



全国汽车标准化技术委员会

National Technical Committee of Auto Standardization

---

# Introduction on sustainable development standards for automotive industry in China

Tongzhu ZHANG

China automotive technology and research center Co.,Ltd

2023-05-22

# 目录

## Contents

---

### 第一部分 | 汽车行业可持续发展标准体系框架

Part I: Sustainable development standards framework for automotive industry

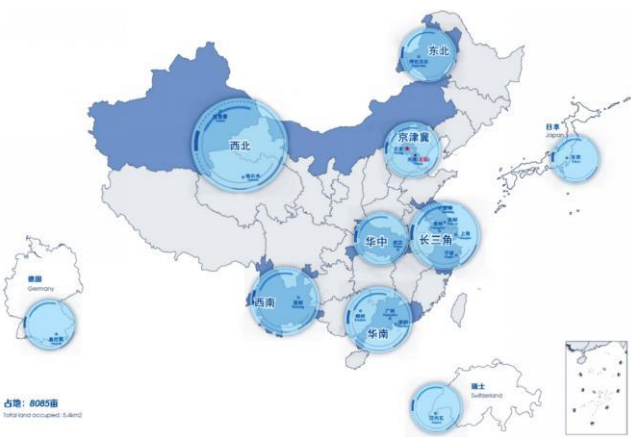
### 第二部分 | 汽车绿色低碳循环子领域标准进展

Part II: Progress in sub-field of auto green, low-carbon and circular development

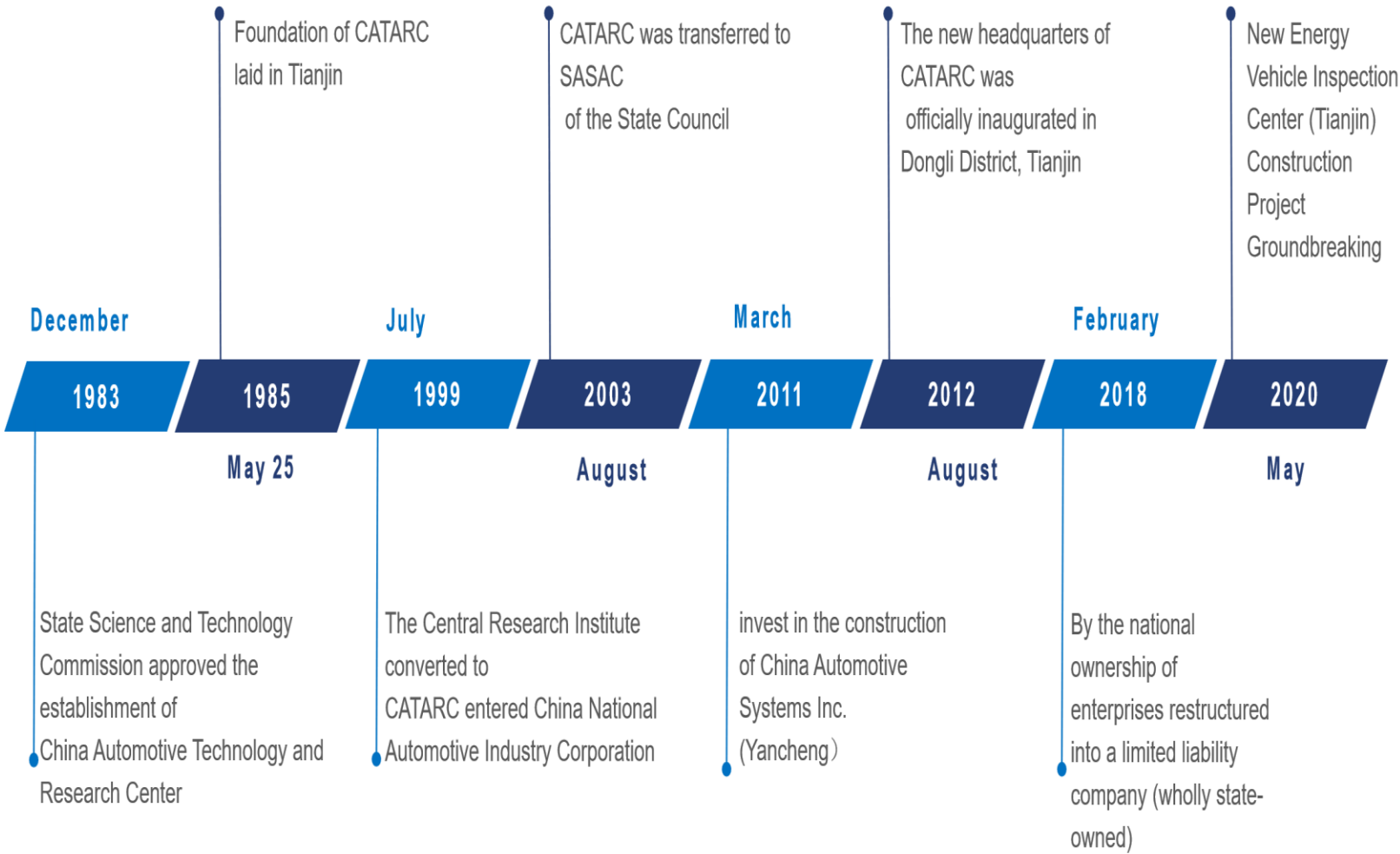
---

# Part I: Sustainable development standards framework for automotive industry

CATARC was founded in 1985, and the total number of employees is 4585. We are mainly engaged in research on policies and regulations, standards and specifications, inspection and testing of auto product in China. Auto standardization research insitute is one of its first departments.

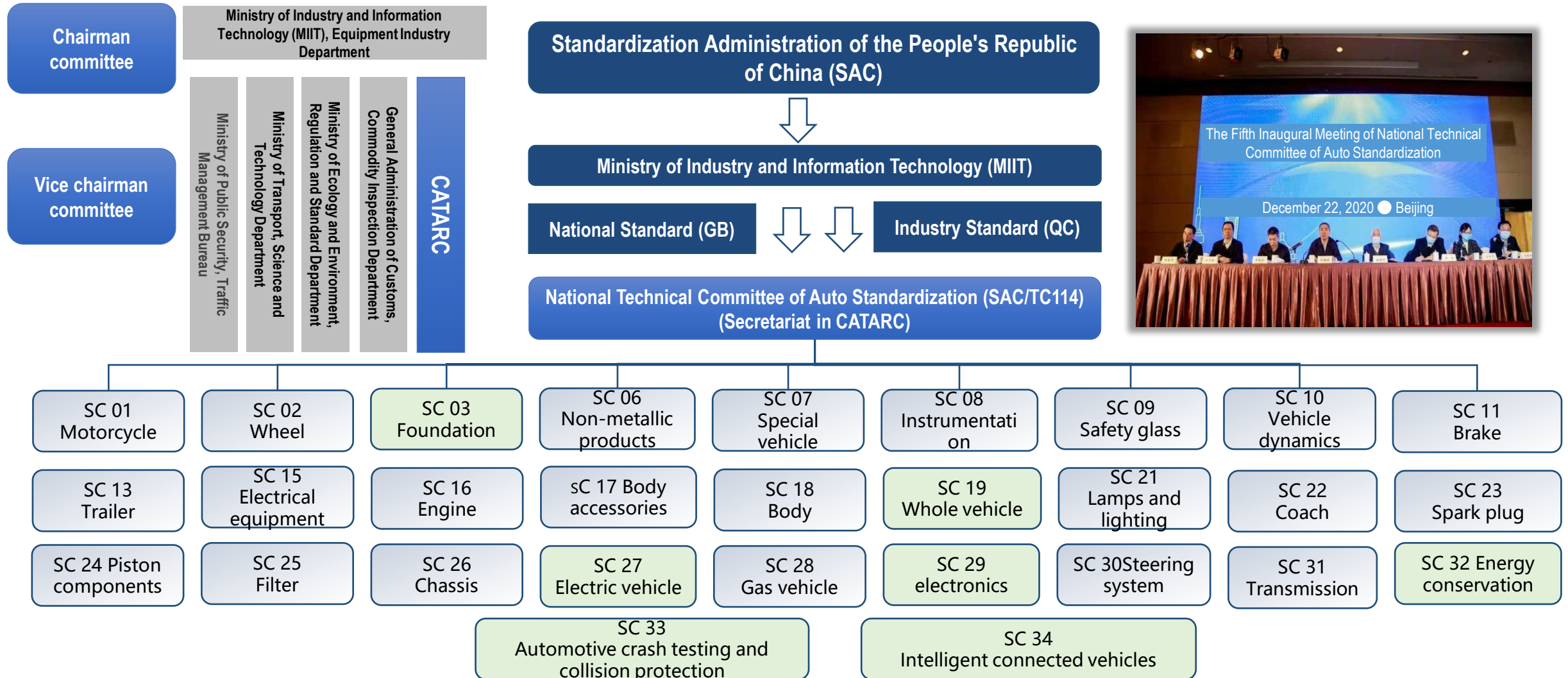


On May 25, 1985, the foundation of CATARC was laid

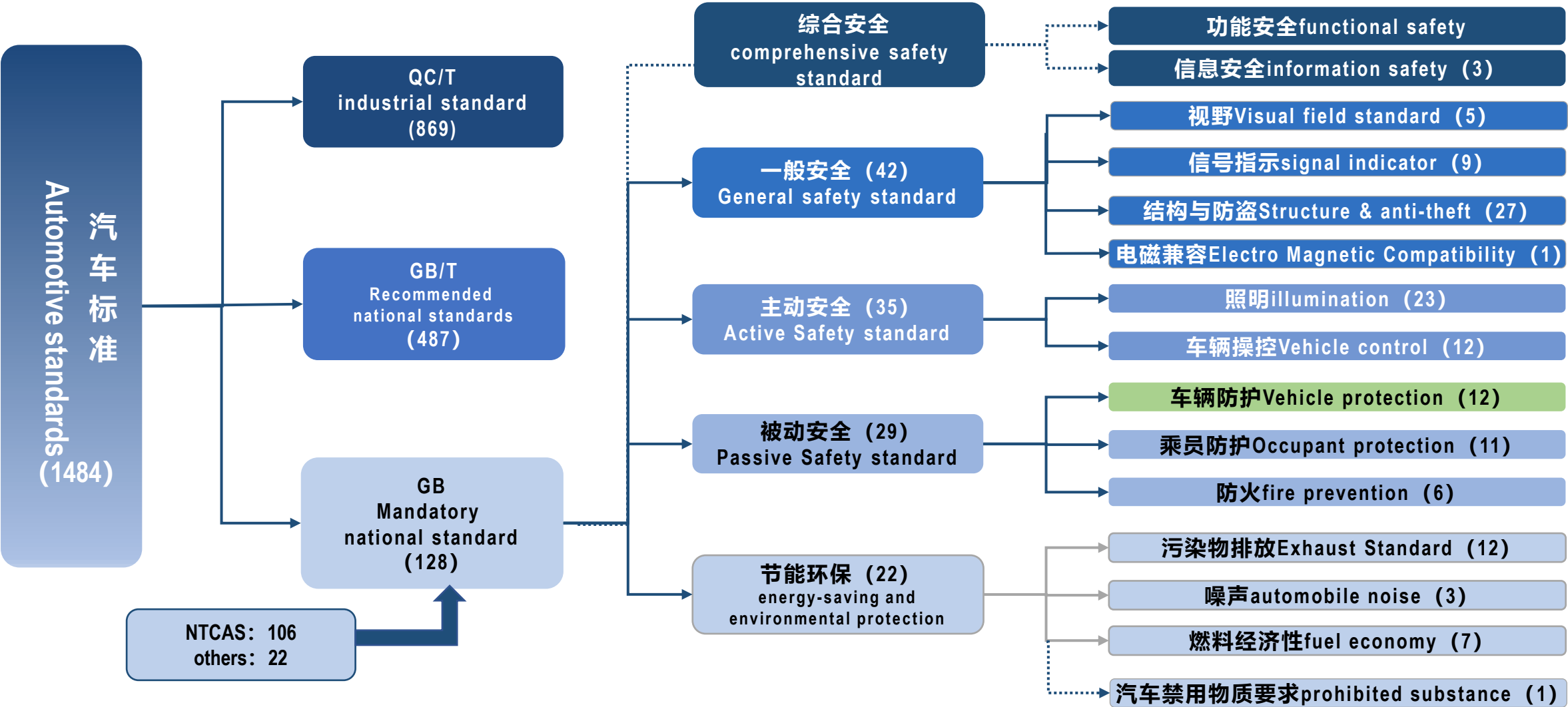


# Part I: Sustainable development standards framework for automotive industry

ASRI of CATARC is the secretariat of National Technical Committee of Auto Standardization(NTCAS), NTCAS (SAC/TC114)is the largest technical standardization committee in China , It has 30 sub-committees with more than 1,000 committee members , chairman committee comes from MIIT.

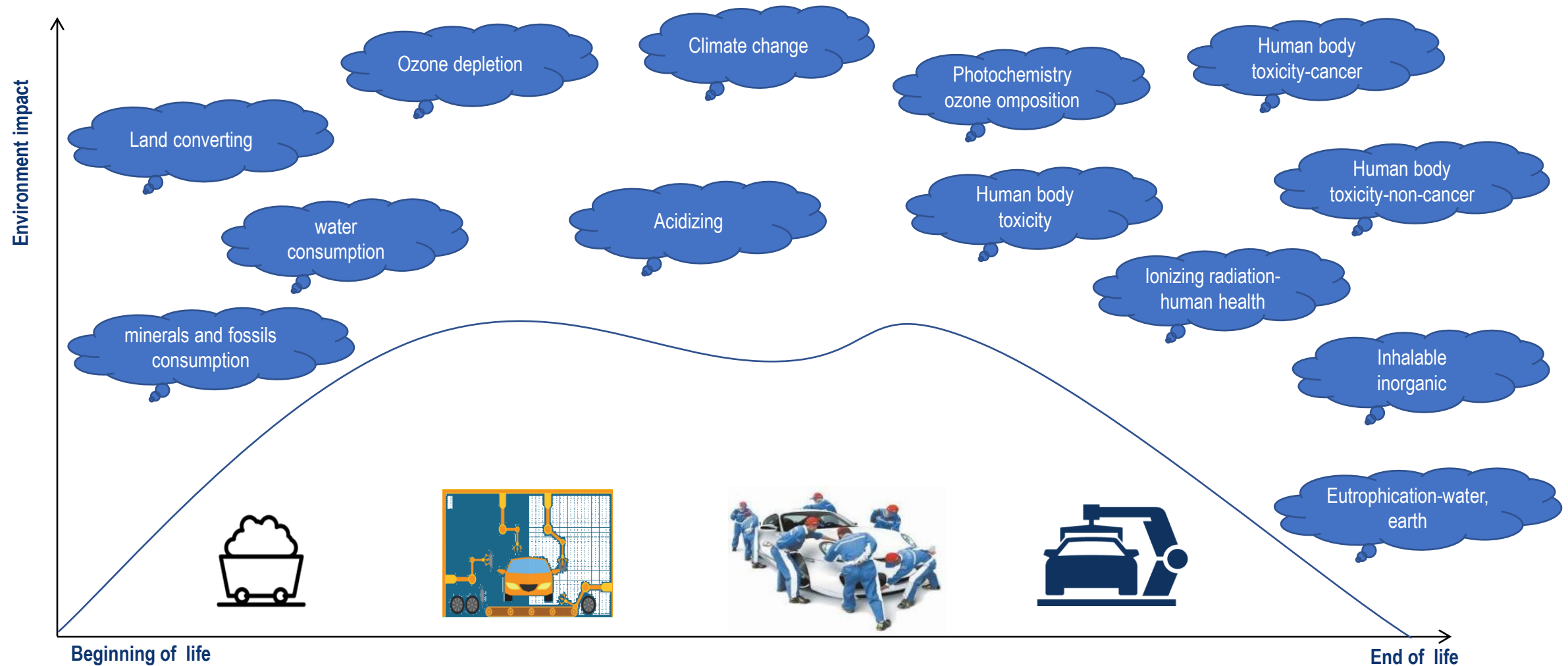


(SAC/TC114) has made nearly 1500 automotive national and industrial standards in China , including 128 mandatory national standards, 487 recommend national standards, and 869 industry standards. The mandatory national standard system consists of 5 aspects of sub-system.



Note: The statistical period is as of February 2023

Automobiles have caused great pressure on resources, energy, climate change and environment during the whole life cycle. In order to meet the development needs of future generations, it is urgent to promote the sustainable development of auto industry by making sustainable standards.





The State Council has released a guideline to accelerate the development of a green and low-carbon circular economic development system in 2021. It is an inevitable choice for automobile industry to build a green, low-carbon and circular development standard system.



中华人民共和国中央人民政府  
www.gov.cn

国务院 总理 新闻 政策 互动 服务 数据

首页 > 信息公开 > 国务院文件 > 国民经济管理、国有资产监管 > 其他

索引号: 000014349/2021-00015  
发文机关: 国务院  
标 题: 国务院关于印发加快建立健全绿色低碳循环发展经济体系的指导意见  
发文字号: 国发〔2021〕4号  
主 题 词:

主题分类: 国民经济管理、国有资产监管  
成文日期: 2021年02月02日  
发布日期: 2021年02月22日

**国务院关于印发加快建立健全绿色低碳循环发展经济体系的指导意见**  
国发〔2021〕4号

**Guideline to accelerate the development of a green and low-carbon circular economic development system**

的经济体系，现提出如下意见。

一、总体要求

(一) 指导思想。以习近平新时代中国特色社会主义思想为指导，深入贯彻党的十九大和十九届二中、三中、四中、五中全会精神，全面贯彻习近平生态文明思想，认真落实党中央、国务院决策部署，坚定不移贯彻新发展理念，全方位全过程推行绿色规划、绿色设计、绿色投资、绿色建设、绿色生产、绿色流通、绿色生活、绿色消费，使发展建立在高效利用资源、严格保护生态环境、有效控制温室气体排放的基础上，统筹推进高质量发展和高水平保护，建立健全绿色低碳循环发展的经济体系，确保实现碳达峰、碳中和目标，推动我国绿色发展迈上新台阶。



Green development



Environment-friendly

- To avoid and reduce harmful substances, liquids, gases, noise, electromagnetic harm to the environment all the vehicle life cycle.
- Auto green factory assessment, Auto green product assessment and auto green supply chain assessment, etc.

Carbon measurement and monitoring, quantitative accounting and reporting, carbon verification, carbon information disclosure, carbon evaluation and carbon quota standard for the enterprises and products from all the automobile industry chain

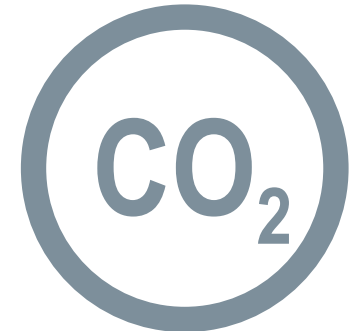
Circular development



resources-efficient

- To improve the reusability, recyclability and recoverability of new vehicles, Encourage the use of recycled materials in parts or vehicles.
- Standardize the dismantling, reuse, echelon use, recycling, remanufacturing, recovery of ELVs

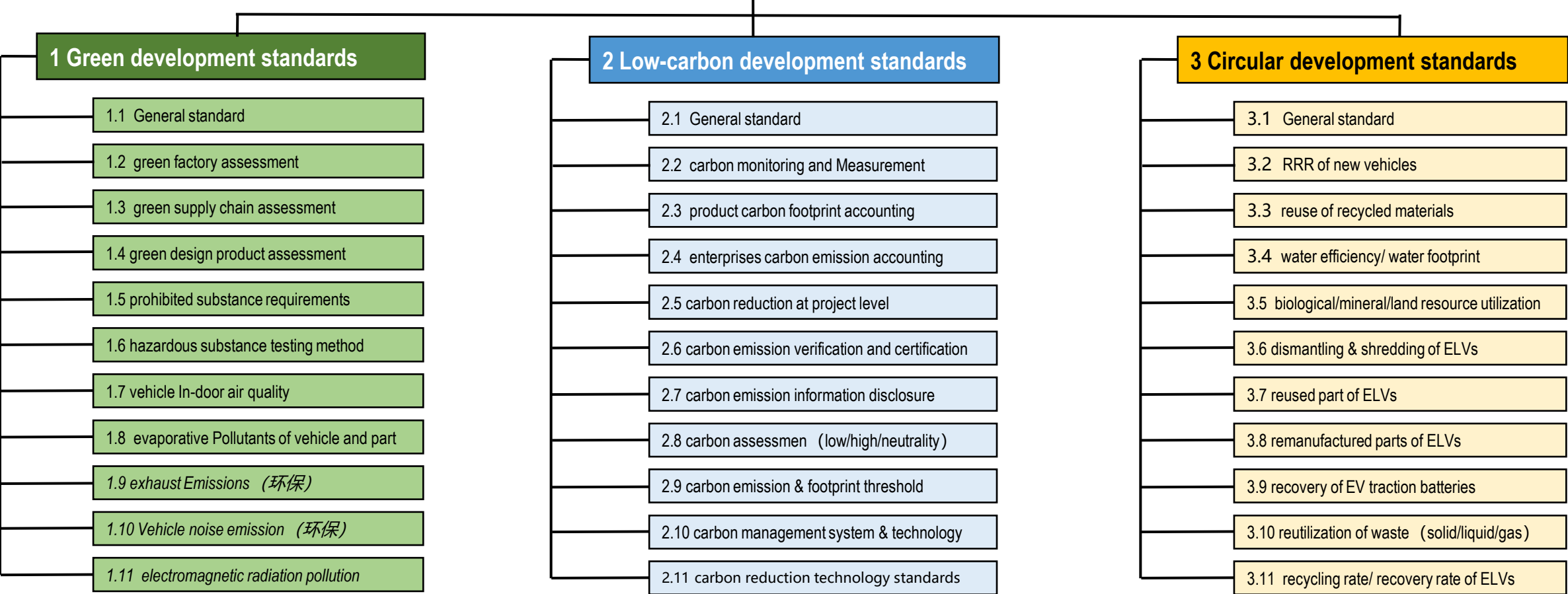
Low-carbon development



climate change mitigation

So we are establishing a “green, low-carbon and circular” sustainable development standard system based on the whole life cycle of the auto products focusing on environment protection, climate change mitigation and resources efficient.

Automotive sustainable development standard system framework





# 目录

## Contents

---

### 第一部分 | 汽车行业可持续发展标准体系框架

Part I: Sustainable development standards framework for automotive industry

### 第二部分 | 汽车绿色低碳循环子领域标准进展

Part II: Progress in sub-field of auto green, low-carbon and circular development

#### 2.1 汽车绿色发展标准 Green development standard

#### 2.2 汽车低碳发展标准 Low-carbon development standard

#### 2.3 汽车循环发展标准 Circular development standard

#### 2.4 综合评价管理标准 Comprehensive assessment and management

---

## 2.1 Green development standard

### 1. Green development

#### 1.1 General standard

#### 1.2 Green factory assessment

#### 1.3 Green supply chain

#### 1.4 Green design product

#### 1.5 Prohibited substances

#### 1.6 Hazardous substance test

#### 1.7 Vehicle In-door air quality

#### 1.8 Evaporative Pollutants

#### 1.9 exhaust Emissions

#### 1.10 Vehicle noise emission

#### 1.11 .....

1、Standards on green manufacturing system (green factory, green supply chain, green design products): the MIIT has released several batch of green factory, supply chain and product list of Green manufacturing



## 2.1 Green development standard

### 1. Green development

#### 1.1 General standard

#### 1.2 Green factory assessment

#### 1.3 Green supply chain

#### 1.4 Green design product

#### 1.5 Prohibited substances

#### 1.6 Hazardous substance test

#### 1.7 Vehicle In-door air quality

#### 1.8 Evaporative Pollutants

#### 1.9 exhaust Emissions

#### 1.10 Vehicle noise emission

#### 1.11 .....

**1、Standards on green manufacturing system :** In order to support the green manufacturing system , we have formulated several standards on green factory assessment , green supply chain assessment and green design product assessment of whole vehicles, we will study more green standards for other parts manufacturers and recyclers.



Green factory  
assessment

- ✓ QC/T XXX Guidelines on evaluation of traction battery manufacturing green factory (studing)
- ✓ QC/T 1160-2022 Guidelines on evaluation of whole vehicle manufacturing green factory
- ✓ QC/T XXX Guidelines on evaluation of traction battery recycling green factory (studing)



Green supply chain  
assessment

- ✓ QC/T XXX Evaluation of automobile traction battery industry green supply chain management (studing)
- ✓ QC/T 1159-2022 Evaluation of automobile industry green supply chain management
- ✓ QC/T XXX Evaluation of traction battery recycling industry green supply chain management (studing)



Green design product  
assessment

- ✓ QC/T XXX Specifications for green-design product assessment—traction battery (studing)
- ✓ QC/T 1161-2022 Specifications for green-design product assessment—Automobile
- ✓ QC/T XXX Specifications for green-design product assessment—reuse & recycled battery (studing)

## 2.1 Green development standard

### 1. Green development

1.1 General standard

1.2 Green factory assessment

1.3 Green supply chain

1.4 Green design product

1.5 Prohibited substances

1.6 Hazardous substance test

1.7 Vehicle In-door air quality

1.8 Evaporative Pollutants

1.9 exhaust Emissions

1.10 Vehicle noise emission

1.11 .....

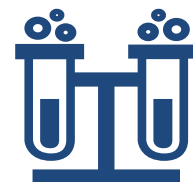
**2、Standards on prohibited substances requirement and test method:** We have formulated the limit standard for hazardous substances GB/T30512, and issued several test method standard for these substances, such as QC/T 941、QC/T 942 and so on. These standards will reduce the harmful substances emission at the EoL stage.



Limit of substances

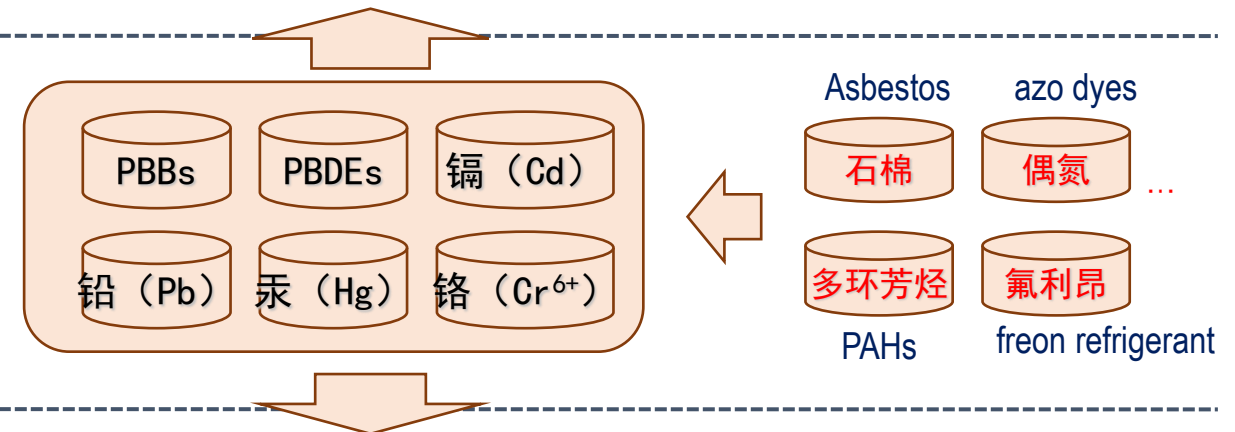


Hazardous substances



Test of substances

### GB/T 30512-2014 Requirements for prohibited substances on automobile



QC/T 941-2013 Test methods of **mercury** in automotive materials

QC/T 942-2021 Test methods of **hexavalent chromium** in automotive materials

QC/T 943-2013 Test methods of **lead and cadmium** in automotive materials

QC/T 944-2013 Test methods of **PBBs and PBDEs** in automotive materials

QC/T 1131-2020 Test methods of **polycyclic aromatic hydrocarbons** in automotive materials

## 2.1 Green development standard

### 1. Green development

#### 1.1 General standard

#### 1.2 Green factory assessment

#### 1.3 Green supply chain

#### 1.4 Green design product

#### 1.5 Prohibited substances

#### 1.6 Hazardous substance test

#### 1.7 Vehicle In-door air quality

#### 1.8 Evaporative Pollutants

#### 1.9 exhaust Emissions

#### 1.10 Vehicle noise emission

#### 1.11 .....

**2、Standards on prohibited substances requirement and test method:** these standards support the MIIT in issuing the Management Requirements for Hazardous Substances and Recyclability Rate of Automobile in 2015, and released the first batch of vehicle list that comply with the GB/T30512 standards in 2016.

中华人民共和国工业和信息化部  
Ministry of Industry and Information Technology of the People's Republic of China

《汽车有害物质和可回收利用率管理要求》公告

【发布时间：2015年06月09日】 【来源：节能与综合利用司】 【字体：大 中 小】

**Management Requirements for Hazardous Substances and Recyclability Rate of Automobile**

为保护生态环境，提高资源综合利用效率，促进汽车行业生产方式、消费模式向绿色低碳安全转变，提高产品的国际竞争力，依据《中华人民共和国环境保护法》第四十条、《中华人民共和国清洁生产促进法》第十九条、《中华人民共和国循环经济促进法》第十九条等规定，工业和信息化部制定了《汽车有害物质和可回收利用率管理要求》，现予以公告。

二、各级汽车零部件和材料供应商应如实提供产品的材料和有害物质使用信息，以利于汽车生产企业对汽车有害物质和可回收利用率的跟踪与分析。

三、自2016年1月1日起，对总座位数不超过九座的载客车辆（M1类）有害物质使用和可回收利用率实施管理。

（一）新产品有害物质使用、可回收利用率计算方法应分别符合国家标准《汽车禁用物质要求》、《道路车辆可再利用性和可回收利用率计算方法》的要求，并纳入《车辆生产企业及产品公告》（以下简称《公告》）管理。在生产车延后24个月执行。

中华人民共和国工业和信息化部  
Ministry of Industry and Information Technology of the People's Republic of China

工业和信息化部 新闻动态 信息公开 在线办事 公众参与 专题专栏 工信数据

首页 > 工业和信息化部 > 机构设置 > 节能与综合利用司 > 环境保护 > 正文

**载客车辆（M1类）车型的国家标准《汽车禁用物质要求》符合性情况名单（第一批）公告**

**M1 type of vehicle lists that Comply with national standard 《requirements for prohibited substances on automobile》**

中华人民共和国工业和信息化部  
公告

2016年 第19号

为落实《汽车有害物质和可回收利用率管理要求》（工业和信息化部公告2015年第38号），现将载客车辆（M1类）车型的国家标准《汽车禁用物质要求》符合性情况名单（第一批）予以公告。

附件：载客车辆（M1类）车型的国家标准《汽车禁用物质要求》符合性情况名单（第一批）

工业和信息化部  
2016年4月19日



## 2.1 Green development standard

### 1. Green development

1.1 General standard

1.2 Green factory assessment

1.3 Green supply chain

1.4 Green design product

1.5 Prohibited substances

1.6 Hazardous substance test

1.7 Vehicle In-door air quality

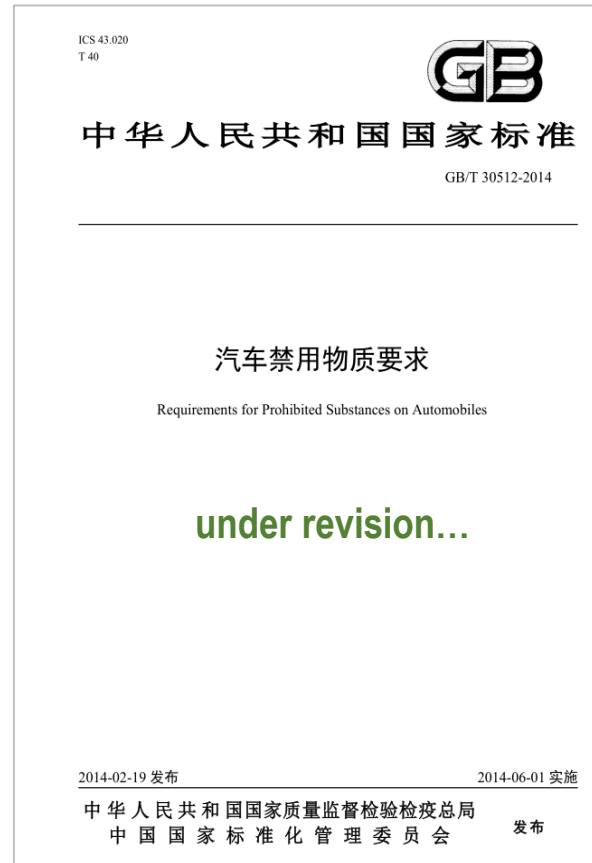
1.8 Evaporative Pollutants

1.9 exhaust Emissions

1.10 Vehicle noise emission

1.11 .....

**2、Standards on prohibited substances requirement and test method:** Now, in order to strengthen the control of hazardous substances used in vehicles, the standard GB/T 30512 is under revision and we will revise this standard from 5 aspects shown as below:



1

Change the Type of national standard: GB/T → GB

2

Clarify the Applicable type of vehicles: L、M、N、O ?

3

Add new types of harmful substances: Asbestos, PAHs

4

Refer to more Test method for harmful substance: Asbestos, PAHs

5

Update the List of exemptions: Appendix A



## 2.1 Green development standard

### 1. Green development

1.1 General standard

1.2 Green factory assessment

1.3 Green supply chain

1.4 Green design product

1.5 Prohibited substances

1.6 Hazardous substance test

1.7 Vehicle In-door air quality

1.8 Evaporative Pollutants

1.9 exhaust Emissions

1.10 Vehicle noise emission

1.11 .....

**3、 Volatile hazardous substances & noise pollution:** Ministry of Ecology and Environment (MEE) has released several standards for vehicle in-door/out-door air/noise pollution control , and we have made several standards to test the volatile pollution at the component level.



In-door air/noise



out-door air/noise

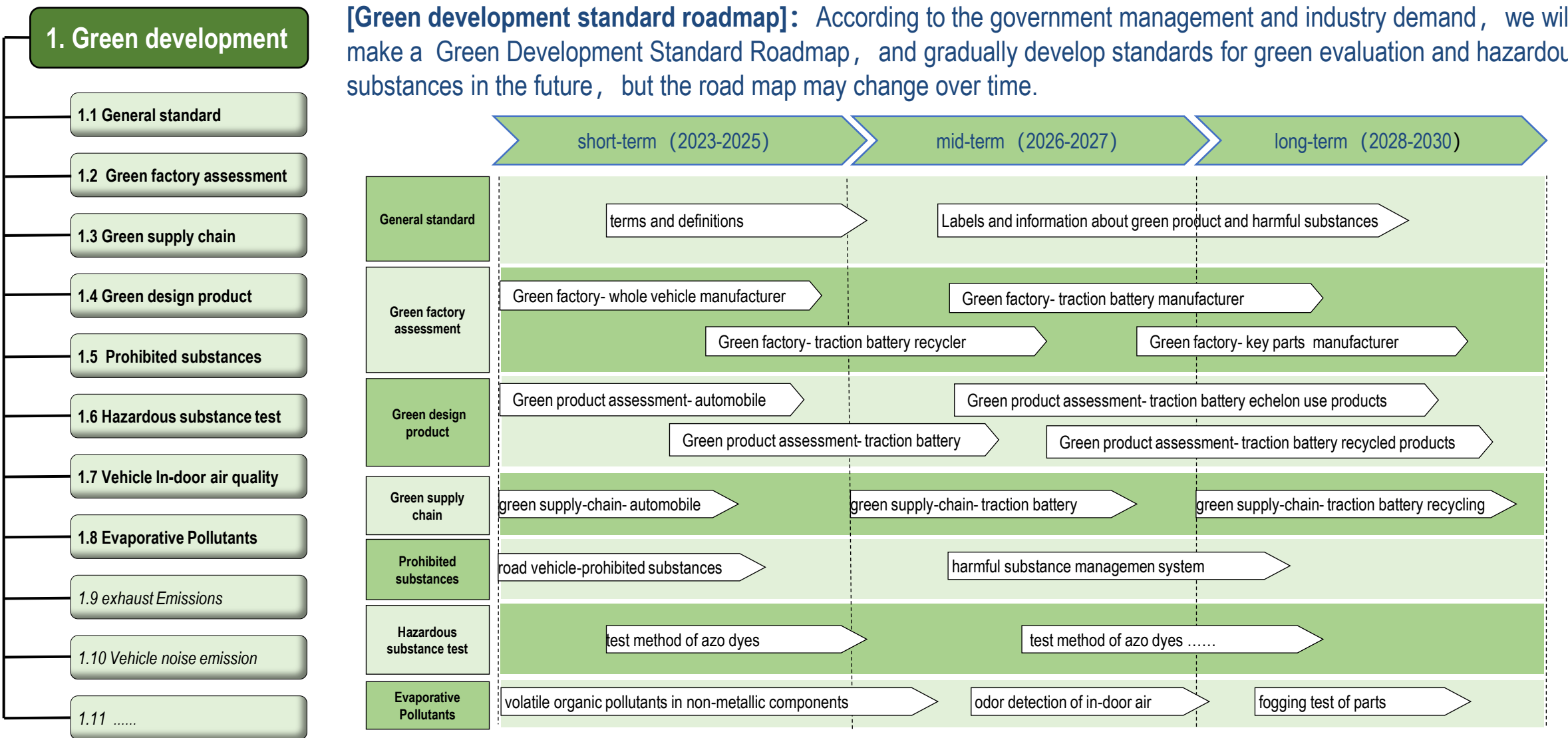
GB/T 17729-2023 Hygienic standard and detect methods for the air quality inside interurban bus  
GB/T 27630-2011 Guideline for Air Quality Assessment of Passenger Car  
HJ/T 400-2007 Sampling and detection method for Volatile Organic Compounds and Carbonyl Compounds in Vehicles  
GB/T 39897-2021 Determination of volatile organic compounds and aldehydes and ketones in nonmetallic parts of vehicles(TC114)

GB/T 25982-2010 Permissible levels and test methods of bus internal noise (TC114)

GB 18352.6-2016 Limits and measurement methods for emissions from light-duty vehicles(CHINA 6)  
GB 17691-2018 Limits and measurement methods for emissions from diesel fuelled heavy-duty vehicles (China VI)  
GB XXX Road vehicle — Test methods for volatile organic pollutants of automobile parts(TC114 studying)

GB 1495-2002 Limits and measurement methods for noise emitted by accelerating motor vehicles  
GB 16170-1996 Limits of noise emitted by stationary road vehicles  
GB/T 40625-2021 Indoor measurement methods for noise emitted by accelerating motor vehicles  
GB/T 40578-2021 Measurement methods for noise emitted by light-duty vehicles in multiple driving mode  
GB/T 14365-2017 Acoustics-Measurement of noise emitted by stationary road vehicles

2.1 Green development standard



# 目录

## Contents

---

### 第一部分 | 汽车行业可持续发展标准体系框架

Part I: Sustainable development standards framework for automotive industry

### 第二部分 | 汽车绿色低碳循环子领域标准进展

Part II: Progress in sub-field of auto green, low-carbon and circular development

2.1 汽车绿色发展标准 Green development standard

2.2 汽车低碳发展标准 Low-carbon development standard

2.3 汽车循环发展标准 Circular development standard

2.4 综合评价管理标准 Comprehensive assessment and management

---

China has made 2060 carbon neutral pledge, The national 1+N “carbon peaking and carbon neutrality” policy documents provide guidance for the low-carbon development standardization for the automotive industry, these policies said that:



## (28) Improve the standard measurement system.

Establish and improve a standard measurement system for carbon peaking and carbon neutrality. Accelerate the improvement of carbon emission verification and accounting report standards for regions, industries, enterprises, and products, and establish a unified and standardized carbon accounting system. Develop greenhouse gas emission standards for key industries and products and improve the low-carbon product standard labeling system.



**(1) Establish a unified and standardized statistical accounting system for carbon emissions.** Support industries and enterprises to carry out research on carbon emission accounting methodology according to their own characteristics, and establish a sound carbon emission measurement system.

**(2) Improve laws and regulations.** improve the standard system for green and low-carbon industries. Establish key enterprise standards such as accounting, reporting and verification of carbon emissions, to explore establishing standards for key product whole life cycle carbon footprint.



## (11) establish and improve standards for carbon peaking and carbon neutrality.

Establish and improve a standard measurement system for carbon peaking and carbon neutrality. Accelerate the improvement of carbon emission verification and accounting report standards for regions, industries, enterprises, and products, and establish a unified and standardized carbon accounting system. Develop greenhouse gas emission standards for key industries and products and improve the low-carbon product standard labeling system.

In August 2022, The National Development and Reform Commission and other departments issued the "Implementation Plan for Accelerating the Establishment of a Unified and Standardized Carbon Emission Accounting System".

2022年8月19日 星期五

无障碍模式



**中华人民共和国国家发展和改革委员会**  
National Development and Reform Commission

热门搜索：油价 产业结构调整指导

请输入关键字

首页

机构设置

新闻动态

政务公开

政务服务

首页 > 政务公开 > 政策 > 通知

国家发展改革委 国家统计局 生态环境部

印发《关于加快建立统一规范的碳排放统计核算体系实施方案》的通知

发改环资〔2022〕622号

Implementation Plan for Accelerating the Establishment of a Unified and Standardized Carbon Emission Accounting System

国家发展改革委  
国家 统 计 局  
生 态 环 境 部  
2022年4月22日

(本文有删减)

附件：

Carbon emission statistical accounting is an important foundation for achieving peak and carbon neutrality, and an important basis for formulating policies, promoting work, conducting assessments, and negotiating contracts.

发布时间：2022/08/19

来源：环资司

打印

微博

微信

### III. Key tasks

#### (I) Establish a national and local carbon emission accounting system

The National Bureau of Statistics will formulate a unified national and provincial carbon emission accounting method and organize the national and provincial carbon emissions total accounting.

Encourage all regions to develop their own carbon emission accounting methods for areas below the provincial level based on national and provincial carbon emission accounting methods.

#### (II) Improve the Mechanism for Industry and Enterprise Carbon Emission Accounting

The Ministry of Ecology and Environment, together with the State Administration for Market Regulation and industry regulatory departments, will organize the formulation and revision of key industry carbon emission accounting methods and relevant national standards.

Enterprises' carbon emission accounting reports and verifications should be based on the major industries to which they belong.

#### (III) Establish and Improve Carbon Emission Accounting Methods for Key Products

The Ministry of Ecology and Environment, in collaboration with industry regulatory departments, will research and develop carbon emission accounting methods for raw materials, semi-finished products, and finished products in key industries.

Promote the gradual development of national standards for mature and applicable accounting methods.

#### (IV) Improve the national greenhouse gas inventory compilation mechanism

Continue to promote the compilation of the national greenhouse gas inventory and establish a routine management and periodic update mechanism.

Strengthen the application of new methodological tools, such as dynamic emission factors, in the compilation of national greenhouse gas inventories.

### IV. Safeguard measures

#### (I) Strengthen the foundation of statistics

Strengthen the construction of grassroots institutions and teams for carbon emission statistics and accounting.

Gradually establish and improve an activity level data statistics system that is in line with the requirements of national and provincial-level carbon emission accounting.

#### (II) Establish an emission factor database

The Ministry of Ecology and Environment and the National Bureau of Statistics will lead the establishment of a national greenhouse gas emission factor database.

#### (III) Apply advanced technologies

Strengthen the construction of information technology capabilities for carbon emission accounting and statistics, and accelerate the application of modern information technologies such as 5G, big data, cloud computing, and blockchain.

#### (IV) Conduct methodological research

Encourage universities, research institutes, and enterprises to conduct methodological research on carbon emissions

Promote research on accounting for non-carbon dioxide greenhouse gas emissions, carbon capture, utilization, and storage, and carbon sinks.

#### (V) Improve supporting policies

Provide financial support for national and provincial carbon emission accounting and greenhouse gas inventory compilation, and allocate financial budgets reasonably according to the principle of hierarchical protection.

Coordinate statistical and accounting talents from various industries and form a team of experts in carbon emission accounting and statistics.

**Carbon emission statistical accounting is an important foundation for achieving peak carbon emissions and carbon neutrality, and an important basis for formulating policies, promoting work, conducting assessments, and negotiating contracts.** In order to implement the "Opinions on Fully Implementing the New Development Philosophy and Effectively Achieving Carbon Peaking and Carbon Neutrality" issued by the Central Committee of the Communist Party of China and State Council and the "Action Plan for Carbon Peaking before 2030", and to accelerate the establishment of a unified and standardized carbon emission accounting system, this plan was developed.



In April 2023, The SAC issued the “Carbon Peak & Carbon neutral standard system”, this system includes 4 sub-systems, such as “General standard”, “carbon reduction standard”, “carbon removal standard” and “market mechanism standard”



国家标准化管理委员会  
standardization administration

请输入关键字

本站热词: 标准 通知

首页

组织机构

新闻

信息公开

办事服务

互动交流

专题

政策文件

标题: 关于印发《碳达峰碳中和标准体系建设指南》的通知

文号: 国标委联〔2023〕19号

发文机关: 国家标准化管理委员会 国家发展和改革委员会 工业和信息化部 自然资源部 生态环境部等

Guidelines for the construction of Carbon Peak & Carbon neutral standard system

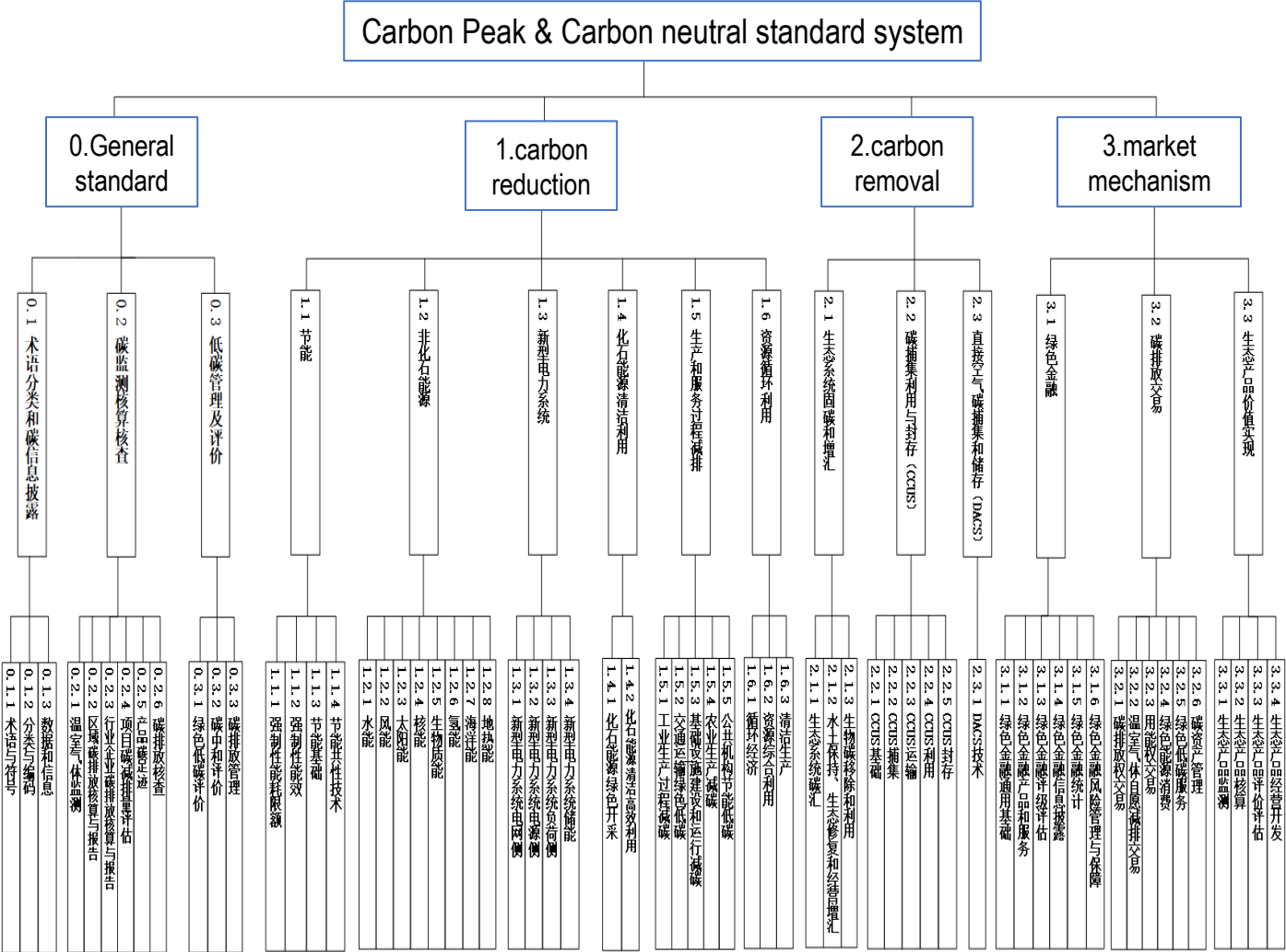
关于印发《碳达峰碳中和标准体系建设指南》的通知

《碳达峰碳中和标准体系建设指南》已经2023年2月6日国务院标准化协调推进部际联席会议全体会议通过，现印发给你们，请结合实际认真贯彻落实。

国家标准化管理委员会 国家发展和改革委员会 工业和信息化部  
自然资源部 生态环境部 住房和城乡建设部  
交通运输部 中国人民银行 中国气象局  
国家能源局 国家林草局

2023年4月1日

(此件公开发布)





On 9th April 2021, we established the working group on automotive carbon neutral standards, including more than 100 members from the whole vehicle manufacturers, parts manufacturers, recycling enterprises and so on.

## 全国汽车标准化技术委员会 整车分技术委员会

汽标整字（2021）7号

关于筹备成立“汽车绿色制造标准工作组碳中和研究小组”的通知



S/N	Type	Members (over 100 )
1	Automakers in China	FAW Group, FAW-Volkswagen, FAW Jiefang, Dongfeng Passenger Vehicle, Dongfeng Liuzhou, Dongfeng Nissan, Dongfeng Commercial Vehicle, Dongfeng Peugeot Citroen, VOYAH, SAIC Volkswagen, SAIC Passenger Vehicle, SGMW, Jidu, PATAC, BAIC Motor, BAIC BJEV, Foton Daimler, Chery Automobile, Shaanxi Automobile Group, Brilliance Auto, Great Wall Motor, Geely Commercial Vehicles, Geely Automotive Research Institute, Jizhi New Energy, Jimai New Energy, SINOTRUK, XCMG, Changan Auto, Changan Ford, IM, Changan EV, Chery Jaguar Land Rover, Human Horizons, Dongfeng Peugeot, GAC Motor, GAC Honda, GAC Toyota, HOZON, Brilliance Auto, NIO, Chongqing Jinkang Sailisu New Energy, Xiaomi Automobile, Chehejia, Wuhan Lotus, Jiangmen Dachangjiang (motorcycle).
2	Foreign-funded automakers	Porsche, Volkswagen China, Toyota Technical Center, TMCI, TOYOTA BOSHOKU, Volvo Asia Pacific, Daimler, Tesla, Jaguar Land Rover, BMW, Ford, Nissan, Peugeot Citroen, Hyundai Motor, Scania, Mazda.
3	Auto parts/supply chain companies	CATL, FTXT, Gotion High-tech, SVOLT, Zhangjiagang CIMC Sanctum Cryogenic Equipment Co., Ltd, Lantianda, Dicastal, Chongqing Kairui Power, NanJing JuLong Science & Technology, REFERENCE, Schaeffler, SHPT, Continental AG, Weichai Power, Arconic, Faurecia, Geely Powertrain Systems, Michelin, DENSO (China), Valeo, GYMD Digital Technology, Huawei Digital Energy, Tianjin Jingnuo Hanhai Data Technology Co., Ltd., Huntsman Corporation Shanghai
4	recycling companies	Brunp, Zhejiang Huayou Recycling, Beijing Saidemei, GANPOWER, Shanghai Chegongfang, Yancheng Liuming New Energy, Tansheng Technical Service, Wuhan Dongfeng Hongtai.
5	Testing and certification institutions	CATARC, Ningbo Testing Center, China Quality Certification Center, SGS, Shanghai Testing Center, Henan Kairui Vehicle Inspection and Certification, STS, China United Certification Center, United Intellect, Huacheng Certification, PONY Testing, China Automotive Engineering Research Institute, AMAE, Bureau Veritas, NAST, China Machinery Huanyu Certification and Inspection Co., Ltd.
6	Universities	Tsinghua University, Beijing Institute of Technology, Beijing Jiaotong University, Sichuan University, Jiangsu University.
7	Related research institutions	China Academy of Information and Communications Technology, National New Energy Vehicle Technology Innovation Center, BIDRI, Jiangsu Qingzhiyuan, Zhejiang Institute of Standardization, IHS AUTOMOTIVE, China National Resources Recycling Association, China Automotive Engineering Research Institute Co., Ltd

March 2022, SAC/TC114 supported the Ministry of Industry and Information Technology releasing the "2022 Automotive Standardization Work Points", which clarified the work on auto energy consumption and carbon emissions standards.

中华人民共和国工业和信息化部  
Ministry of Industry and Information Technology of the People's Republic of China

看新闻 找文件 查办事 提意见 查数据 要投诉

工业和信息化部 新闻动态 政务公开 政务服务 公众参与 工信数据 专题专栏

首页 > 工业和信息化部 > 机关局 > 装备工业一司 > 汽车工业

## 2022年汽车标准化工作要点

### 2022 Automotive Standardization Work Points

2022年汽车标准化工作坚持以习近平新时代中国特色社会主义思想为指导，全面贯彻党的十九大和十九届历次全会精神，立足新发展阶段，完整、准确、全面贯彻新发展理念，按照《国家标准化发展纲要》《新能源汽车产业发展规划（2021—2035年）》等文件要求，紧贴汽车技术发展趋势和行业实际需求，践行使命担当，奋力开创汽车标准化工作新局面，为汽车产业高质量发展提供坚实支撑。

一、持续完善标准顶层设计，加强各方统筹协调

1. 健全完善汽车技术标准体系。进一步优化汽车行业“十四五”技术标准体系，持续完善新能源汽车、智能网联汽车等重点领域标准体系建设指南，研究制定智能网联汽车测试装备标准体系，加快构建汽车芯片标准体系。

2. 统筹推进汽车标准化工作。高度重视汽车标准的交叉融合问题，推动建立跨行业跨领域工作协同机制，进一步强化行业协同、上下联动，大力推动电动汽车充电、汽车芯片、智能网联汽车等重点领域标准的统筹协调，不断提升标准工作开放性和透明度。

3. 强化标准全生命周期管理。加强标准技术来源和行业需求研究，鼓励行业机构、业界企业、社会公众等提出标准需要和意见建议；持续加大标准宣贯的广度和深度，通过深度解读标准内容和要求支撑做好贯彻实施工作；开展重点标准实施效果阶段性评估，立足我国政府管理及产业发展趋势持续提升标准质量水平。

### III. Strengthen the leadership of green technology standards and support the achievement of carbon peaking and carbon neutrality goals.

**8. Field of energy consumption.** Seek opinions on the fourth phase of fuel consumption limits for light and heavy commercial vehicles, and accelerate the development of fuel consumption and energy consumption limits for the sixth phase of passenger cars and electric vehicles. Conduct research on standards for evaluating out-of-cycle technologies for passenger cars, such as high-efficiency motors, and launch a pre-research on standards for monitoring energy consumption during on-road driving for passenger cars. Complete the review and approval of energy consumption identification standards for light gasoline and diesel vehicles, plug-in hybrid electric vehicles, and pure electric vehicles with external charging capabilities.

**9. Field of carbon emissions.** Conduct research and initiate basic and general standards on road vehicle greenhouse gas management requirements, terminology & definitions, and carbon neutrality implementation guidelines. Promote research and initiate relevant standards on carbon emissions and accounting methods for vehicle manufacturers and products. Initiate pre-research on carbon footprint labeling of automotive products and evaluation methods for carbon reduction in electric vehicle driving conditions.



From 2021 to now, SAC/TC114 has hold several times of meetings to discuss the topic of carbon emission management policies and standards for automotive and part enterprises and products. Low carbon standard system has been preliminarily established.



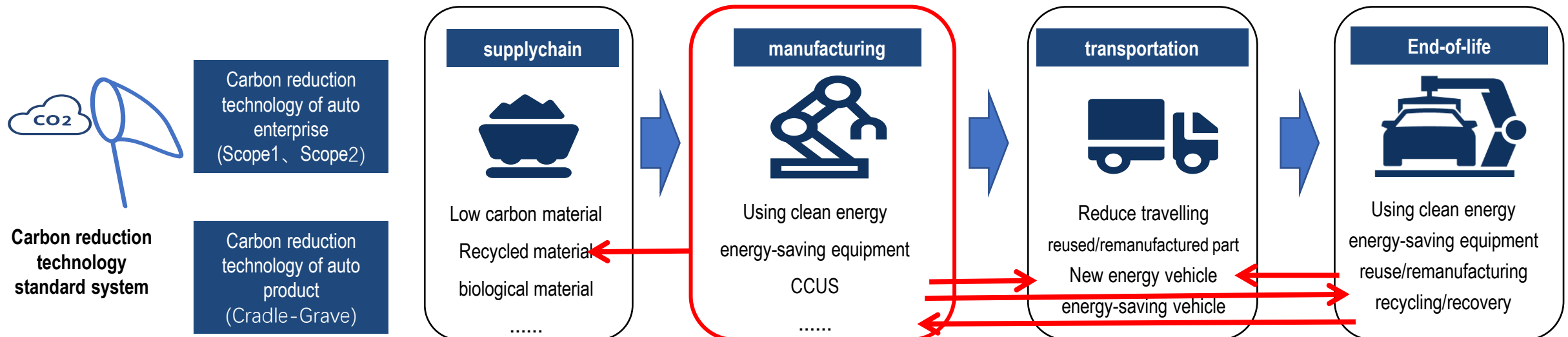
Automotive carbon neutral standard Group Annual meeting was held in Nanjing, Septmeber 2,2022



2023年3月16日，汽车碳达峰碳中和标准发展研讨会在成都召开  
Automotive carbon Peak & carbon neutral standard development seminar was held in Chengdu, March16, 2023

## 2.2 Low-carbon development standard

We have established the low carbon development standard system for automobile preliminarily, it includes 2 aspects, first is carbon management standard sub-system, and the other is carbon reduction technology standard sub-system.



## 2.2 Low-carbon development standard

General content	
Low-carbon standard	
2.1 General standard	1. <b>General standard</b> : terms, definitions, general methods, classification and implementation guidelines related to carbon neutrality in auto industry
2.2 Metering and monitoring	2. <b>Metering and monitoring</b> : carbon emission monitoring methods, monitoring technical requirements, monitoring equipment, monitoring platform, etc
2.3 enterprise accounting	3. <b>enterprise accounting</b> : carbon accounting and reporting of vehicle enterprises, spare parts enterprises, recycling enterprises and other organizations
2.4 product carbon footprint	4. <b>product carbon footprint</b> : carbon footprint of road vehicle product - product category rules (vehicle, parts, materials, recycled products, etc)
2.5 reduction at project level	5. <b>carbon reduction at project level</b> : CO <sub>2</sub> reduction accounting at project-level in auto industry
2.6 carbon report verification	6. <b>Carbon emission report verification</b> : specification for verification of enterpris carbon emission report, product carbon footprint, etc
2.7 carbon info disclosure	7. <b>carbon information disclosure</b> : carbon information disclosure rules, reduction targets, reduction measures, carbon neutral planning, etc
2.8 low-carbon assessment	8. <b>low-carbon assessment</b> : low-carbon assessment / carbon neutral assessment for auto enterpris, products, etc
2.9 carbon threshold	9. <b>carbon threshold</b> : auto enterprise carbon emission quota, product carbon footprint quota, vehicle fuel consumption quota, etc
2.10 carbon management sys	10. <b>carbon management system and service</b> : carbon management system, carbon management technology, carbon management service, etc
2.11 Low-carbon technology	11. <b>Low-carbon technology</b> : energy-saving standard, NEV standards, recycled material / biological materials standard, etc



## 2.2 Low-carbon development standard

### Low-carbon standard

#### 2.1 General standard

#### 2.2 Metering and monitoring

#### 2.3 enterprise accounting

#### 2.4 product carbon footprint

#### 2.5 reduction at project level

#### 2.6 carbon report verification

#### 2.7 carbon info disclosure

#### 2.8 low-carbon assessment

#### 2.9 carbon threshold

#### 2.10 carbon management sys

#### 2.11 Low-carbon technology

**1: General standard:** Terms and definitions, carbon footprint labels of auto products, have been submitted to the government for project approval. Carbon footprint label standard will give “carbon quantitative label”, “carbon grade label” and “carbon neutral label” in order to establish the low Carbon consumption mechanism.



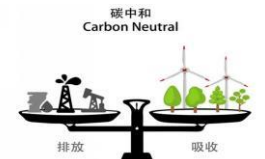
#### Carbon footprint label (quantitative label)



#### Carbon footprint label (grade label)



#### Carbon footprint label (neutral label)





## 2.2 Low-carbon development standard

### Low-carbon standard

#### 2.1 General standard

#### 2.2 Metering and monitoring

#### 2.3 enterprise accounting

#### 2.4 product carbon footprint

#### 2.5 reduction at project level

#### 2.6 carbon report verification

#### 2.7 carbon info disclosure

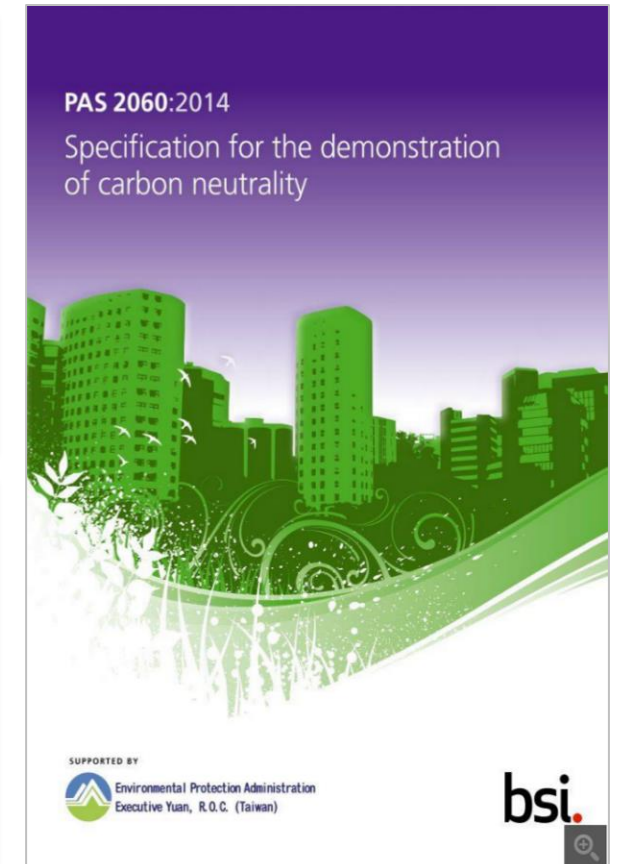
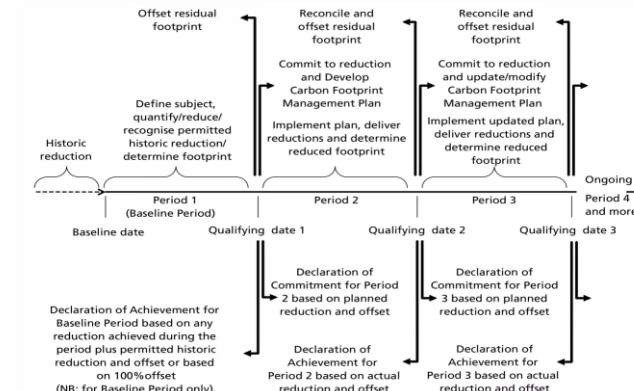
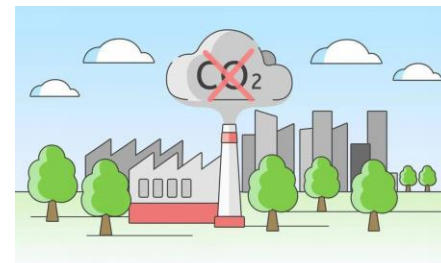
#### 2.8 low-carbon assessment

#### 2.9 carbon threshold

#### 2.10 carbon management sys

#### 2.11 Low-carbon technology

**1: General standard:** Implementation guidelines for carbon neutrality of automobile has been submitted for project approval. This standard (referring to PAS 2060) will give a guidance to automobile enterprises for zero carbon plant construction and operation, zero carbon product design and production, and so on.



## 2.2 Low-carbon development standard

### Low-carbon standard

#### 2.1 General standard

#### 2.2 Metering and monitoring

#### 2.3 enterprise accounting

#### 2.4 product carbon footprint

#### 2.5 reduction at project level

#### 2.6 carbon report verification

#### 2.7 carbon info disclosure

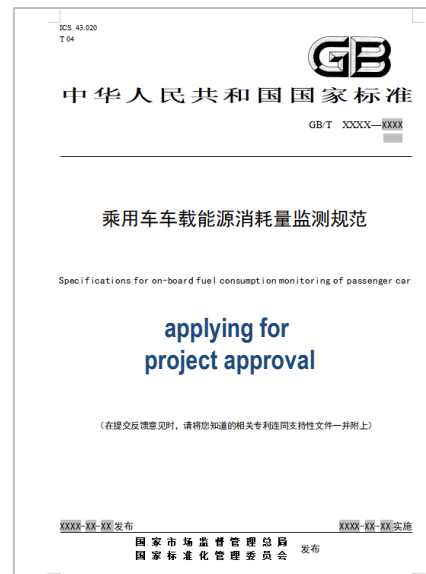
#### 2.8 low-carbon assessment

#### 2.9 carbon threshold

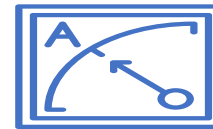
#### 2.10 carbon management sys

#### 2.11 Low-carbon technology

**2. Carbon Metering and monitoring:** the basis of the carbon accounting and reporting, Carbon metering and monitoring standards for automotive enterprises and whole vehicles will be studied in the future. And national standard “Specifications for on-board fuel consumption monitoring of passenger car” is now applying for project approval, focusing on the energy monitoring of whole vehicles.



Metering and monitoring of carbon emission from energy consumption



Carbon emission metering and monitoring for automobile enterprises

Metering and monitoring of environmental carbon emissions



Carbon emission metering and monitoring for automobile products



## 2.2 Low-carbon development standard

### Low-carbon standard

#### 2.1 General standard

#### 2.2 Metering and monitoring

#### 2.3 enterprise accounting

#### 2.4 product carbon footprint

#### 2.5 reduction at project level

#### 2.6 carbon report verification

#### 2.7 carbon info disclosure

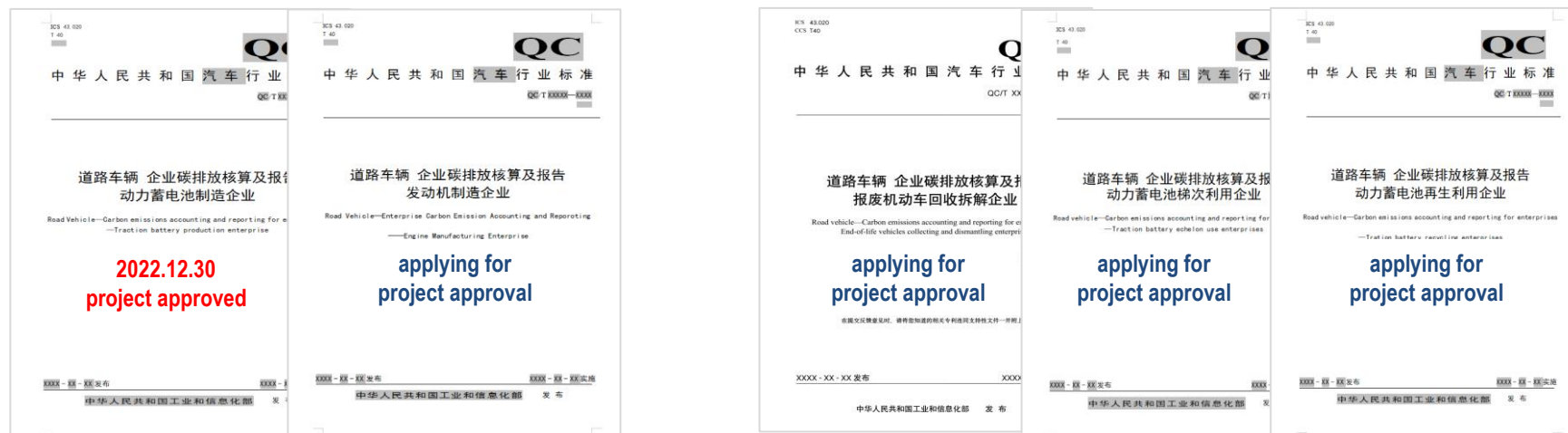
#### 2.8 low-carbon assessment

#### 2.9 carbon threshold

#### 2.10 carbon management sys

#### 2.11 Low-carbon technology

**3. Enterprise Carbon Accounting:** Carbon emission accounting standard project for enterprise of traction battery manufacturing has been approved; standard projects for enterprise of engines manufacturing, vehicle disassembly, recycling enterprises, etc, are applying for project approval. These standards will give a guidance to auto enterprises for calculating the Carbon emission at the organization level.



Auto  
LCA

中国钢铁生产企业  
温室气体排放核算方法与报告指南  
(试行)



Raw material acquisition



Parts & vehicle production

陆上交通运输企业  
温室气体排放核算方法与报告指南  
(试行)



Vehicle operation



ELV & recycling

## 2.2 Low-carbon development standard

### Low-carbon standard

#### 2.1 General standard

#### 2.2 Metering and monitoring

#### 2.3 enterprise accounting

#### 2.4 product carbon footprint

#### 2.5 reduction at project level

#### 2.6 carbon report verification

#### 2.7 carbon info disclosure

#### 2.8 low-carbon assessment

#### 2.9 carbon threshold

#### 2.10 carbon management sys

#### 2.11 Low-carbon technology

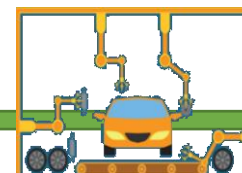
**4: Product carbon footprint:** standard projects of “product category rule” for traction battery and passenger car have been approved, some other PCRs for new products and recycled product are being pre-researched. PCF standards for auto parts or whole vehicles, will guide the enterprises to calculate the Carbon footprint of their products, so as to establish a low carbon production and consumption mechanism throughout all the supply chain of auto industry.



Auto  
LCA



Raw material acquisition



Parts & vehicle production



Vehicle operation



ELV & recycling

## 2.2 Low-carbon development standard

### Low-carbon standard

#### 2.1 General standard

#### 2.2 Metering and monitoring

#### 2.3 enterprise accounting

#### 2.4 product carbon footprint

#### 2.5 reduction at project level

#### 2.6 carbon report verification

#### 2.7 carbon info disclosure

#### 2.8 low-carbon assessment

#### 2.9 carbon threshold

#### 2.10 carbon management sys

#### 2.11 Low-carbon technology

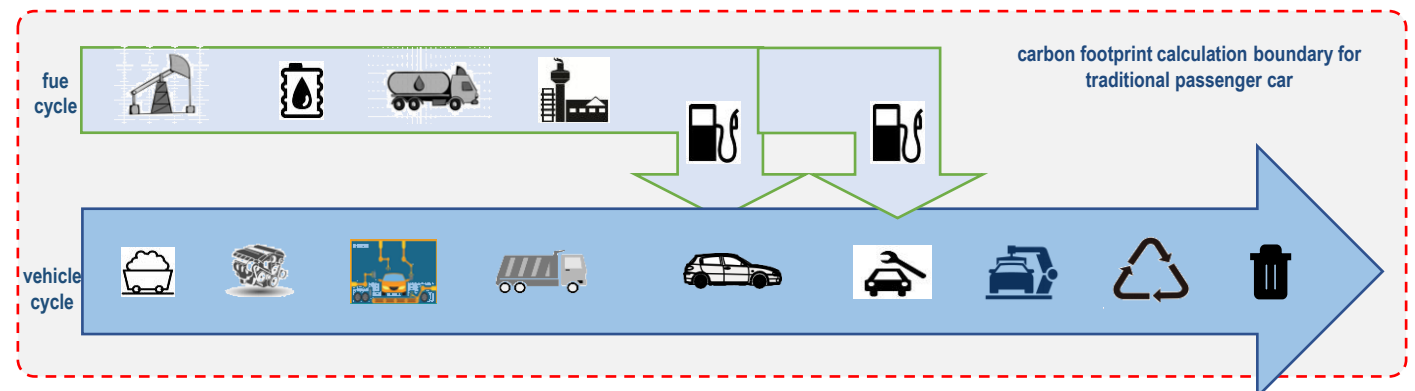
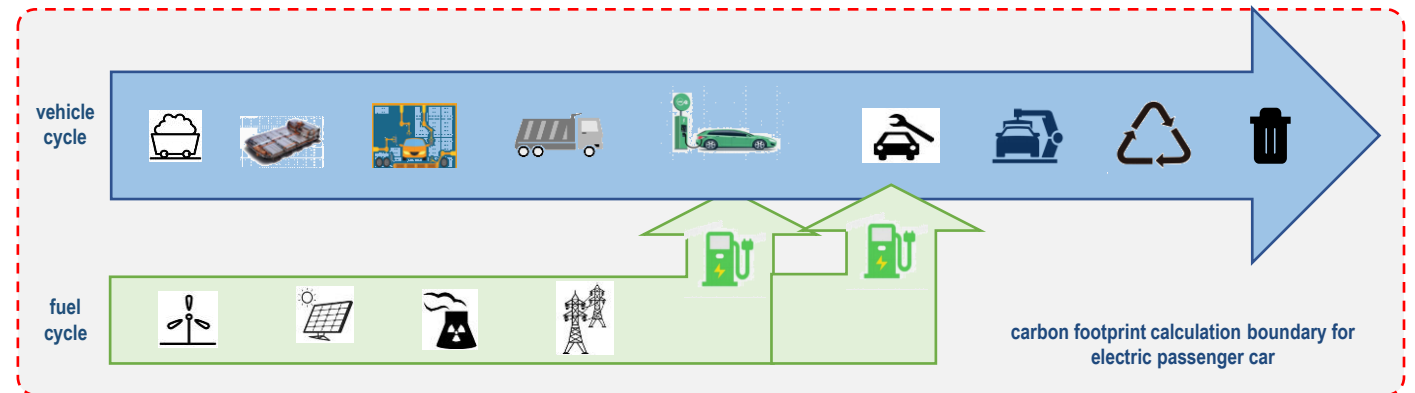
**4: Product carbon footprint:** “PCR” standard for passenger car will give the defined calculation boundary for passenger cars with all kinds of energy types through all the life cycle, including vehicle cycle and fuel cycle. According to the calculation results, we can compare carbon footprint of passenger cars with different fuel types, so as to support the selection of vehicle product technical route.



New energy passenger cars



Traditional energy passenger cars





## 2.2 Low-carbon development standard

### Low-carbon standard

#### 2.1 General standard

#### 2.2 Metering and monitoring

#### 2.3 enterprise accounting

#### 2.4 product carbon footprint

#### 2.5 reduction at project level

#### 2.6 carbon report verification

#### 2.7 carbon info disclosure

#### 2.8 low-carbon assessment

#### 2.9 carbon threshold

#### 2.10 carbon management sys

#### 2.11 Low-carbon technology

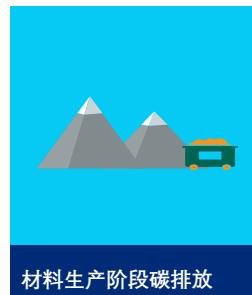
**4: Product carbon footprint:** the“PCR” standard for traction battery used in EVs will give the calculation boundary for traction batteries through all the life cycle and with all types of materials, detailed technical content is under study. And we will finish the standard formulation in 2years.



- 磷酸铁锂电池 (LiFePO4)
- 镍钴锰酸锂电池 (NCM)
- 锰酸锂电池 (LiMn2O4)
- 其他动力蓄电池可参照本标准执行



=



材料生产阶段碳排放

+



运输阶段碳排放

+



生产阶段碳排放

+



报废处理阶段碳排放



## 2.2 Low-carbon development standard

### Low-carbon standard

#### 2.1 General standard

#### 2.2 Metering and monitoring

#### 2.3 enterprise accounting

#### 2.4 product carbon footprint

#### 2.5 reduction at project level

#### 2.6 carbon report verification

#### 2.7 carbon info disclosure

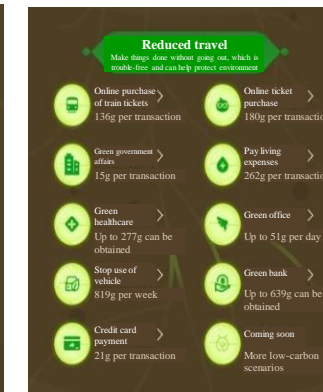
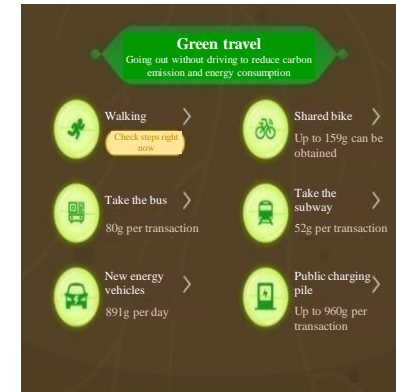
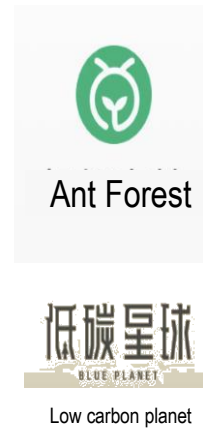
#### 2.8 low-carbon assessment

#### 2.9 carbon threshold

#### 2.10 carbon management sys

#### 2.11 Low-carbon technology

**5. Carbon reduction at project level:** Through emission reduction projects, valuate the emission reductions and incorporate them into the certified voluntary emission reduction trading system.

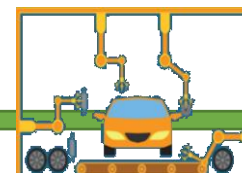


**\*\*"Carbon Inclusion" campaign** refers to quantifying the amount of carbon reduction by public low-carbon activities, giving them corresponding carbon coins in exchange for commercial discounts, public services, and also conducting carbon offsets or entering the carbon trading market to offset carbon emission quotas for emission control enterprises.

Auto  
LCA



Raw material acquisition



Parts & vehicle production



Vehicle operation



ELV & recycling

## 2.2 Low-carbon development standard

### Low-carbon standard

#### 2.1 General standard

#### 2.2 Metering and monitoring

#### 2.3 enterprise accounting

#### 2.4 product carbon footprint

#### 2.5 reduction at project level

#### 2.6 carbon report verification

#### 2.7 carbon info disclosure

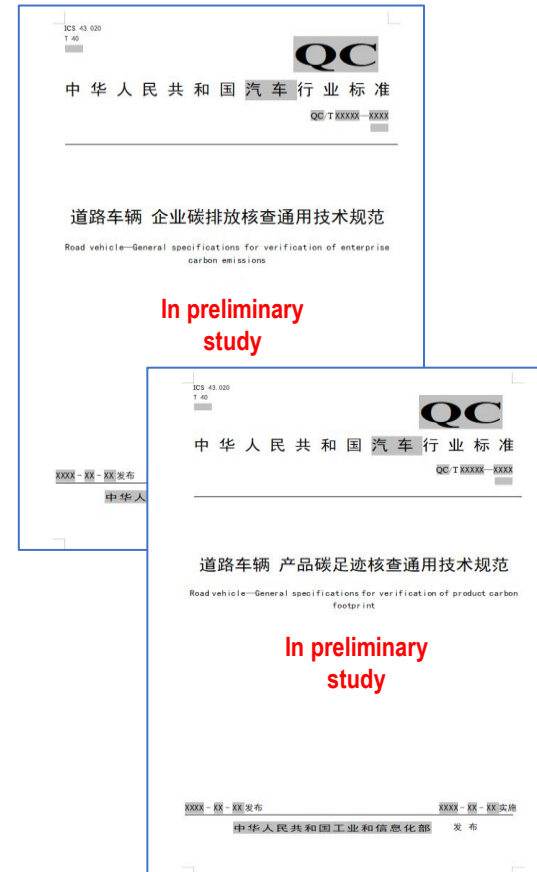
#### 2.8 low-carbon assessment

#### 2.9 carbon threshold

#### 2.10 carbon management sys

#### 2.11 Low-carbon technology

**6. Carbon emission verification:** Several carbon emission verification standards have been released, such as steel enterprises, etc. Carbon emission/ carbon footprint verification standard for auto enterprise and products are in preliminary study and planning.



### Specifications for GHG emission verification

序号	标准号	标准名称
1	RB/T 261-2018	specifications for GHG emission verification of ceramic enterprise 陶瓷企业
2	RB/T 260-2018	specifications for GHG emission verification of cement enterprise 水泥企业
3	RB/T 259-2018	specifications for GHG emission verification of flat glass enterprise 平板玻璃企业
4	RB/T 258-2018	specifications for GHG emission verification of ethylene enterprise 乙烯企业
5	RB/T 257-2018	specifications for GHG emission verification of methanol enterprise 甲醇企业
6	RB/T 256-2018	specifications for GHG emission verification of ammonia synthesis enterprise 合成氨企业
7	RB/T 255-2018	specifications for GHG emission verification of calcium carbide enterprise 电石企业
8	RB/T 254-2018	specifications for GHG emission verification of power generation enterprise 发电企业
9	RB/T 253-2018	specifications for GHG emission verification of power grid enterprise 电网企业
10	RB/T 252-2018	specifications for GHG emission verification of chemical enterprise 化工企业
11	RB/T 251-2018	specifications for GHG emission verification of iron and steel production enterprise 钢铁企业
12	RB/T 211-2016	specifications for GHG emission verification of enterprise organization greenhouse gas emissions reporting general specification

## 2.2 Low-carbon development standard

### Low-carbon standard

#### 2.1 General standard

#### 2.2 Metering and monitoring

#### 2.3 enterprise accounting

#### 2.4 product carbon footprint

#### 2.5 reduction at project level

#### 2.6 carbon report verification

#### 2.7 carbon info disclosure

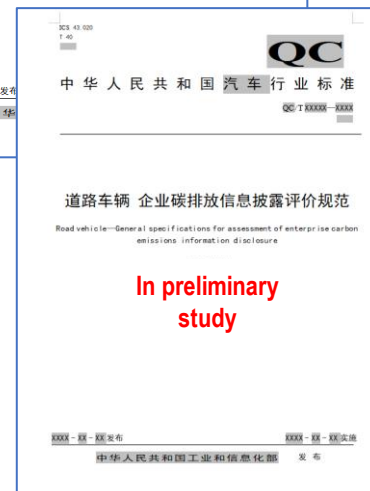
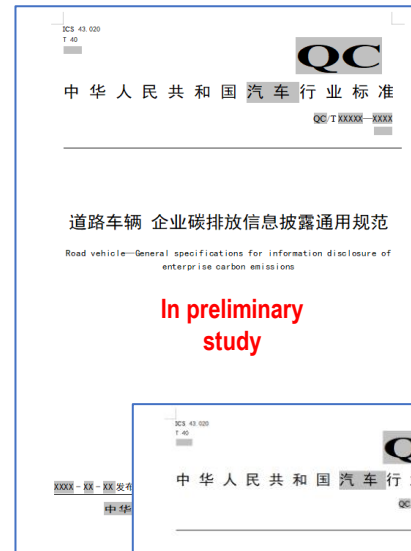
#### 2.8 low-carbon assessment

#### 2.9 carbon threshold

#### 2.10 carbon management sys

#### 2.11 Low-carbon technology

**7. Carbon emission information disclosure** : China has released “Measures for the Administration of Enterprise Environmental Information Disclosure”, carbon emission and ESG information disclosure standards for automotive enterprises are in preliminary study and planning.

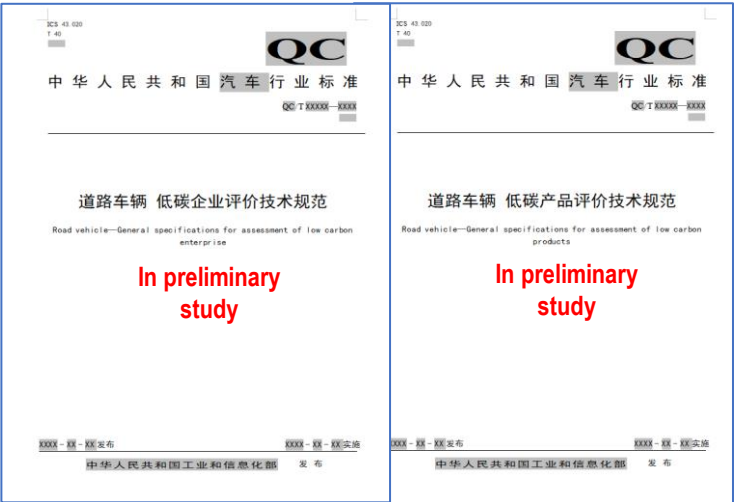


2.2 Low-carbon development standard

- Low-carbon standard
  - 2.1 General standard
  - 2.2 Metering and monitoring
  - 2.3 enterprise accounting
  - 2.4 product carbon footprint
  - 2.5 reduction at project level
  - 2.6 carbon report verification
  - 2.7 carbon info disclosure
  - 2.8 low-carbon assessment
  - 2.9 carbon threshold
  - 2.10 carbon management sys
  - 2.11 Low-carbon technology

**8.Low carbon assessment/evaluation:** evaluate the carbon level of auto enterprise/product/service, and carbon neutrality evaluation for automotive enterprise/product/service, etc.

Category	Low carbon evaluation	Carbon Neutralization Evaluation
Automotive enterprises	Evaluation of low carbon enterprises	Evaluation of carbon neutral enterprises
Automotive products	Low carbon product evaluation (complete vehicle/component/material)	Carbon neutral product evaluation (complete vehicle/component/material)
Automotive services	Low carbon service evaluation	Carbon neutralization service evaluation



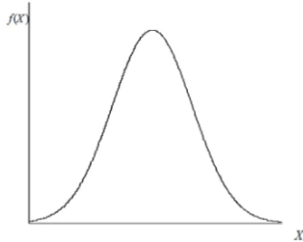
碳数据核算  
Data accounting



碳数据收集  
Data collection



碳数据分析  
Data analysis





## 2.2 Low-carbon development standard

### Low-carbon standard

2.1 General standard

2.2 Metering and monitoring

2.3 enterprise accounting

2.4 product carbon footprint

2.5 reduction at project level

2.6 carbon report verification

2.7 carbon info disclosure

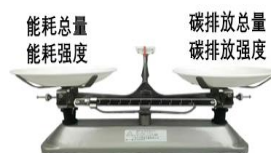
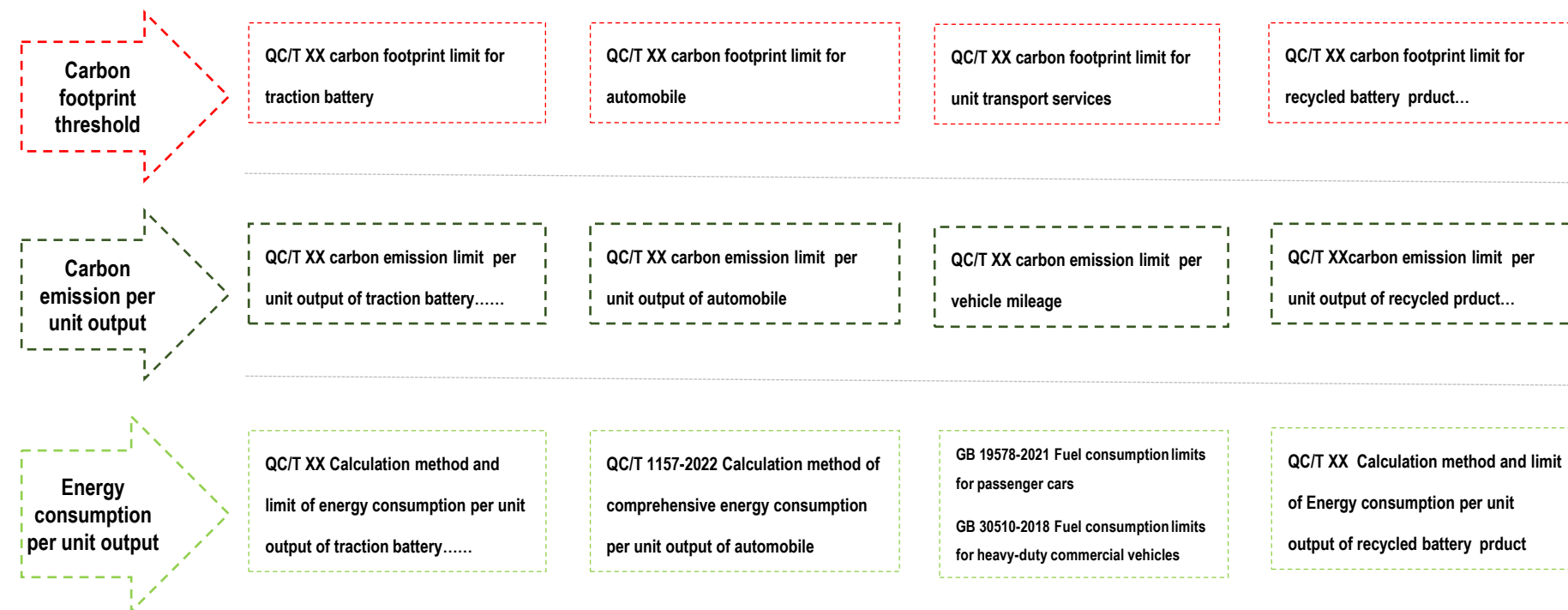
2.8 low-carbon assessment

2.9 carbon threshold

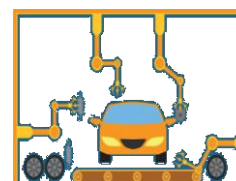
2.10 carbon management sys

2.11 Low-carbon technology

**9. Carbon threshold:** Several standards have been made from the perspective of energy saving. Carbon emission threshold and product carbon footprint threshold standard are in preliminary study and planning



动力电池等部件生产  
parts production



整车生产  
vehicle production



整车行驶  
vehicle operation



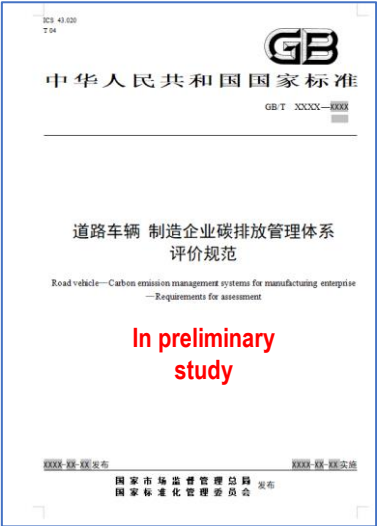
报废再生  
ELV & recycling

2.2 Low-carbon development standard

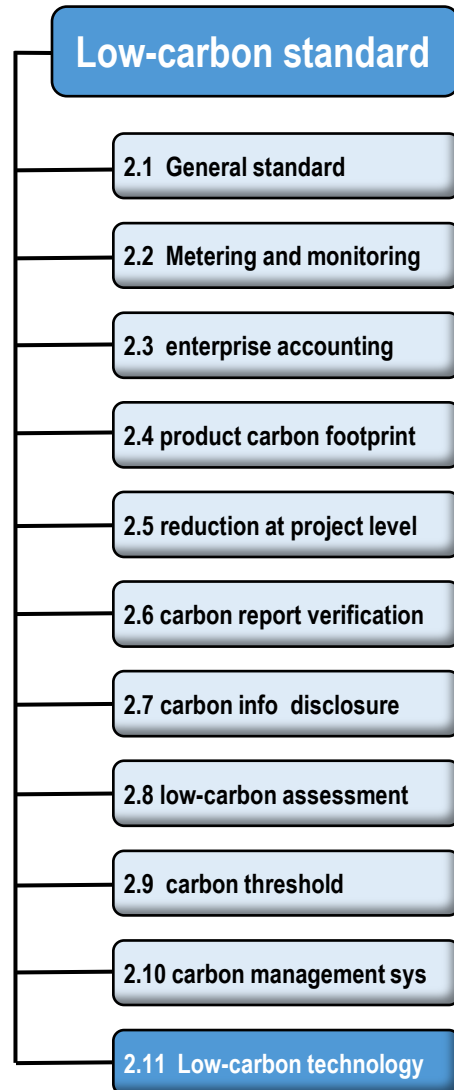
- Low-carbon standard
  - 2.1 General standard
  - 2.2 Metering and monitoring
  - 2.3 enterprise accounting
  - 2.4 product carbon footprint
  - 2.5 reduction at project level
  - 2.6 carbon report verification
  - 2.7 carbon info disclosure
  - 2.8 low-carbon assessment
  - 2.9 carbon threshold
  - 2.10 carbon management sys
  - 2.11 Low-carbon technology

10. Carbon emission management and services: develop standards for carbon emission management system, carbon management technology, carbon management services, and carbon asset management

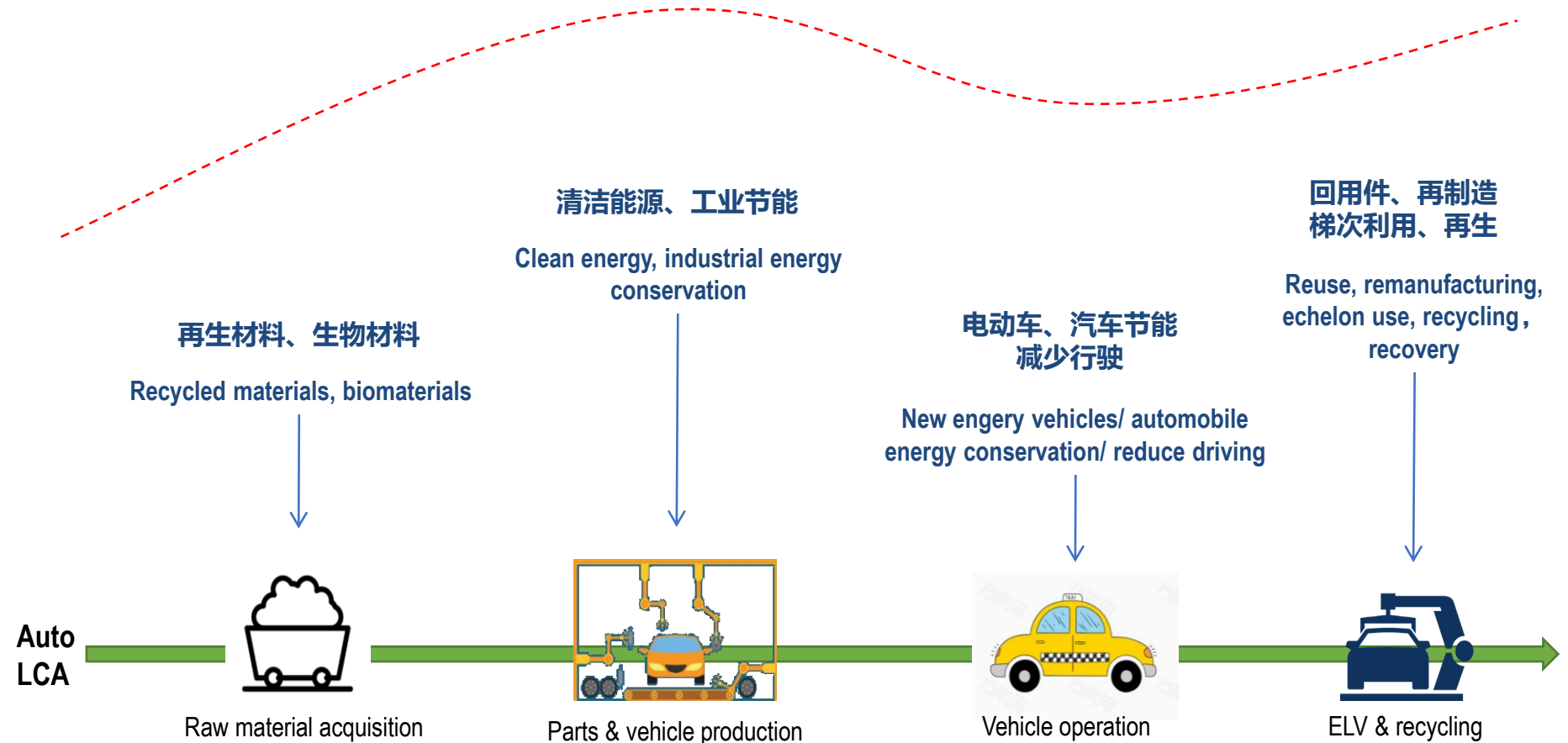
Category	For automotive enterprises	For third parties
Carbon management system	Requirements and implementation guidelines	Technical specifications for evaluation
Carbon management technology	Enterprise carbon emission management system	Product carbon footprint management system
Carbon management service	Specification for carbon management service	Evaluation for carbon management services
Carbon asset management	Guidelines for carbon asset management	Carbon asset management evaluation



## 2.2 Low-carbon development standard



**11. Low carbon technologies and processes:** (Recycled materials, biomaterials, clean energy, industrial energy-saving standards, product energy-saving standards, new energy vehicles standards...)



2.2 Low-carbon development standard

- Low-carbon standard
- 2.1 General standard
- 2.2 Metering and monitoring
- 2.3 enterprise accounting
- 2.4 product carbon footprint
- 2.5 reduction at project level
- 2.6 carbon report verification
- 2.7 carbon info disclosure
- 2.8 low-carbon assessment
- 2.9 carbon threshold
- 2.10 carbon management sys
- 2.11 Low-carbon technology

December 30<sup>th</sup> 2022, the 3rd batch of 2022 project approval plan for green and low-carbon development standards was issued, and four carbon footprint standards for automotive products were approved.



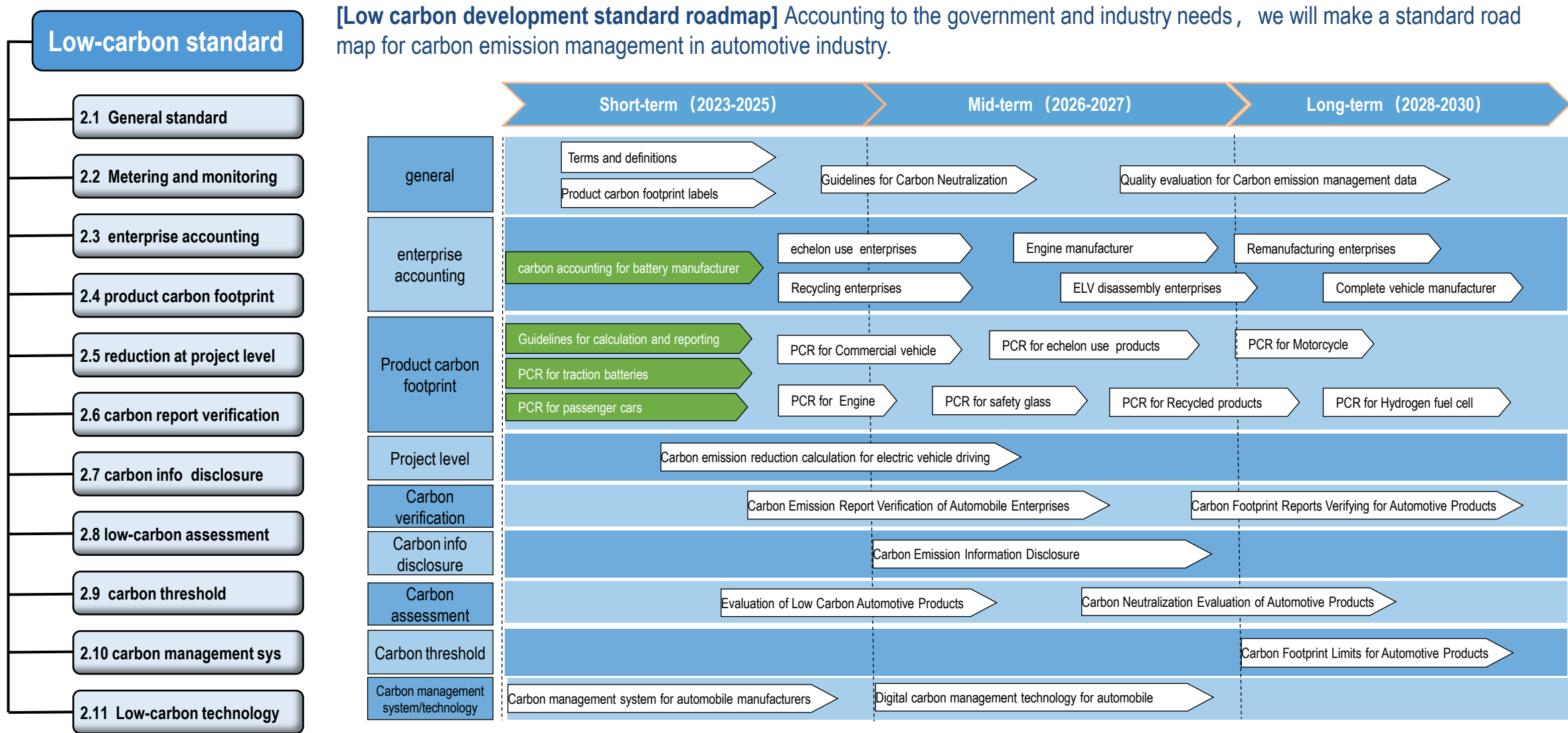
2022年第三批绿色低碳发展标准项目计划表  
green and low-carbon development standard projects

序号	计划号	项目名称	项目周期	技术归口单位
812	2022-1964T-QC	Road vehicle—Carbon emissions accounting and reporting for enterprises—Traction battery production enterprise	24	NTCAS
813	2022-1965T-QC	Carbon footprint of road vehicle products —Guidelines for accounting and reporting	24	NTCAS
814	2022-1966T-QC	Carbon footprint of road vehicle products —Product category rule —Passenger car	24	NTCAS
815	2022-1967T-QC	Carbon footprint of road vehicle products —Product category rule —Traction batteries	24	NTCAS





2.2 Low-carbon development standard



# 目录

## Contents

---

### 第一部分 | 汽车行业可持续发展标准体系框架

Part I: Sustainable development standards framework for automotive industry

### 第二部分 | 汽车绿色低碳循环子领域标准进展

Part II: Progress in sub-field of auto green, low-carbon and circular development

2.1 汽车绿色发展标准 Green development standard

2.2 汽车低碳发展标准 Low-carbon development standard

2.3 汽车循环发展标准 Circular development standard

2.4 综合评价管理标准 Comprehensive assessment and management

---

2.3 Circular development standard

3.Circular standard		General content
3.1	General standard	3.1 Automobile recycling related terms, definitions, symbols, etc
3.2	RRR promoting	3.2 Reusability,recyclability and recoverability calculation method and limit value of road vehicle , dismantling manual for ELVs, Design for disassembly and recycling, etc
3.3	Use of recycled materials	3.3 Specifications for the use of recycled materials in automobiles, requirements for the utilization rate of recycled materials, calculation methods, verification methods, performance requirements and test methods of recycled materials components
3.4	Water consumption/PWF	3.4 Calculation and limit of water consumption per unit output of automobile products, water footprint management of automobile life cycle
3.5	Biological/mineral resources	3.5 Technical specifications for the use of biological materials in automobiles, requirements for the use of biological materials, calculation methods, verification methods, efficiency of land, mineral and other resources used in automobiles, and material flow analysis
3.6	Disassembly of ELVs	3.6 Technical specifications for dismantling, crushing and sorting of scrapped motor vehicles, safety, environmental protection and resource evaluation
3.7	Part reuse from ELVs	3.7 Specifications for reuse of ELV parts, traceability system for reused parts, quality evaluation specifications, test verification specifications, etc
3.8	Component remanufacturing	3.8 Automobile parts remanufacturing management standards, remanufacturing product technical specifications, remanufacturing process specifications, remanufacturing evaluation, remanufacturing management system, etc
3.9	Traction battery recovery	3.9 requirements for vehicle power battery recycling, step utilization, management norms, recycling, green production, safety requirements, equipment and facilities
3.10	Solid/liquid/gas waste dispose	3.10 Solid waste, liquid waste and gas waste of scrapped vehicles shall be treated and disposed of as resources, and refrigerant, oil liquid and hazardous waste of scrapped vehicles shall be recycled
3.11	Actual recycling rate of ELV	3.11 Calculation and limit of act recycling and recovery rate of scrapped motor vehicle

## 2.3 Circular development standard

### 3. Circular standard

#### 3.1 General standard

#### 3.2 RRR promoting

#### 3.3 Use of recycled materials

#### 3.4 Water consumption/PWF

#### 3.5 Biological/mineral resources

#### 3.6 Disassembly of ELVs

#### 3.7 Part reuse from ELVs

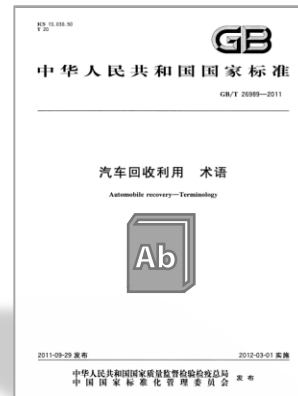
#### 3.8 Component remanufacturing

#### 3.9 Traction battery recovery

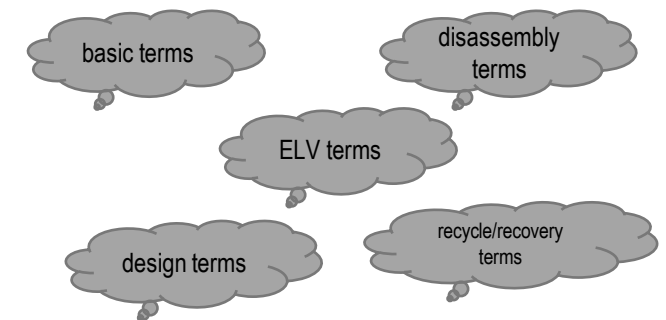
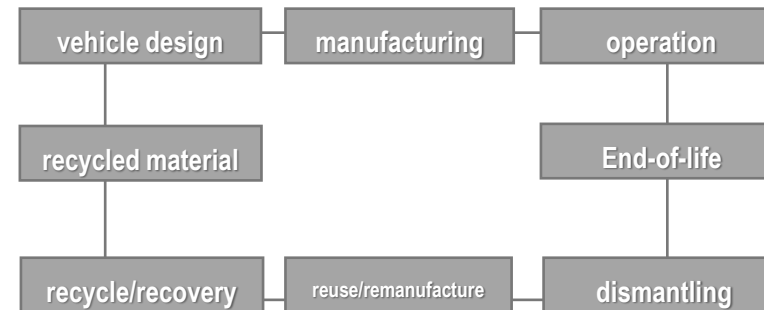
#### 3.10 Solid/liquid/gas waste dispose

#### 3.11 Actual recycling rate of ELV

### 1、General standards: we have released terminology standard and recoverability marks standards



#### GB/T 26989-2011 Automobile recovery—Terminology



#### GB/T 26988-2011 Marks for recoverability of automobile parts

#### QC/T 797-2008 Material identification & marking of auto plastic, rubber & thermoplastic elastomer parts





## 2.3 Circular development standard

### 3. Circular standard

3.1 General standard

3.2 RRR promoting

3.3 Use of recycled materials

3.4 Water consumption/PWF

3.5 Biological/mineral resources

3.6 Disassembly of ELVs

3.7 Part reuse from ELVs

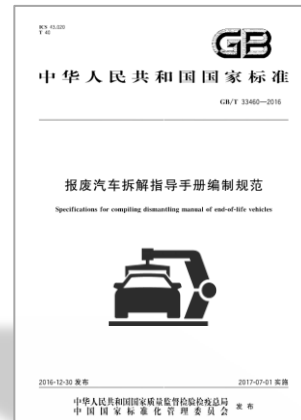
3.8 Component remanufacturing

3.9 Traction battery recovery

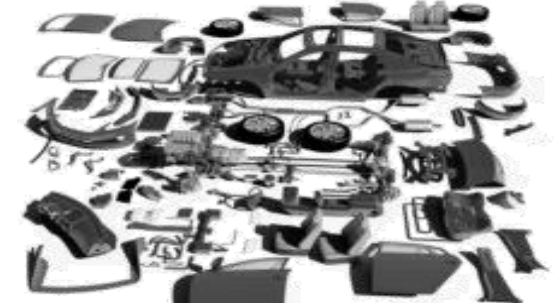
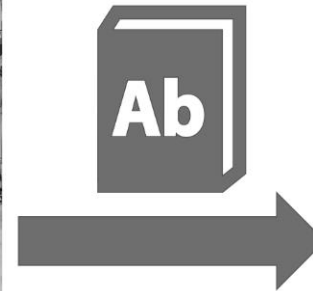
3.10 Solid/liquid/gas waste dispose

3.11 Actual recycling rate of ELV

**2: RRR promoting standard:** we have released calculation method and limit standard for recyclability and recoverability rate of automobile, and standard for compiling dismantling manual of ELVs.



### GB/T 33460-2016 Specifications for compiling dismantling manual of ELVs



### GB/T 19515-2015 Road vehicles--Recyclability and recoverability--Calculation method

	Recovery		Undefined residue
(Component parts) Re-use	(Materials) Recycling	(Materials) Energy recovery	(Materials)
Recyclability rate <sup>a</sup>			
Recoverability rate <sup>a</sup>			
Vehicle mass			

## 2.3 Circular development standard

### 3. Circular standard

3.1 General standard

3.2 RRR promoting

3.3 Use of recycled materials

3.4 Water consumption/PWF

3.5 Biological/mineral resources

3.6 Disassembly of ELVs

3.7 Part reuse from ELVs

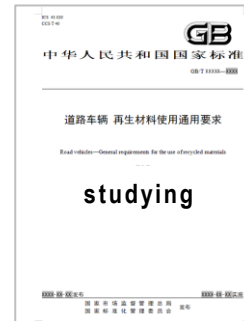
3.8 Component remanufacturing

3.9 Traction battery recovery

3.10 Solid/liquid/gas waste dispose

3.11 Actual recycling rate of ELV

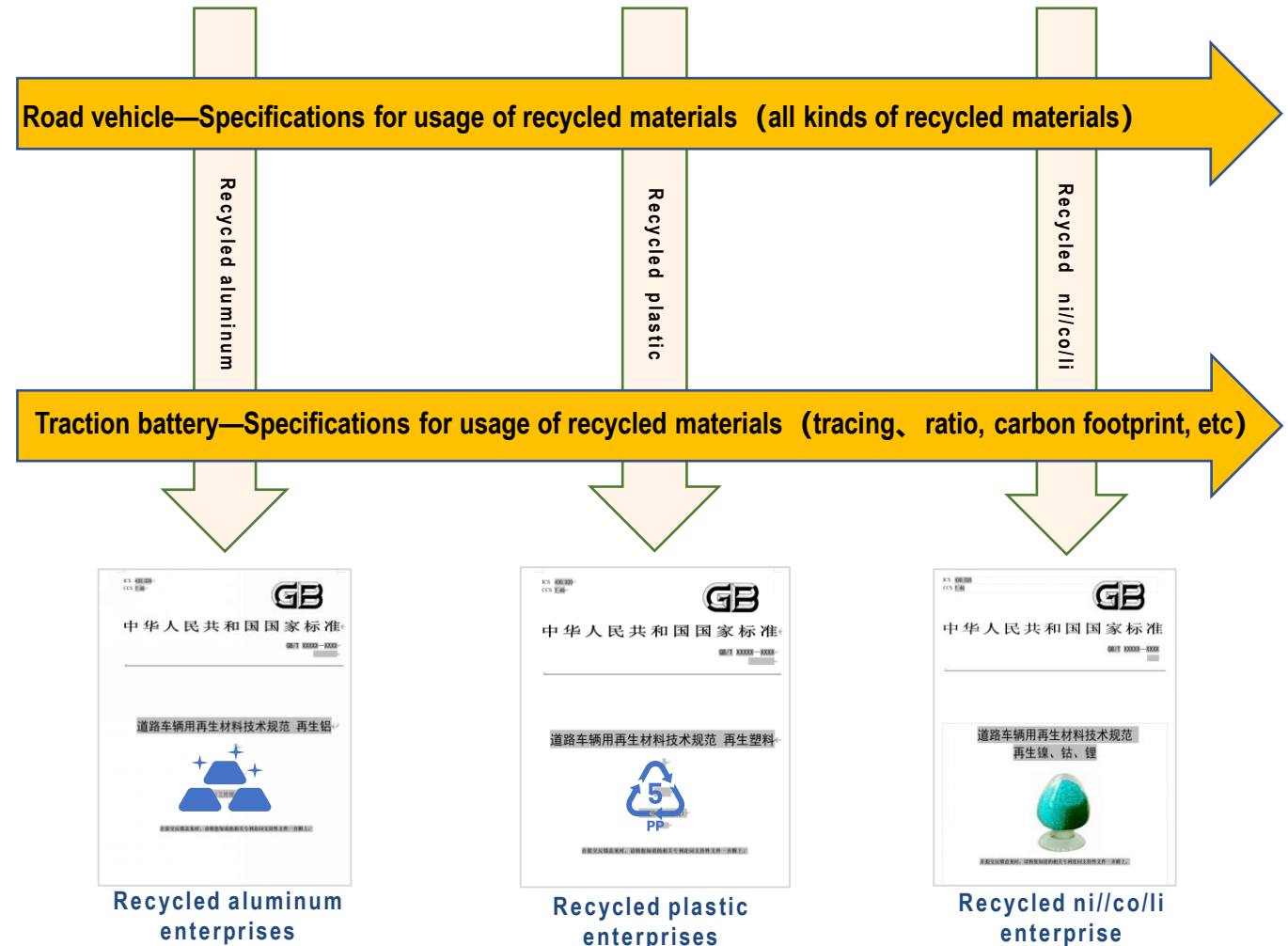
**3、Automobile recycled material and the usage of recycled material standards:** Requirement for recycled material used in vehicle, specifications for usage of recycled materials in automobile, are being studied.



Auto enterprises



Battery enterprises



## 2.3 Circular development standard

### 3. Circular standard

3.1 General standard

3.2 RRR promoting

3.3 Use of recycled materials

3.4 Water consumption/PWF

3.5 Biological/mineral resources

3.6 Disassembly of ELVs

3.7 Part reuse from ELVs

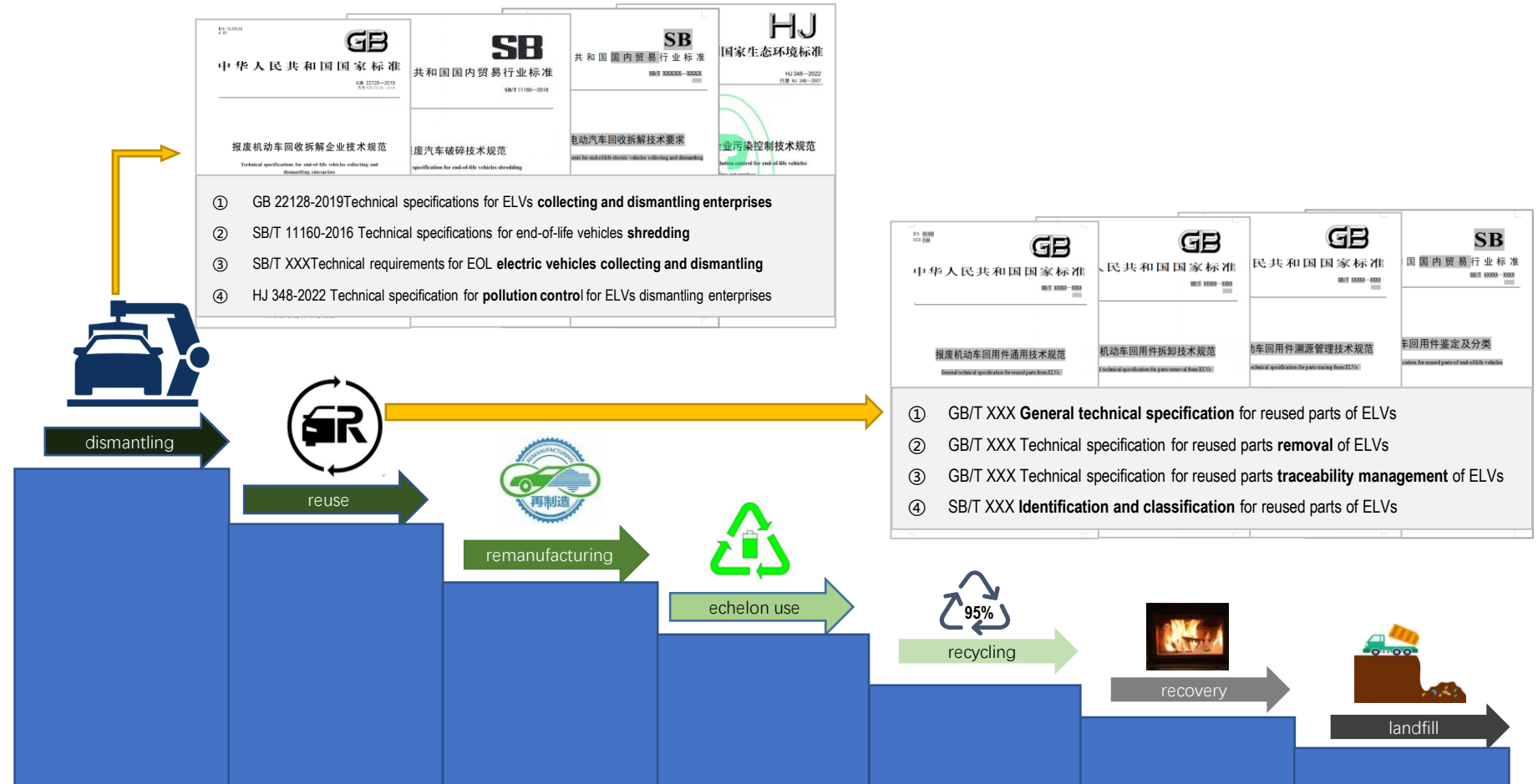
3.8 Component remanufacturing

3.9 Traction battery recovery

3.10 Solid/liquid/gas waste dispose

3.11 Actual recycling rate of ELV

6-7、ELVs disassembly and reused parts: 4 standards have been formulated around disassembly enterprises, disassembly, shredding and pollution control specifications. General specifications, removal specifications, tracing management and classification for reused parts are being drafted.



## 2.3 Circular development standard

### 3.Circular standard

3.1 General standard

3.2 RRR promoting

3.3 Use of recycled materials

3.4 Water consumption/PWF

3.5 Biological/mineral resources

3.6 Disassembly of ELVs

3.7 Part reuse from ELVs

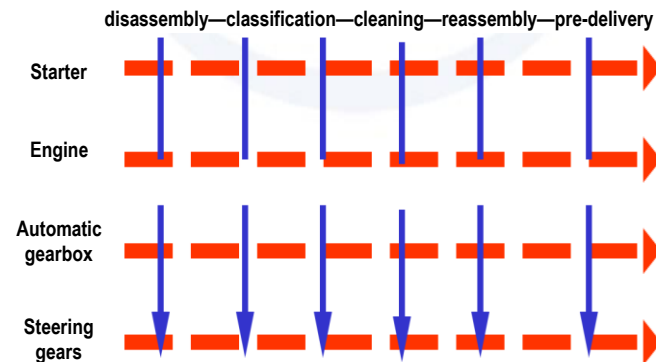
3.8 Component remanufacturing

3.9 Traction battery recovery

3.10 Solid/liquid/gas waste dispose

3.11 Actual recycling rate of ELV

**8: Auto components remanufacturing:** We have issued nearly 20 standards around the remanufacturing of components from ELVs, supported the NDRC issuing the Measures for remanufacturing of automobile parts.



No.	type	standard No.	Name of standards
1	management standards	GB/T 39895-2021	Remanufactured automotive components-Specifications of labels
2	Remanufactured product standards	GB/T 28672-2012	The technical specifications for remanufacture of automotive components - Alternator
3		GB/T 28673-2012	The technical specifications for remanufacture of automotive components - starter
4		GB/T 28674-2012	The technical specifications for remanufacture of automotive components - steering gear
5		GB/T 34600-2017	The technical specifications for remanufacture of automotive components - engine
6		GB/T 34596-2017	The technical specifications for remanufacture of automotive components -oil pump
7		GB/T 34595-2017	The technical specifications for remanufacture of automotive components - water pump
8		QC/T 1070-2017	The technical specifications for remanufacture of automotive components - cylinder body
9		QC/T 1074-2017	The technical specifications for remanufacture of automotive components - cylinder head
10		GB/T 39899-2021	The technical specifications for remanufacture of automotive components - automatic gearbox
11		QC/T 1140-2020	The technical specifications for remanufacture of automotive components - crankshaft
12		QC/T 1139-2020	The technical specifications for remanufacture of automotive components - connecting rod
13	Remanufacturing process standards	GB/T 28675-2012	Remanufacturing of automotive components—disassembly
14		GB/T 28676-2012	Remanufacturing of automotive components— classification
15		GB/T 28677-2012	Remanufacturing of automotive components— cleaning
16		GB/T 28678-2012	Remanufacturing of automotive components— pre-delivery inspection
17		GB/T 28679-2012	Remanufacturing of automotive components— assembly

## 2.3 Circular development standard

### 3.Circular standard

3.1 General standard

3.2 RRR promoting

3.3 Use of recycled materials

3.4 Water consumption/PWF

3.5 Biological/mineral resources

3.6 Disassembly of ELVs

3.7 Part reuse from ELVs

3.8 Component remanufacturing

3.9 Traction battery recovery

3.10 Solid/liquid/gas waste dispose

3.11 Actual recycling rate of ELV

**9: Recovery of traction batteries:** we have made nearly 20 standards around “general requirement” “Management specifications” “Echelon use” “Recycling” of traction batteries used in EVs.

No.	Type	Name of standards
1	General requirement	Recovery of traction batteries used in EVs—general requirements (project approved, drafting)
2	Management specifications GB/T 38698	Recovery of traction batteries used in EVs—management specifications—Part 1: packaging and transporting (GB/T 38698.1-2020)
3		Recovery of traction batteries used in EVs—management specifications—Part 2: Take-back service network (to be published)
4		Recovery of traction batteries used in EVs—management specifications—Part 3: Information manual for comprehensive Utilization (studying)
5		Recovery of traction batteries used in EVs—management specifications—Part 4: handling and transport (studying)
6		Recovery of traction batteries used in EVs—management specifications—Part 5: Storage specification (studying)
7	Echelon use GB/T 34015	Recovery of traction batteries used in EVs—Echelon use—Part 1: test of residual capacity (GB/T 34015-2017)
8		Recovery of traction batteries used in EVs—Echelon use—Part 2: removing requirements (GB/T 34015.2-2020)
9		Recovery of traction batteries used in EVs—Echelon use—Part 3: echelon using requirements (GB/T 34015.3-2021)
10		Recovery of traction batteries used in EVs—Echelon use—Part 4: labels for echelon used battery products (GB/T 34015.4-2021)
11		Recovery of traction batteries used in EVs—Echelon use—Part 5: Battery design guide for echelon use (project approved, drafting)
12		Recovery of traction batteries used in EVs—Echelon use—Part 6: Residual life evaluation specification
13		Recovery of traction batteries used in EVs—Echelon use—Part 7: Retired and classification
14	Recycling GB/T 33598	Recovery of traction batteries used in EVs—recycling—Part 1: disassembly specifications (GB/T 33598-2017)
15		Recovery of traction batteries used in EVs—recycling—Part 2: materials recycling requirements (GB/T 33589.2-2020)
16		Recovery of traction batteries used in EVs—recycling—Part 3: specifications for discharging (GB/T 33589.3-2021)
17		Recovery of traction batteries used in EVs—recycling—Part 4: Recovery report preparation (studying)
18		Recovery of traction batteries used in EVs—specifications for secondary cell disassembly (QC/T 1156-2021)



## 2.3 Circular development standard

### 3. Circular standard

#### 3.1 General standard

#### 3.2 RRR promoting

#### 3.3 Use of recycled materials

#### 3.4 Water consumption/PWF

#### 3.5 Biological/mineral resources

#### 3.6 Disassembly of ELVs

#### 3.7 Part reuse from ELVs

#### 3.8 Component remanufacturing

#### 3.9 Traction battery recovery

#### 3.10 Solid/liquid/gas waste dispose

#### 3.11 Actual recycling rate of ELV

**9: Recovery of traction batteries:** These standards support the MIIT issuing several policies, such as “Management measures for echelon use of traction batteries used in new energy vehicles”.

中华人民共和国工业和信息化部  
Ministry of Industry and Information Technology of the People's Republic of China

看新闻 找文件 查办事 提意见 查数据 要投诉

工业和信息化部 新闻动态 政务公开 政务服务 公众参与 工信数据 专题专栏

首页 > 工业和信息化部 > 机关司局 > 节能与综合利用司 > 文件发布

发文机关：工业和信息化部 科技部 生态环境部 商务部 市场监管总局

标 题：工业和信息化部 科技部 生态环境部 商务部 市场监管总局关于印发《新能源汽车动力电池梯次利用管理办法》的通知

发文字号：工信部联节〔2021〕114号

成文日期：2021-08-19 发布日期：2021-08-27

发布机构：工业和信息化部 分 类：节能与综合利用

### Management measures for echelon use of traction batteries used in new energy vehicles

各省、自治区、直辖市及计划单列市、新疆生产建设兵团工业和信息化、科技、生态环境、商务、市场监管主管部门，各有关单位：

为加强新能源汽车动力电池梯次利用管理，提升资源综合利用水平，保障梯次利用电池产品的质量，工业和信息化部、科技部、生态环境部、商务部、市场监管总局联合制定了《新能源汽车动力电池梯次利用管理办法》。现印发给你们，请认真贯

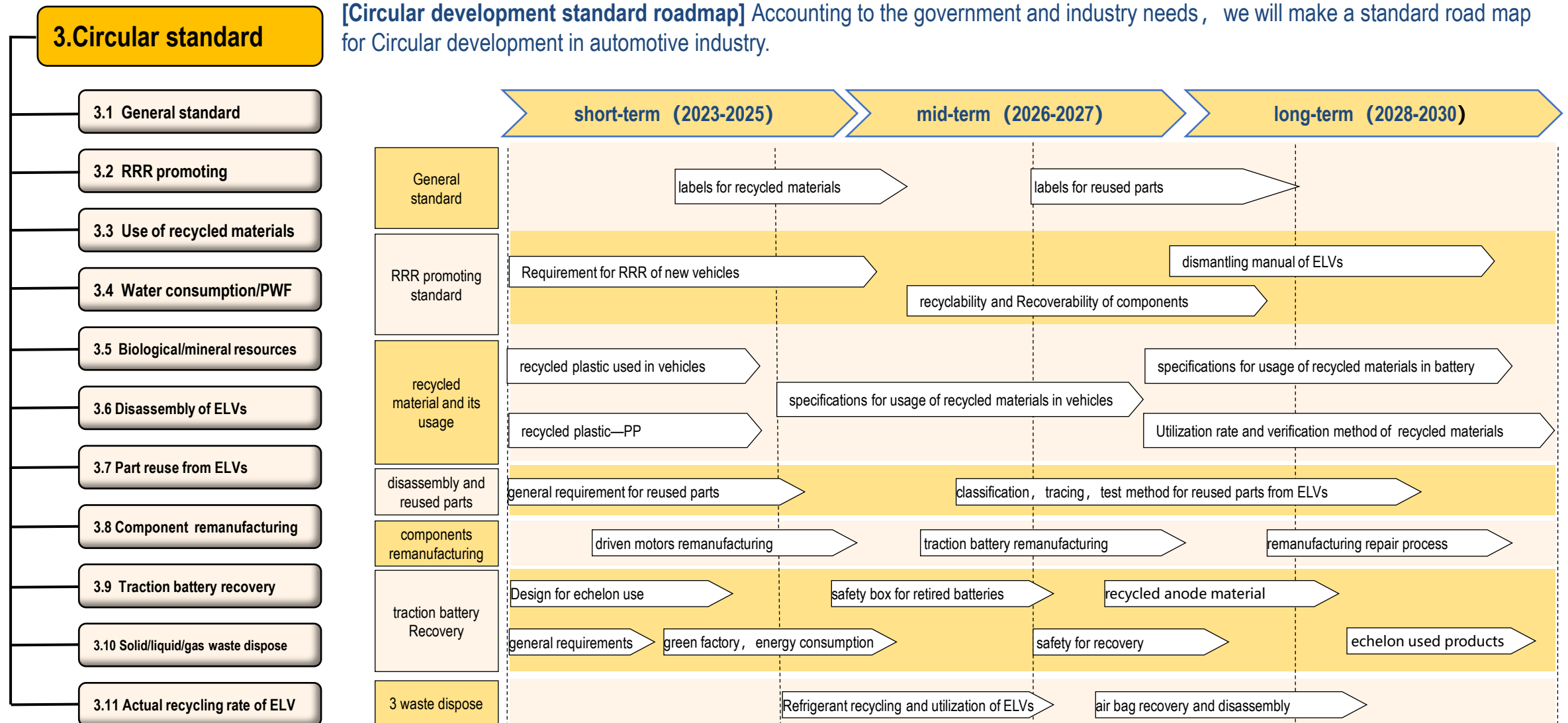
#### 二、梯次利用企业要求

**第六条** 梯次利用企业应符合《新能源汽车废旧动力蓄电池综合利用行业规范条件》（工业和信息化部公告2019年第59号）要求。鼓励采用先进适用的工艺技术及装备，对废旧动力蓄电池优先进行包（组）、模块级别的梯次利用，电池包（组）和模块的拆解符合《车用动力电池回收利用 拆解规范》（GB/T 33598）的相关要求。

**第十条** 鼓励新能源汽车、动力蓄电池生产企业等与梯次利用企业协商共享动力蓄电池的出厂技术规格信息、充电倍率信息，以及相关国家标准规定的监控数据信息（电压、温度、SOC等）。梯次利用企业按照《车用动力电池回收利用 余能检测》（GB/T 34015）等相关标准进行检测，结合实际检测数据，评估废旧动力蓄电池剩余价值，提高梯次利用效率，提升梯次产品的使用性能、可靠性及经济性。

**第十七条** 梯次产品包装运输应符合《车用动力电池回收利用管理规范第1部分：包装运输》（GB/T 38698.1）等有关标准要求。

## 2.3 Circular development standard



# 目录

## Contents

---

### 第一部分 | 汽车行业可持续发展标准体系框架

Part I: Sustainable development standards framework for automotive industry

### 第二部分 | 汽车绿色低碳循环子领域标准进展

Part II: Progress in sub-field of auto green, low-carbon and circular development

2.1 汽车绿色发展标准 Green development standard

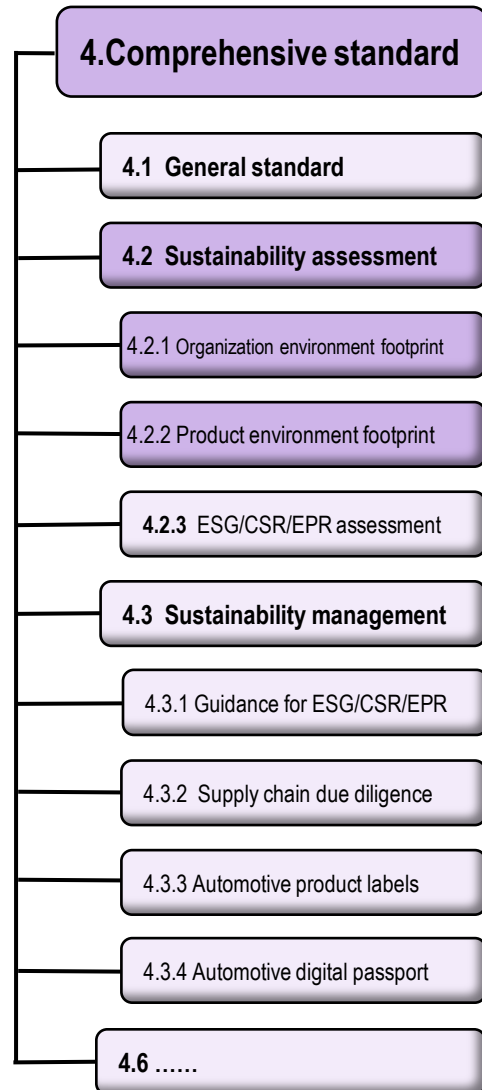
2.2 汽车低碳发展标准 Low-carbon development standard

2.3 汽车循环发展标准 Circular development standard

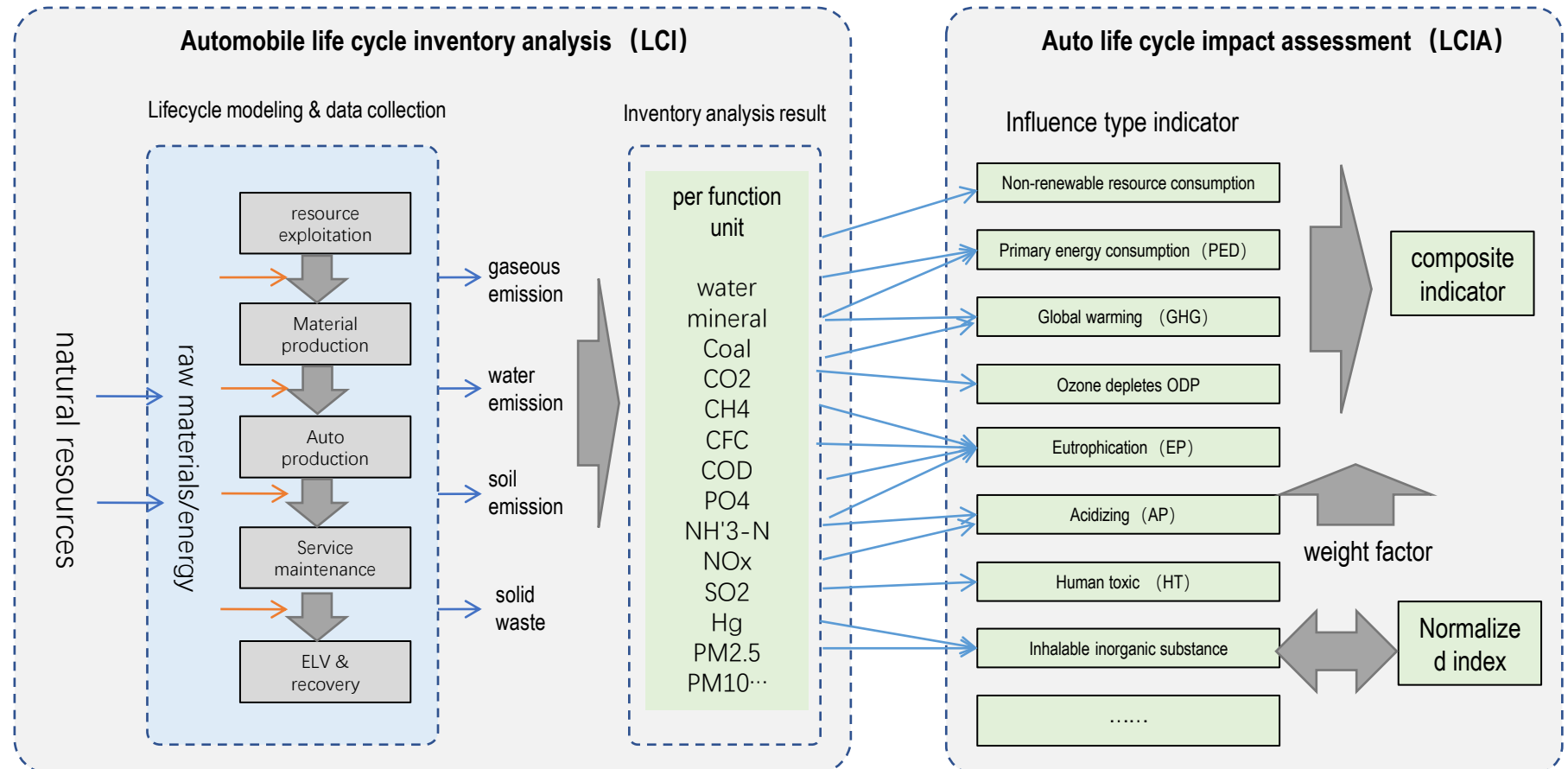
2.4 综合评价管理标准 Comprehensive assessment and management

---

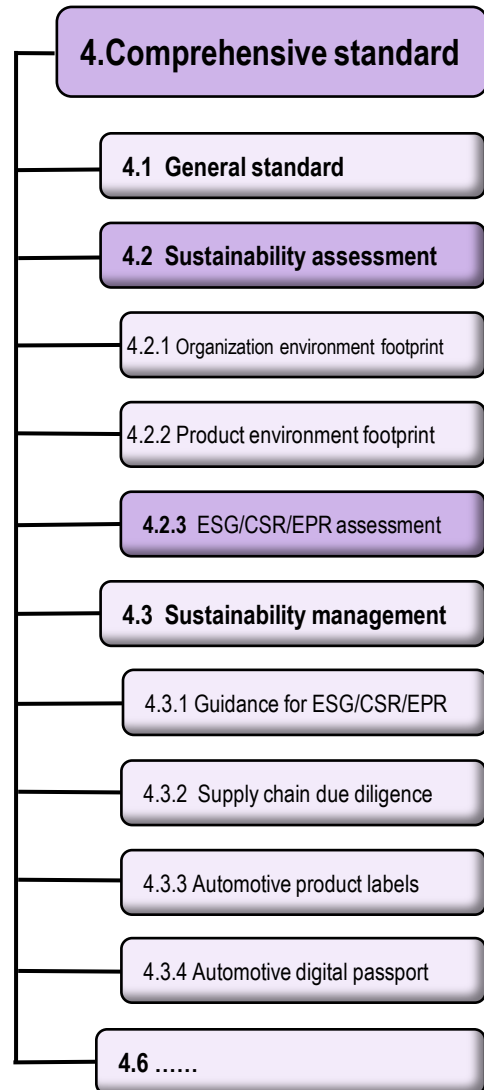
## 2.4 Comprehensive assessment and management standard



**1、 Comprehensive sustainability assessment:** preresearch on environmental footprint at organization and product level, analyze the environmental impact of automobile life cycle from the aspects of carbon footprint, water footprint, energy consumption, Depletion of ozone layer, human toxicity, etc

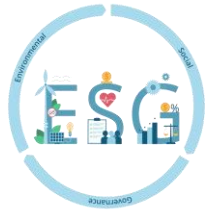


## 2.4 Comprehensive assessment and management standard



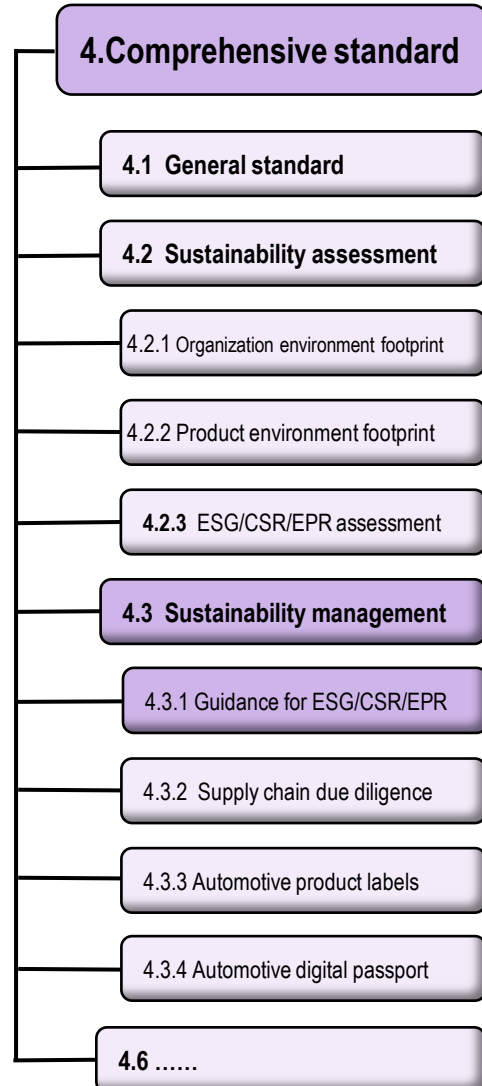
1、**Comprehensive sustainability assessment:** Develop ESG/CSR/EPR disclosure and evaluation standards for the automotive industry to promote sustainable information disclosure

Direction of disclosure	first level indicators	score
( ? %) Environment	Enterprise environmental management	? %
	Addressing climate change	? %
	Production materials and equipment	? %
	Production environment information	? %
	Distribution, use and recovery	? %
	Ecological protection and sustainable development	? %
( ? %) Social	employee	? %
	production	? %
	Customer and product responsibility	? %
	Supply chain and supplier policy	? %
	Social contribution	? %
( ? %) Governance	Enterprise organizational structure	? %
	Stakeholder concerns	? %
	Enterprise ESG strategy	? %
	Risk management	? %
	Compliance management	? %
	Business ethics	? %
	Innovative development	? %





## 2.4 Comprehensive assessment and management standard



**2、 Comprehensive sustainability management:** The extended producer responsibility standard system of automobile enterprise should be established to promote the development of automobile circular economy

中华人民共和国工业和信息化部  
Ministry of Industry and Information Technology of the People's Republic of China

工业和信息化部 科技部 财政部 商务部关于印发汽车产品生产者责任延伸试点实施方案的通知

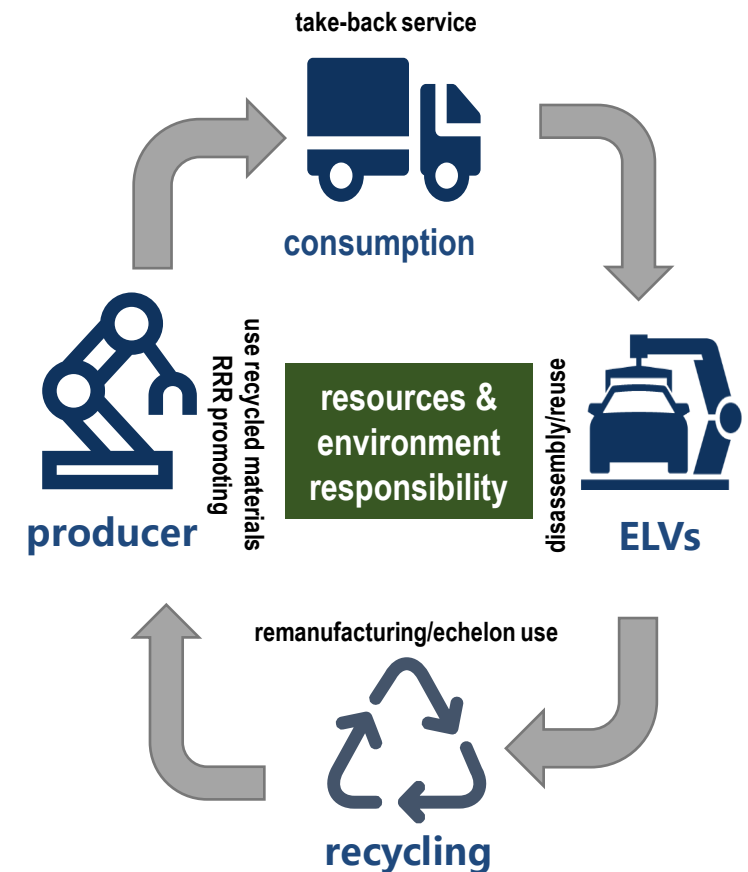
实施计划 for extended producer responsibility of automobile industry

工业和信息化部 科技部 财政部 商务部  
2021年5月26日

工业和信息化部 科技部 财政部 商务部关于印发汽车产品生产者责任延伸试点实施方案的通知

实施计划 for extended producer responsibility of automobile industry

工业和信息化部 科技部 财政部 商务部  
2022年10月12日



## 2.4 Comprehensive assessment and management standard

### 4. Comprehensive standard

#### 4.1 General standard

#### 4.2 Sustainability assessment

##### 4.2.1 Organization environment footprint

##### 4.2.2 Product environment footprint

#### 4.2.3 ESG/CSR/EPR assessment

### 4.3 Sustainability management

#### 4.3.1 Guidance for ESG/CSR/EPR

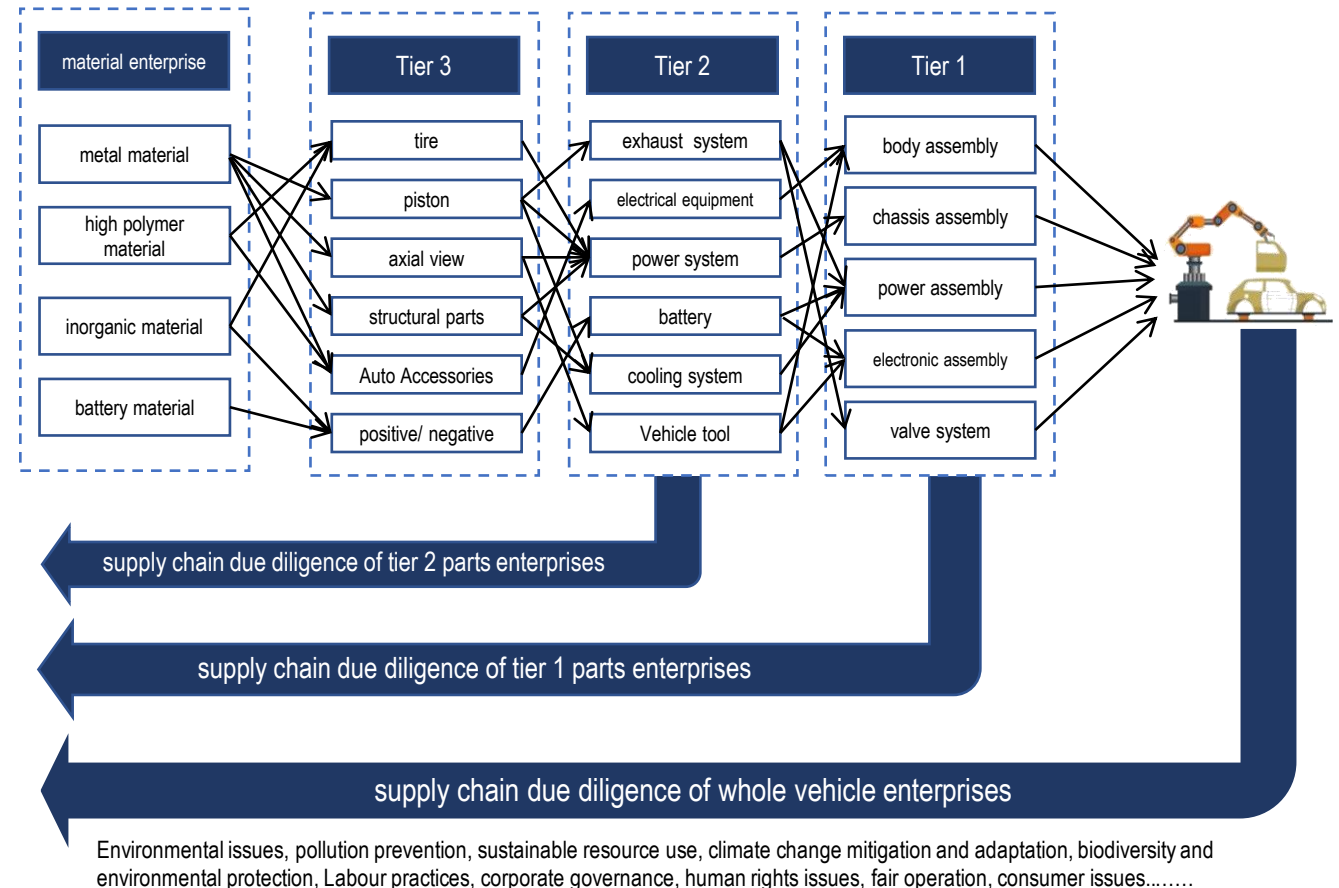
#### 4.3.2 Supply chain due diligence

#### 4.3.3 Automotive product labels

#### 4.3.4 Automotive digital passport

#### 4.6 .....

**2、 Comprehensive sustainability management:** Carry out the implementation standards of due diligence in the supply chain of automobile, traction battery and other enterprises, and promote the implementation and disclosure of ESG in the upstream supply chain



## 2.4 Comprehensive assessment and management standard

### 4. Comprehensive standard

#### 4.1 General standard

#### 4.2 Sustainability assessment

##### 4.2.1 Organization environment footprint

##### 4.2.2 Product environment footprint

#### 4.2.3 ESG/CSR/EPR assessment

### 4.3 Sustainability management

#### 4.3.1 Guidance for ESG/CSR/EPR

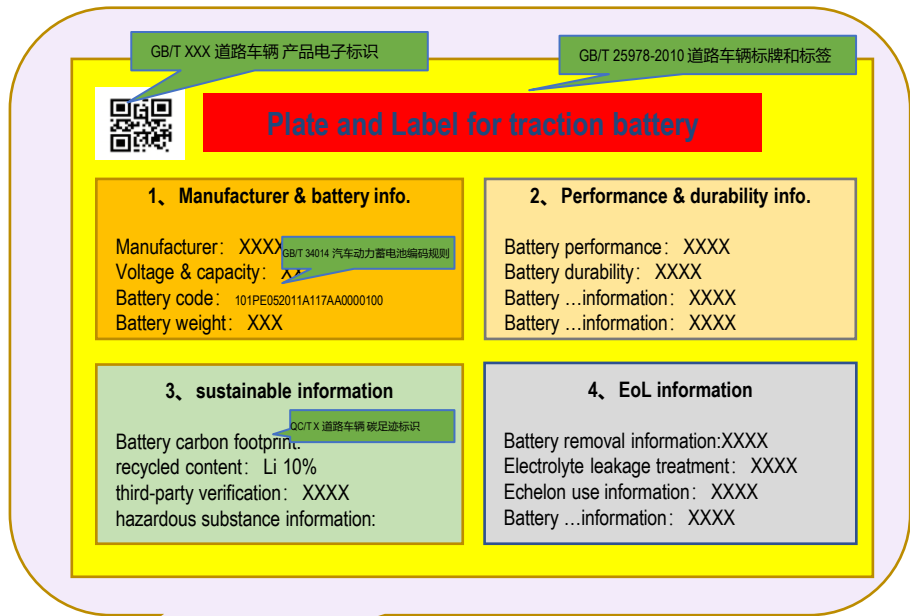
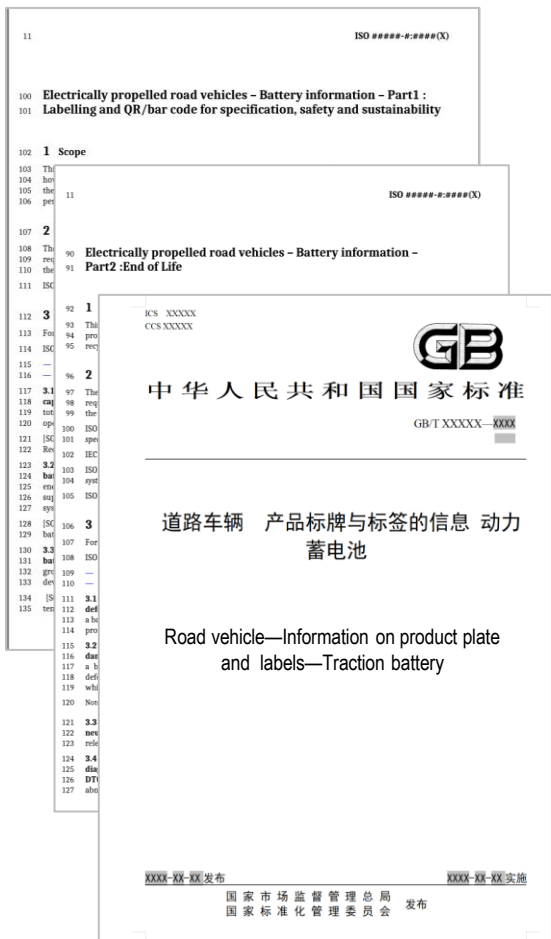
#### 4.3.2 Supply chain due diligence

#### 4.3.3 Automotive product labels

#### 4.3.4 Automotive digital passport

#### 4.6 .....

**2、 Comprehensive sustainability management:** Explore the plate and Label information standards for automotive traction batteries and other products, and promote the information disclosure of auto products



## 2.4 Comprehensive assessment and management standard

### 4. Comprehensive standard

#### 4.1 General standard

#### 4.2 Sustainability assessment

##### 4.2.1 Organization environment footprint

##### 4.2.2 Product environment footprint

##### 4.2.3 ESG/CSR/EPR assessment

### 4.3 Sustainability management

##### 4.3.1 Guidance for ESG/CSR/EPR

##### 4.3.2 Supply chain due diligence

##### 4.3.3 Automotive product labels

##### 4.3.4 Automotive digital passport

#### 4.6 .....

**2、 Comprehensive sustainability management:** Explore sustainable management technology of auto products, and build digital passport system(electronic information interactive system).



Digital passport information classification for traction battery

Battery manufacturer	type of battery	demonstration of the type	Place and date	key raw materials	Carbon footprint
Third-party verification	recycled materials	performance and durability	Minimum, standard and maximum voltages	Original power capacity	Expected battery life and test criteria
residual capacity at EoL	Temperature range not in use	Committed battery life	Initial energy cycle efficiency and 50% cycle life	Internal resistance of monomers and packages	The magnification on value of the relevant cycle life test

Detailed composition, including cathode, anode and electrolyte materials

Part number and details of the source of the replaced part

Battery disassembly information

security arrangement



the public



Recycling enterprise



market supervision

Access right

First-level authority

2nd-level authority

3rd-level authority

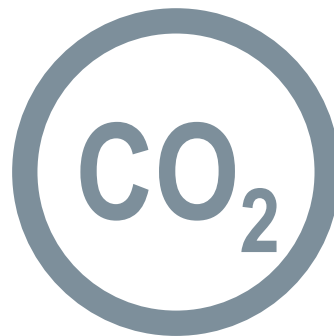
Report for Test result

## Summary and Outlook

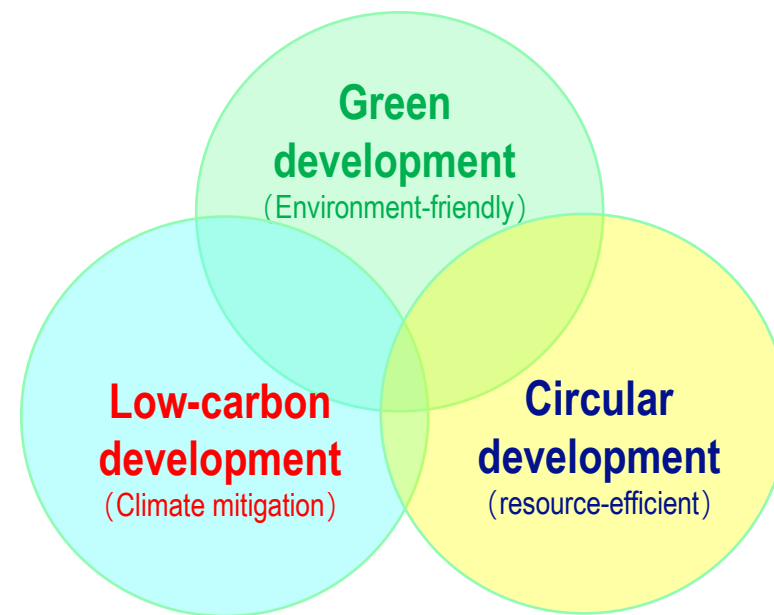


1、 China has established a preliminary standard system for the green development of automobiles to reduce the burden on the environment and human health. However, the mandatory implementation of the standards is insufficient, the types of hazardous substances under control are few, and the control of some life cycle stages is missing, relevant standards need to be further strengthened.

2、 The development of NEVs is an important approach to achieve carbon neutrality in the field of transportation. But the carbon footprint standards of NEVs are still at the primary stage. Low-carbon production and consumption mechanisms should be established to promote coordinated carbon reduction in the industrial chain by auto product carbon footprint standard in the future.



3、 A preliminary standard system for auto resource saving and comprehensive utilization has been built. However, standards on water resources, mineral resources, biological & recycled materials and other resources are still blank. A comprehensive resources efficiency standard system for automobile products needs to be built to promote the improvement of auto resources efficiency.



4、 The standards of comprehensive sustainability evaluation and management for automobile products are still blank. In the future, environment, climate change, resources, human rights, labor, corporate governance, supply chain due diligence, EPR, ESG and other aspects should be comprehensively considered.





全国汽车标准化技术委员会  
National Technical Committee of Auto Standardization