



全国汽车标准化技术委员会

National Technical Committee of Auto Standardization

Developments and Prospects of Automobile Energy Saving Standards in China

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CATARC

January 26th, 2021

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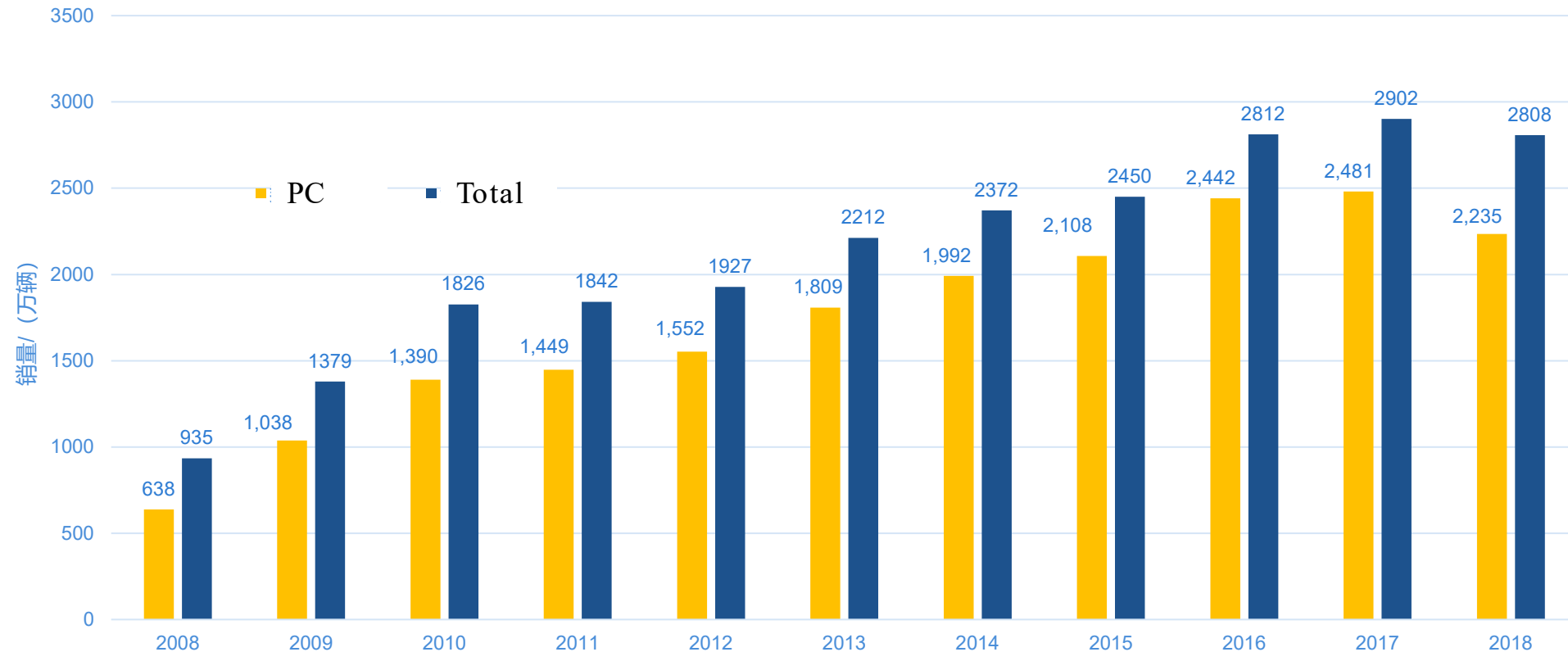
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Automobile sales in China from 2008-2018



- Since 2009, China has become the largest automobile manufacturer and sales country till today;
- In 2010, the production and sales of passenger cars exceeded 10 million, and more than 20 million in 2015;
- However, at present, the number of private cars per thousand people in China is only 141, which is far behind that of developed countries (747 in the United States and 542 in Japan), which can be predicted to continue to grow in the future.

- To promote the development of energy saving and new energy vehicles is national strategy



By 2020, overall target of PCs is 5.0L/100km, and 4.5L/100km for energy saving PCs, commercial vehicles are close to international advanced level ; By 2025, target of PCs drop to 4.0L/100km, and the commercial vehicles reach to international advanced level



By 2020, the annual sales of NEVs will be up to two million, and account for more than 20% of total sales by 2025

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Label	GB 22757.1-2017、GB 22757.2-2017 Energy consumption label for light-duty vehicles	
	GB 19578-2004、GB 19578-2014 Fuel consumption limits for passenger cars(I~III) (revising)	
	GB 27999-2011、GB 27999-2014、GB 27999-2019 Fuel consumption evaluation methods and target for passenger cars(III~V)	QC/T 924-2011 Fuel consumption limits for heavy duty commercial vehicles
	GB 20997-2007、GB 20997-2015 Fuel consumption limits for light duty commercial vehicles(I~III) (revising)	GB 30510-2014、GB 30510-2018 Fuel consumption limits for heavy duty commercial vehicles(II~III)
Index	GB/T 19233-2008、GB/T 19233-2020 Measurement methods of fuel consumption for light duty vehicles (revising)	GB/T 27840-2011 Fuel consumption test methods for heavy duty commercial vehicles (revising)
	GB/T 19753-2013 Test methods for energy consumption of light duty hybrid electric vehicles (revising)	GB/T 19754-2015 Test methods for energy consumption of light duty hybrid electric vehicles (revising)
	GB/T 18386-2017 Electric vehicles-Energy consumption and range-Test procedures	
	GB/T 29125-2012 Test methods of fuel consumption for CNG vehicles	
Light duty vehicles (M1、M2≤3.5T、N1)		Heavy duty vehicles (M2 > 3.5T、M3、N2、N3)

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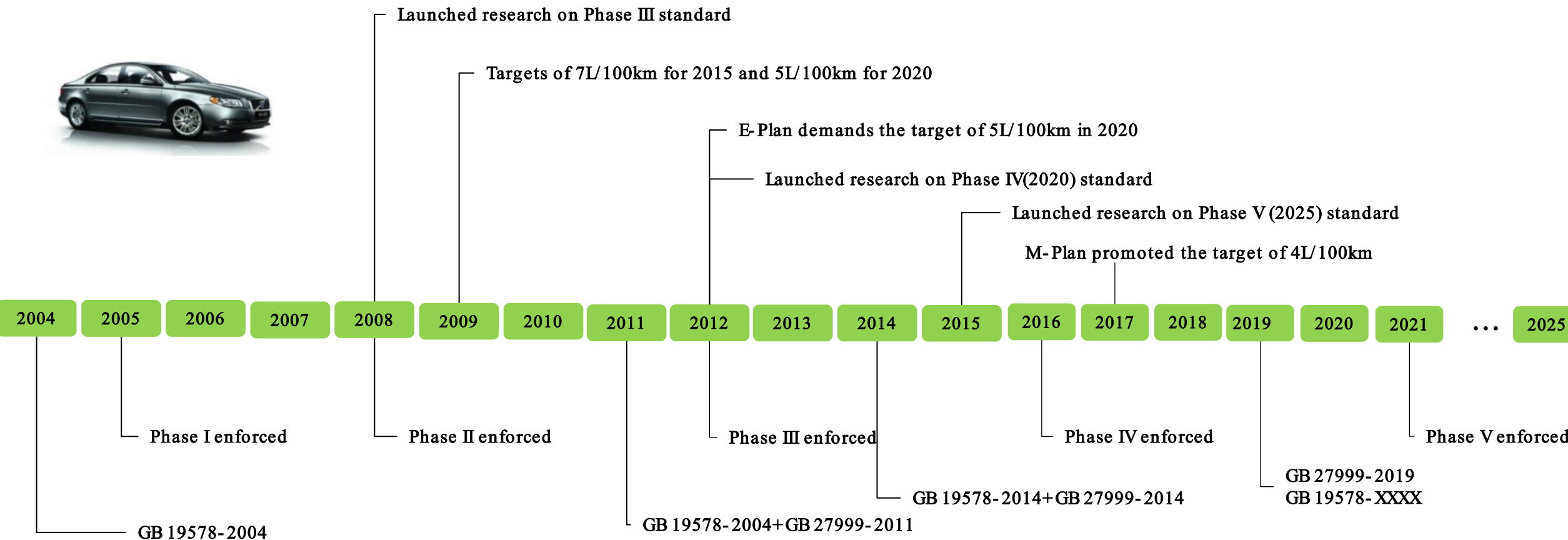
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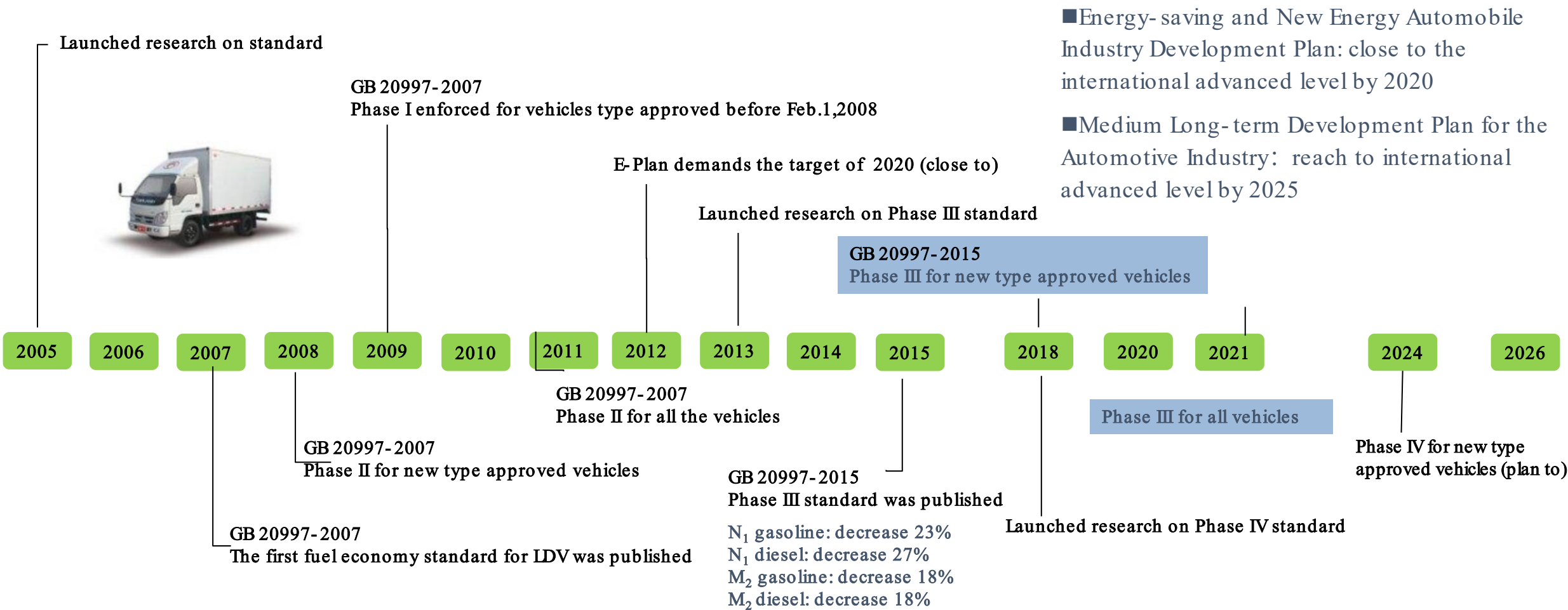
04 Prospect

Evolution of Energy Saving Standards for Passenger Cars



Phase I	Phase II	Phase III 2015≈6.9L/100km	Phase IV 2020=5.0L/100km	Phase V-2025 2025=4.0L/100km	
GB 19578-2004		GB 19578-2004	GB 19578-2014	GB 19578-20XX	Limits
/		GB 27999-2011	GB 27999-2014	GB 27999-2019	CAFE

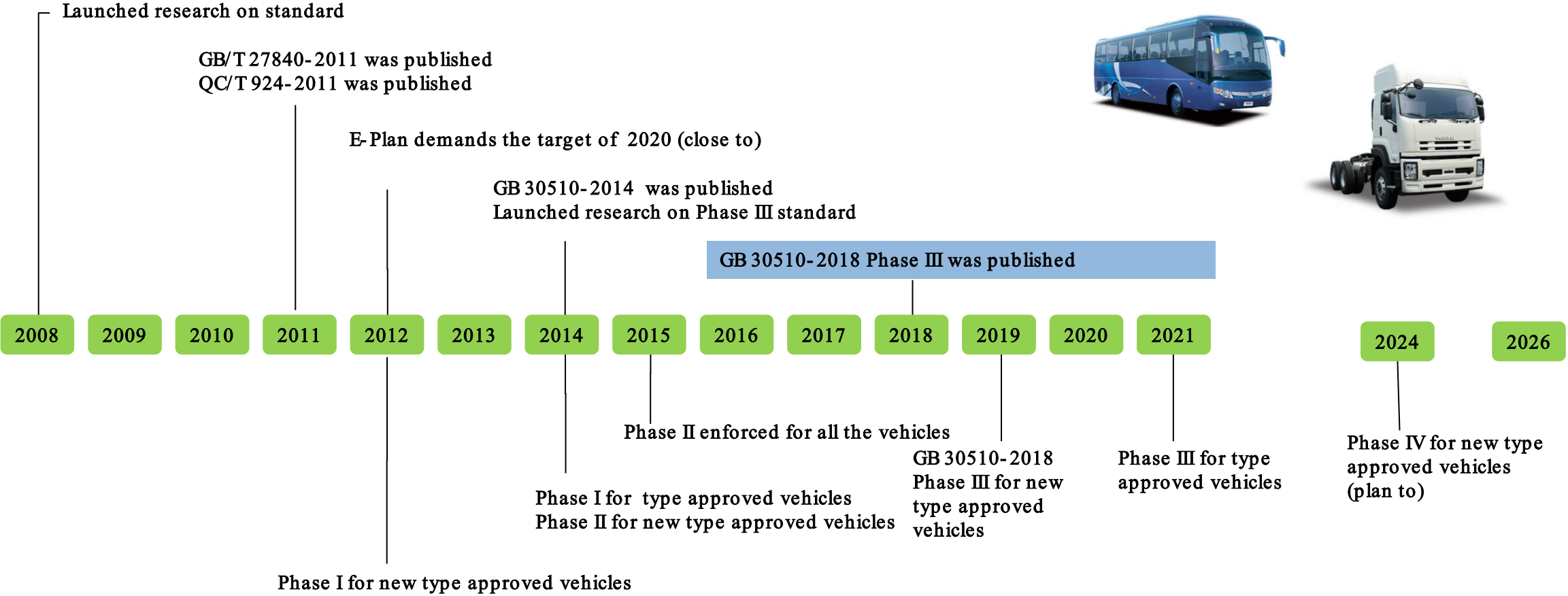
Evolution of Energy Saving Standards for LDVs



■Energy-saving and New Energy Automobile Industry Development Plan: close to the international advanced level by 2020

■Medium Long-term Development Plan for the Automotive Industry: reach to international advanced level by 2025

Phase I	Phase II	Phase III 2020	Phase IV 2025
GB 20997-2007		GB 20997-2015	GB 20997-20XX
GVW+displacement		CM	CM



Phase I	Phase II	Phase III	Phase IV
QC/T 924-2011	GB 30510-2014	GB 30510-2018	GB 30510-20XX

- 1. First light- duty, then heavy- duty, and first traditional vehicles, then new energy and alternative fuel vehicles
- 2. Name changed to energy consumption label



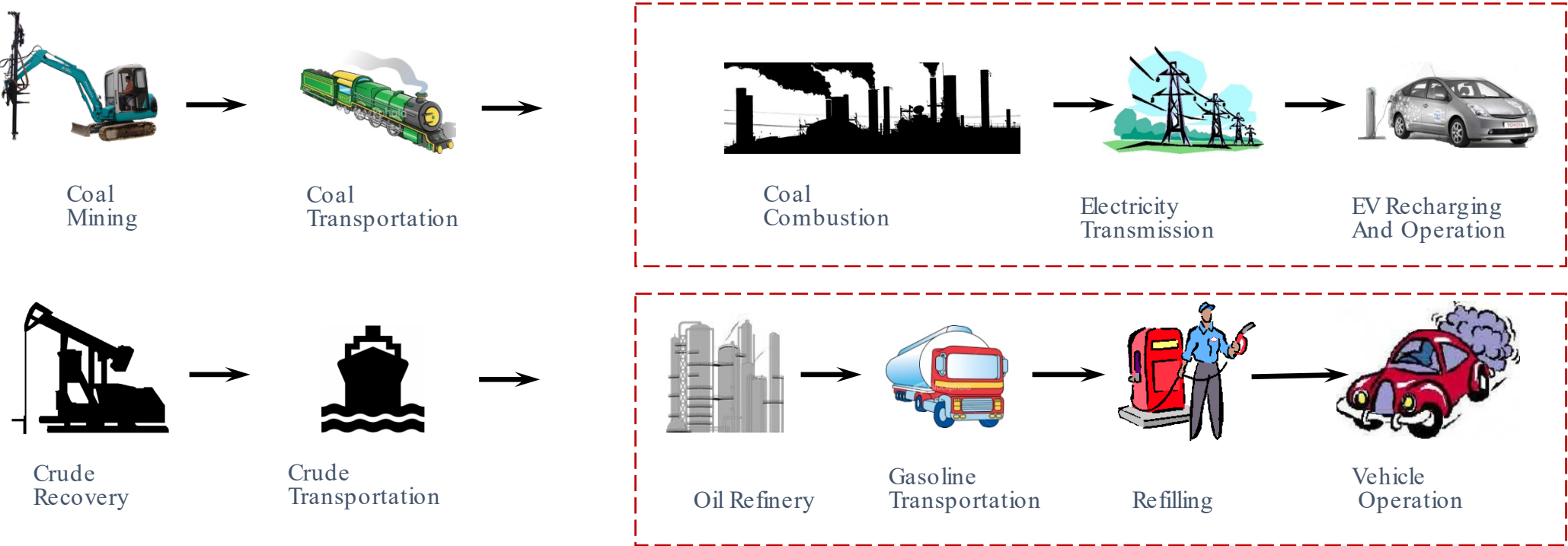
- I. Address urban data
- II. Comparable label
- III. Superior to the limit amplitude



- I. Kwh->L/100km
- II. Distance



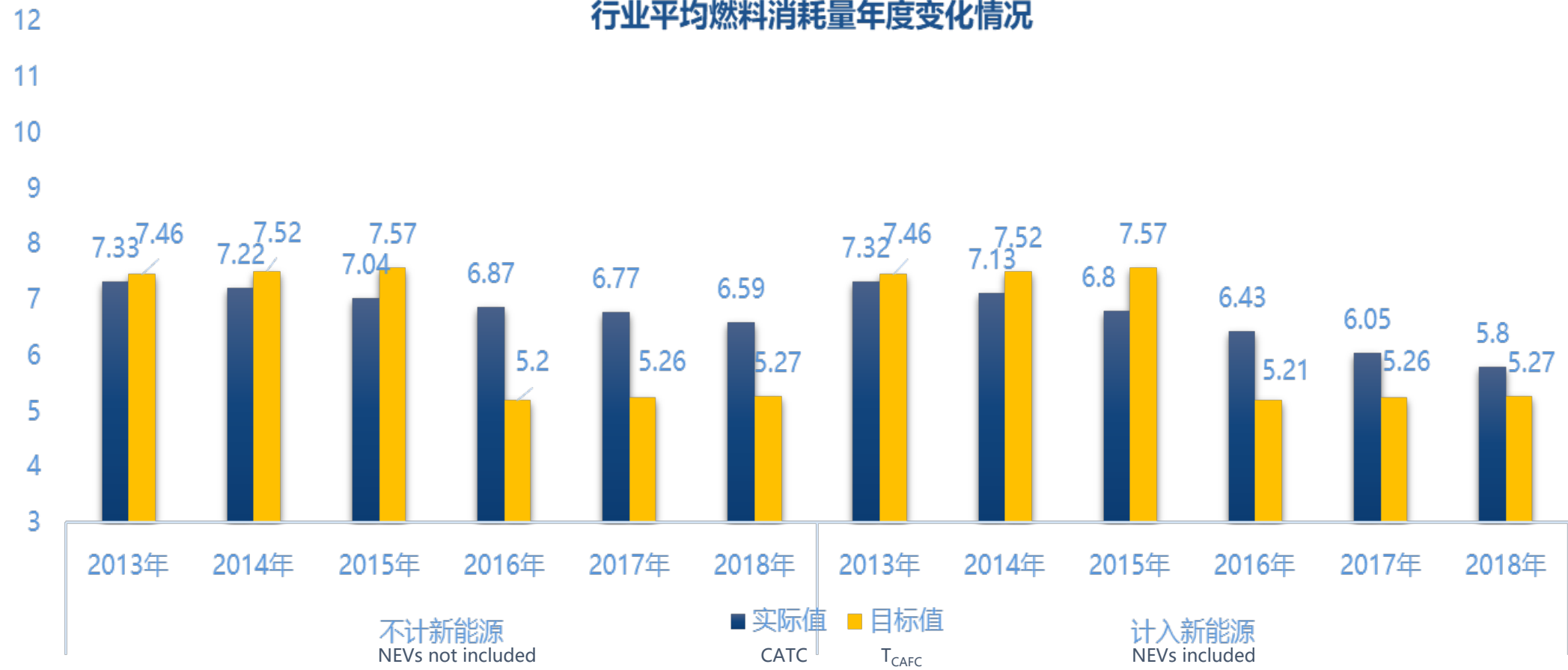
- I. Energy consumption conversion kWh- L/100km
- II. Distance
- III. FC under lowest SOC



- 1. Used for energy consumption label of vehicles
- 2. Used for accounting of the average fuel consumption of enterprises

Phase	Power consumption	Corresponding Gasoline consumption	1kWh
	15kWh	0	
Simple conversion	15kWh	1.70 L/100km	0.1133
Fuel life cycle conversion	15kWh	3.44 L/100km	0.2293
Carbon dioxide emission conversion	15kWh	4.61L/100k	0.3073

Annual changes of average fuel consumption in industry
行业平均燃料消耗量年度变化情况



■ The implementation of automobile energy saving standard has brought great economic and social benefits. It is estimated that by 2020, all kinds of vehicles will save 93 million tons of oil and reduce CO₂ emissions by about 300 million tons.

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With the development of the automobile industry towards the "new four modernizations" of intelligence, electrification, networking and sharing, the construction of automobile energy-saving standard system is also facing new issues and situations. It is necessary to expand ideas, actively respond to it and follow the trends.



Consider changing from fuel consumption target for traditional vehicle to the energy consumption target mainly based on new energy vehicles or setting independent target requirements separately

Change the direction of the standard for NEVs from incentive to restraint.



Continue to promote the research on life cycle conversion standards and evaluate the energy consumption and CO₂ emissions of NEVs comprehensively and objectively.



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