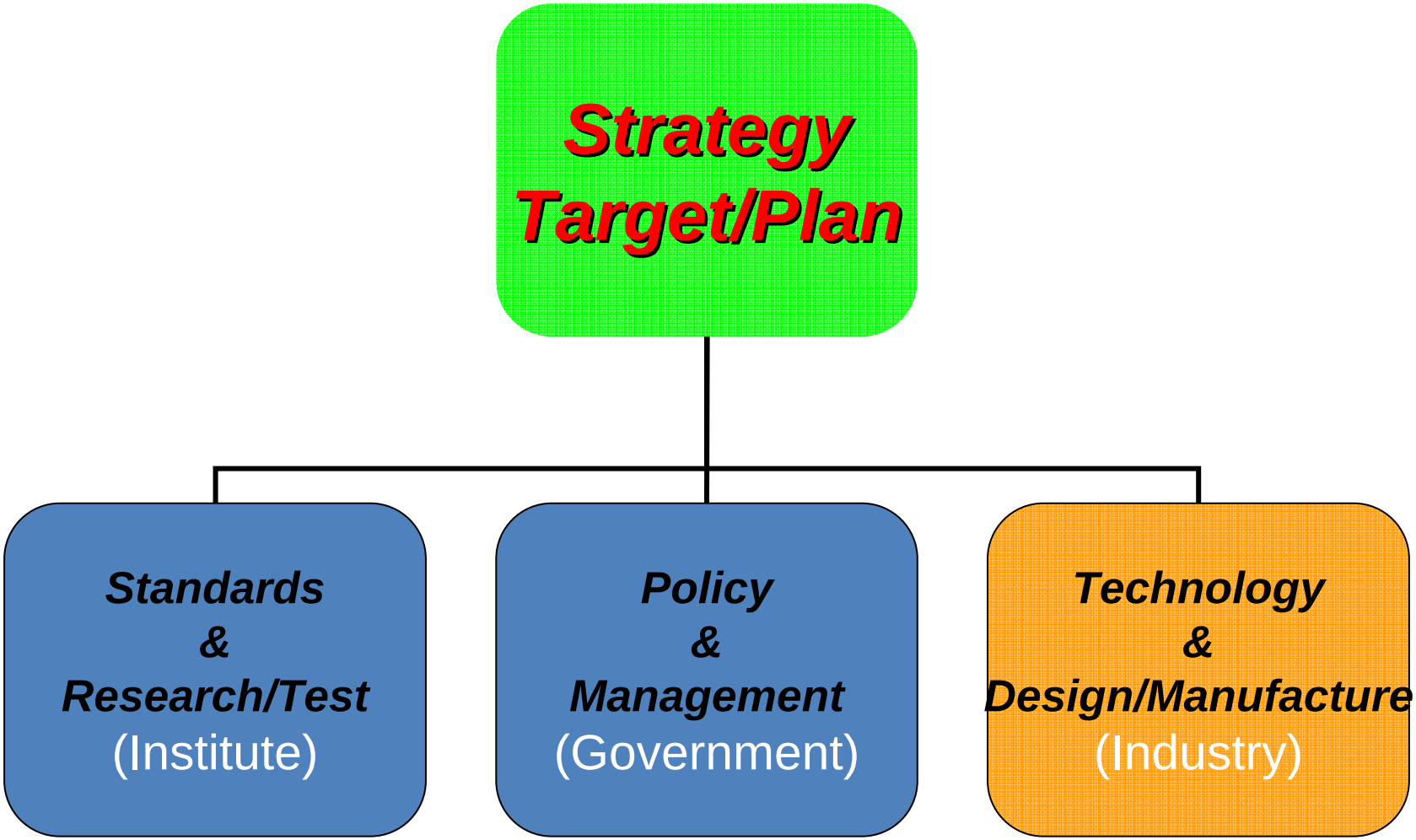
Incl. Emission, fuel consumption, noise inside, VOC inside, coatings, harmful substances, recyclability and recoverability

5.2 requirement for fuel consumption

The vehicle fuel consumption for categories M_1 should meet the target limit according to GB 27999-2011 (stage 3, target as limit)

HJ 2532-2013

Work structure for fuel economy



Solution for fuel economy of automobile industry

e.g. technical solution of local passenger car manufactures in Shanghai

■Power Tran module

Incl. small engine with turbo technology and higher efficiency, cylinder deactivation, adjustable pump, new generation multi-speed transmission (up to 6 above), DCT (Dual Clutch Transmission), CVT (continuously variable transmission)

■Vehicle module

Incl. STT, TMS (Engine Thermal Manage System), light weight, power consumption, energy recovery, lower resistance tire, aerodynamics

■Advanced Vehicle Technology module

Incl. PHEV, HEV, EV, new generation e-Assist system, diesel & CNG based on environment and facilities

The car manufacture is ready for the challenge ?!

Contents

- Background
- Fuel economy Strategy of National and Industry
- Event and works on fuel economy in China
- Summary

Summary

1. As an important national energy strategy , fuel economy was brought into as a key part of automobile industry.
2. Compulsory technical standard is significant to push industry to execute technology upgrade and product innovation.
3. Currently China has established fuel economy standards system including testing method, limitation and identification labeling.
4. The limitation value of vehicle fuel consumption developed from stage 3 to stage 4 is a big step forward. It resulted into a big pressure for the car manufacture to reach Target CAFC. One of the best solution is to increase new energy vehicle production.
5. In short term, commercial vehicle fuel consumption management is still under multiple managing by different municipal departments.
6. The typical driving cycle suitable to China is still under Research.

Thank you for your attention.

Shanghai Motor Vehicle Inspection Center

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