SESEC IV
Selected Translation
Standards System Construction under the Requirements of the "Dual Carbon" Goal

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(SESEC)

Standards System Construction under the Requirements of the "Dual Carbon" Goal

Climate change is one of the biggest challenges threatening various countries all over the world in the coming decades, as it may lead government departments, economic fields and the public to great changes in the use of resources, production and other economic activities. Therefore, measures and actions are being taken at the international, regional, national and local levels to limit the increase of greenhouse gases in the atmosphere.

I. The establishment of the "dual carbon" policy framework needs to be supplemented and supported by standards

The CPC Central Committee and the State Council put forward a series of requirements for achieving the "dual carbon" goal, i.e. carbon dioxide peaking and carbon neutrality. These include, for instance, the issuance of the *Working Guidance for Carbon Dioxide Peaking and Carbon Neutrality in Full and Faithful Implementation of the New Development Philosophy*, in which it proposes to "improve standard and measurement systems for carbon dioxide peaking and carbon neutrality". The State Council also issued the *Action Plan for Carbon Dioxide Peaking Before 2030*, started to implement ten major actions, built the cornerstone for the "1+N" policy framework, and deployed relevant policies and measures from the national level to administration departments of various industries and local level, as shown in Figure 1 below.

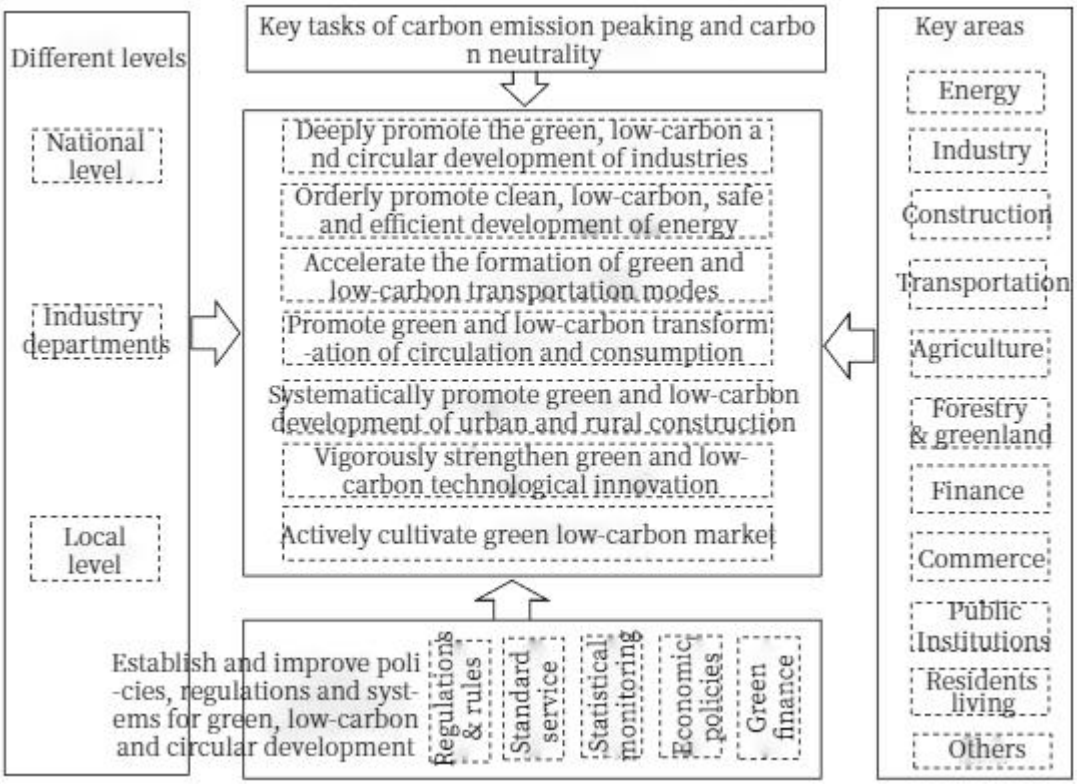

Figure 1 Framework for the deployment of carbon dioxide peaking and carbon neutrality policies

The Leading Group on Carbon Dioxide Peaking and Carbon Neutrality highlighted, during its first plenary meeting, that "it is necessary to study and put forward targeted and operable policies and measures, focusing on promoting the optimisation of the industrial structure, boosting the adjustment of energy structure, supporting the R&D and popularisation of green and low-carbon technologies, improving the green and low-carbon policy system, and optimizing the laws, regulations and standard system."

The *Outline for National Standardisation Development* highlights the need to improve safeguarding measures for green development standardisation. At the same time, the Outline requires that "standards on carbon dioxide peaking and carbon neutrality shall be established and improved. The updating and upgrading of energy conservation standards shall be accelerated, with a number of mandatory national standards on energy consumption quota and energy efficiency of products and equipment to be promptly revised. Energy

consumption quota requirements for key products shall be raised, the coverage of energy consumption quota standards shall be expanded, while supporting standards on energy accounting, testing, certification, evaluation and auditing shall be improved. The improvement of carbon emission verification and accounting standards for regions, industries, enterprises and products shall be accelerated. Standards on greenhouse gas emissions from key industries and products shall be developed, and the standard labeling system for low-carbon products shall also be improved. Standards on renewable energy shall be improved, and standards on ecological carbon sinks, carbon capture, utilisation and storage (CCUS) shall be formulated. Carbon dioxide peaking and carbon neutrality upgrade projects shall be implemented."

From the above plans and documents, it clearly emerges how the establishment of the "dual carbon" policy framework needs to be supplemented and supported by standards. For instance, the implementation of the mandatory standards for energy efficiency and the energy efficiency labeling system have contributed to an average of more than 170 billion kilowatt-hours of electricity savings per year, exceeding the annual power generation of the Three Gorges Hydroelectric Power Station, thus strongly supporting the national "dual carbon" strategy.

1. Significance of "dual carbon" standardisation

As part of the global response to climate change, in order to ensure the consistency of global climate actions, technical standards have been recognized as an efficient technical approach for climate change mitigation and adaptation, as well as a necessary support and supplement to climate policies at the national level.

The "dual carbon" standardisation has leading and systematic significance to the realisation of China's "dual carbon" goal. Specifically:

(1) It is conducive to promoting the green transformation of the economic structure, accelerating the formation of green production models, and boosting high-quality development.

(2) It is conducive to achieving a coordinated governance of traditional pollutants and greenhouse gas emissions, which in turn will lead to a significant synergy between environmental quality improvement and greenhouse gas control.

(3) It is conducive to promoting the formation of a green and simple lifestyle, reducing the consumption and waste of material products, and achieving energy conservation, pollution reduction and carbon reduction.

(4) It is conducive to guiding green technological innovation, accelerating the development of green and low-carbon industries, forming new growth points in the fields of renewable energy, green manufacturing, carbon capture and utilisation, as well as improving the global competitiveness of industries and economies.

(5) It is conducive to making China's standard design level compatible with international standards in basic and frontier fields relating to greenhouse gas, as well as building a safe and reliable general technical standard system for carbon dioxide peaking and carbon neutrality applicable to the whole industry.

2. Standardisation development of international response to climate change

In recent years, the international development experience has gradually shown that standardisation plays an increasingly important role in reducing greenhouse gas emissions and adapting to climate change, especially with respect to the "Measurement, Reporting and Verification (MRV)" of greenhouse gas emission reduction. The Intergovernmental Panel on Climate Change (IPCC) of the United Nations pointed out, in its report, that technical standards are an effective technical approach to mitigate climate change; considering the continuous development and maturity of relevant new technologies, standards will play an important role in climate change. As an essential condition for modern mass production and international exchange, cooperation and competition, standardisation therefore is an important way to ensure that the world takes concerted climate action to mitigate climate change.

Standards in relation to the response to climate change involve various aspects, such as energy efficiency improvement, traditional energy cleaning, renewable energy and new energy, resource recycling, low-carbon technologies, green finance and carbon emission accounting, reporting and verification. Internationally, it involves the following technical committees for standardisation: ISO/TC22 (Road vehicles), ISO/TC180 (Solar energy), ISO/TC197 (Hydrogen technologies), ISO/TC205 (Building environment design), ISO/TC207

(Environmental management), ISO/TC265 (Carbon dioxide capture, transportation and geological storage, CCS), ISO/TC301 (Energy management and energy savings), ISO/TC322 (Sustainable finance), ISO/TC323 (Circular economy) and IEC/TC88 (Wind energy generation systems). Among these, the two technical committees directly responsible greenhouse gas management are ISO/TC207/SC7 (Environmental management - Greenhouse gas and climate change management and related activities) and ISO/TC265 (Carbon dioxide capture, transportation and geological storage). Specifically:

1. The scope of work for ISO/TC207/SC7 focuses on the development of standards for quantification and reporting of greenhouse gas emissions, as well as technical guidelines for validation and verification, carbon footprint, carbon neutrality and adaptation to climate change. The standards that have been published so far, or are currently being developed, are summarized in Table 1.

Table 1 Standards that have been published, or are currently being developed, by ISO/TC207/SC7

No.	Standard Number	Standard Name
1	ISO14064-1:2018	Greenhouse gases - Part 1: Specification with guidance at the organisation level for quantification and reporting of greenhouse gas emissions and removals
2	ISO14064-2:2019	Greenhouse gases - Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements
3	ISO14064-3:2019	Greenhouse gases - Part 3: Specification with guidance for the verification and validation of greenhouse gas statements
4	ISO14065:2020	General principles and requirements for bodies validating and verifying environmental information
5	ISO14066:2011	Greenhouse gases - Competence requirements for greenhouse gas validation teams and verification teams
6	ISO14067:2018	Greenhouse gases - Carbon footprint of products - Requirements and guidelines for quantification
7	ISO14068 (under development)	Greenhouse gas management and related activities - Carbon neutrality
8	ISO/TR14069:2013	Greenhouse gases - Quantification and reporting of greenhouse gas emissions for organisations - Guidance for the application of ISO 14064-1
9	ISO14080:2018	Greenhouse gas management and related activities - Framework and principles for methodologies on climate actions
10	ISO14082 (under development)	Radiative Forcing Management - Guidance for the quantification and reporting of radiative forcing-based climate footprints and mitigation efforts
11	ISO/14083 (under development)	Greenhouse gases - Quantification and reporting of greenhouse gas emissions arising from transport chain operations
12	ISO14090:2019	Adaptation to climate change - Principles, requirements and guidelines
13	ISO14091:2021	Adaptation to climate change - Guidelines on vulnerability, impacts and risk assessment
14	ISOTS14092:2020	Adaptation to climate change - Requirements and guidance on adaptation planning for local governments and communities
15	ISO14093 (under development)	Mechanism for financing local adaptation to climate change - Performance-based climate resilience grants -

		Requirements and guidelines
16	ISO14097:2021	Greenhouse gas management and related activities - Framework including principles and requirements for assessing and reporting investments and financing activities related to climate change
17	ISO19694-1:2021	Stationary source emissions - Determination of greenhouse gas emissions in energy-intensive industries - Part 1: General aspects

2. The scope of work for ISO/TC265 includes the development of standards on substances, equipment, environmental planning and management, risk management, quantification and verification of activities related to carbon capture and storage (CCS). The standards that have been published so far, or are currently being developed, are summarized in Table 2.

Table 2 Standards that have been published, or are currently being developed, by ISO/TC265

No.	Standard Number	Standard Name
1	ISO/TR 27912:2016	Carbon dioxide capture - Carbon dioxide capture systems, technologies and processes
2	ISO 27913:2016	Carbon dioxide capture, transportation and geological storage - Pipeline transportation systems
3	ISO 27914:2017	Carbon dioxide capture, transportation and geological storage - Geological storage
4	ISO/TR 27915:2017	Carbon dioxide capture, transportation and geological storage - Quantification and verification
5	ISO 27916:2019	Carbon dioxide capture, transportation and geological storage - Carbon dioxide storage using enhanced oil recovery (CO2-EOR)
6	ISO 27917:2017	Carbon dioxide capture, transportation and geological storage - Vocabulary - Cross cutting terms
7	ISO/TR 27918:2018	Lifecycle risk management for integrated CCS projects
8	ISO 27919-1:2018	Carbon dioxide capture - Part 1: Performance evaluation methods for post-combustion CO2 capture integrated with a power plant
9	ISO/TR 27921:2020	Carbon dioxide capture, transportation and geological storage - Cross Cutting Issues - CO2 stream composition
10	ISO/DIS 27919-2	Carbon dioxide capture - Part 2: Evaluation procedure to assure and maintain stable performance of post-combustion CO2 capture plant integrated with a power plant
11	ISO/ TR 27922:2021	Carbon dioxide capture - Overview of carbon dioxide capture technologies in the cement industry
12	ISO/AWI TS 27924	Risk management for integrated CCS projects
13	ISO/AWI TR 27925	Flow Assurance
14	ISO/AWI TR 27926	Transitioning from EOR to storage
15	ISO/AWI 27927	Absorption liquids for post-combustion CO2 capture
16	ISO/AWI 27928	Performance evaluation methods for CO2 capture plants connected with CO2 intensive plants
17	ISO/AWI TR 27929	Transportation of CO2 by ship

The development of relevant international standards can contribute to the identification of risks in managing greenhouse gas and of the emission reduction opportunities for enterprises or individuals. The greenhouse gas emission inventory supported by standards can help understand the status of greenhouse gas emissions, as well as possible responsibilities and risks; it can assist enterprises to grasp the most cost-effective emission reduction opportunities through the estimation and quantification of greenhouse gas emissions; it can also improve energy and material efficiency and reduce operating costs; finally, it can enhance the competitiveness of enterprises in global "green" procurement, and obtain "green" passes in global trade as early as possible.

II. Construction and key directions of the "dual carbon" standard system in China

The standards relating to carbon dioxide peaking and carbon neutrality involve multiple fields, e.g. traditional energy, new energy and renewable energy, energy conservation and environmental protection, green and low carbon and circular economy.

(1) In terms of energy conservation, currently in China there are more than 390 national standards, including 187 mandatory standards on energy consumption quota and energy efficiency of end-user energy-consuming products, which basically cover all major energy-consuming industries and energy-consuming products and equipment. There are also 205 recommended supporting standards on energy conservation, including standards on energy management systems, energy management performance assessment, energy online monitoring, energy-savings evaluation, energy-saving technology evaluation, energy system optimisation, integrated energy, distributed energy resources, and district energy. During the 13th Five-Year-Plan period (2016-2020), the mandatory standards on energy consumption quota achieved an annual energy saving of 77 million tons of standard coal, equivalent to 148 million tons of carbon dioxide emission reduction; while the mandatory standards on energy efficiency achieved an annual energy saving of 49 billion kilowatt-hours.

(2) In terms of carbon emission management, 16 national standards have been issued so far, including *General guideline of the greenhouse gas emissions accounting and reporting for industrial enterprises* (GB/T 32150-2015), as well as standards on accounting and reporting requirements of greenhouse gas emissions from 12 industries, i.e., power generation, power grid, steel, chemicals, electrolytic aluminum, magnesium smelting, flat glass, cement, ceramics, civil aviation, coal, and textiles. Furthermore, 28 standards are being developed or revised; while draft standards to be submitted for approval have been completed for greenhouse gas emissions accounting and reporting requirements in industries, including: electronics manufacturing, planting industry, public buildings, mining, road transportation, mechanical equipment manufacturing, fluorine chemical industry, water transportation, papermaking, food and tobacco, petroleum and natural gas, petrochemical industry, non-ferrous metals, and large-scale breeding of livestock and poultry. These standards, which referred to international standards, have fully absorbed the pilot experience of carbon emission trading in China, and effectively solved the problems originating from the lack of greenhouse gas emission standards and inconsistent accounting methods; as such, they have become the basic standards for enterprises to carry out greenhouse gas emission accounting and reporting, and contributed to a breakthrough in China's national standard on greenhouse gas management. The development and revision of national standards on greenhouse gas emission accounting and reporting, emission reduction, verification, greenhouse gas management system and carbon emission information disclosure, provide solutions to the problems of "how to measure", "how to calculate", "how to classify", "how to reduce", "how to verify" and "how to manage" in carbon emission trading.

(3) With respect to solar energy and heat, currently there are 45 national standards, which form a standard system covering the basic generality, materials and components, systems, engineering applications, and other fields related to solar heat utilisation. The implementation of standards on all glass/glass-metal sealed evacuated solar collector tubes has increased the technical requirements of relevant products to internationally leading levels, forming an international standard dominated by China on this basis. There are six national standards on solar thermal power generation, which represent a preliminary standard system framework in this area including basic generality, systems and components. There are 30 current national standards on photovoltaic, forming a standard system covering the basic generality, equipment, materials, cells and modules, components, systems, applications and other fields related to photovoltaic. The relevant standards support technically the performance improvement of photovoltaic material modules and systems, and the promotion of photovoltaic grid-connected systems.

(4) In terms of hydrogen energy, 101 national standards have been issued so far. Among these, there are 48 standards related to hydrogen energy supply and infrastructure, 39 standards related to fuel cells, and 14

standards related to hydrogen fuel cell vehicles. The hydrogen quality standard defines the quality requirements of hydrogen fuel for proton exchange membrane fuel cell vehicles, and ensures the safety of hydrogen for fuel cell vehicles; it has been accepted by the policy documents of five ministries and commissions, including the Ministry of Industry and Information Technology, the National Development and Reform Commission and the National Energy Administration. The serial standards on hydrogen refueling stations provide guidance for the design, construction, equipment selection and safety management of the hydrogen refueling stations; many have already been used as the basis for project approval by local governments at all levels. Relevant standards on hydrogen fuel cell vehicles support the auditing of the *Announcement of Road Power-Driven Vehicle Manufacturers and Products*.

(5) In the field of biomass energy, more than 60 national standards have been formulated, covering solid, liquid, gaseous and other forms of biomass fuel processing and biomass thermal power utilisation. Among them, the national standard *Bio-natural gas as vehicle fuel* (GB/T 40510-2021) has solved the previous lack of relevant national standards in the field of bio-natural gas. On the other hand, *Determination of tar and dust concentrations in biomass-based synthetic gas* (GB/T 40508-2021) is currently the only national standard for the control of tar concentration during biomass gasification; while *General technical specifications for collection, storage and transportation of raw materials of agricultural and forestry biomass* (GB/T 40511-2021) is a relatively comprehensive standard for the collection, storage and transportation of biomass raw materials.

(6) In terms of CCUS, a dedicated standardisation working group was jointly established by various national technical committees (TC) of the Standardisation Administration of China (SAC), including SAC/TC 548 on Carbon Management, SAC/TC 20 on Energy Fundamentals and Management, and SAC/TC 207 on Environmental Management. The working group is composed of experts from standardisation organisations, research institutes and large enterprises; their tasks includes accelerating the adoption and conversion of international standards, e.g. *Carbon dioxide capture, transportation and geological storage - Vocabulary* (ISO 27917:2017), *Carbon dioxide capture, transportation and geological storage - Quantification and verification* (ISO/TR 27915:2017) and *Lifecycle risk management for integrated CCS projects* (ISO/TR 27918:2018). The working group also aims to give full play to the guiding and regulatory role of standardisation on CCUS and other negative emission technologies, at the same time supporting the implementation of relevant policies.

(7) In terms of environmental management standards supporting carbon emission reduction, currently there are 37 national standards, covering environmental management systems, environmental labeling and declaration, environmental evaluation, environmental communication, lifecycle assessment, eco-design, cleaner production, water footprint, green factory, and material flow cost accounting. In particular, *Environmental management systems - Requirements with guidance for use* (GB/T 24001) and other standards on environmental management systems have guided many organisations to establish and implement environmental management systems according to ISO14000 serial standards; they also contributed to positive environmental, social and economic benefits. Serial standards on environmental labeling, standards on environmental performance evaluation and serial standards on lifecycle assessment have also been applied by a large number of enterprises, as they become powerful tools to upgrade their environmental management level, improve environmental performance and achieve carbon reduction goals.

(8) In terms of circular carbon emission reduction, currently there are 10 national standards on circular economy of industrial parks, involving material flow management, circular economy management, circular economy evaluation, utilisation of wastes, wastewater and exhaust gas, and infrastructure construction in the industrial parks; these standards provide effective support to pilot programs of national circular economy standardisation, and to the low-carbon and circular development of the industry. At the same time, there are more than 80 national standards in the field of comprehensive utilisation of bulk solid wastes, including standards on comprehensive utilisation of industrial “three wastes”, construction waste and agricultural waste. The standards on the extraction of aluminum oxide from fly ash has promoted the industrialisation of the technology, which utilizes 300,000 tons of fly ash annually in the pilot enterprises, contributing to annual economic returns of more than 60 million yuan. There are about 200 existing national standards for the recycling of waste materials, involving steel scrap, copper scrap, aluminum scrap, waste paper, waste plastics, waste rubber, waste glass, waste textiles, waste batteries and waste composite packaging. Furthermore, there are about 10 national standards for domestic waste reduction and resource utilisation. Relevant standards on classification, treatment and disposal of renewable resources have improved the production efficiency of pilot enterprises, saved production costs by 1.55%, and generated economic benefits of 7.1 billion yuan annually.

(9) In terms of environmental protection industry for the reduction of pollution and carbon emissions, currently there are 55 national standards, covering the serial standards on environmental protection equipment products, product energy efficiency, performance test methods, technical processes, evaluation of high-efficiency environmental protection equipment, and evaluation of the operating effect of environmental protection system facilities; these promoted the serialisation, standardisation and normalisation of environmental protection equipment, environmental protection products and environmental protection services, and contributed to significant social, economic and environmental benefits. Currently, China is also accelerating the development and revision of standards on the improvement of energy efficiency of environmental protection equipment, efficient and low-carbon operations of environmental protection facilities, coordinated treatment and disposal of pollutants, coordinated monitoring, as well as accounting and governance of carbon and pollutant emissions, so as to facilitate the coordinated promotion of pollution and carbon reduction and the realisation of the "dual carbon" goal.

(10) In terms of green product standards, in accordance with the *Opinions on Developing a Unified Standard, Certification and Identification System of Green Products* issued by the General Office of the State Council, 18 national standards on green product evaluation have been developed and published, while 15 other national standards on green product evaluation are currently under development. Relevant national standards on green product evaluation cover 33 categories, including building materials, electronics and electrical appliances, furniture, textiles, paper and paper products, paints, wood-based panels and wooden floors, detergents and packings for express service. In particular, the national standard *General principles for green product assessment* (GB/T 33761-2017) proposes the requirements of evaluation indexes for the four attributes – i.e., resources, energy, environment and quality – and unifies the green product evaluation method on the basis of the full lifecycle concept. According to the green product evaluation standards, the certification of green product evaluation has been carried out: more than 1,000 green product certificates have been issued nationwide, which effectively gives play to the leading role that standards in promoting green and low-carbon consumption.

III. Existing problems

It is a long-term, systematic and complex task to build and implement the carbon dioxide peaking and carbon neutrality standard system. Compared with the needs and demands, the construction of the standard system is still far from fully supporting carbon dioxide peaking and carbon neutrality itself. This is mainly reflected in:

1. Imperfect coordination mechanisms for standardisation

The "dual carbon" work involves quite a few ministries, including the National Development and Reform Commission, Ministry of Industry and Information Technology, Ministry of Ecology and Environment, Ministry of Natural Resources, Ministry of Housing and Urban-Rural Development, Minitry of Transport, Ministry of Agricultural and Rural Affairs, National Forestry and Grassland Administration, State Administration for Market Regulation, As the enthusiasm of various departments and industries for carrying out the "dual carbon" standardisation runs high, they have proposed a large number of development plans for relevant national and sector standards. As a consequence, the problems of overlapping, repetition and even unclear concepts easily emerge among these proposals, and the departments and industries swarm towards the carbon-related standards. There needs to be a close interaction and connection among the "dual carbon" standards on emission quantification, carbon footprint quantification, emission reduction quantification, carbon sink quantification, verification, offset, neutrality, data quality control, and the introduction of market mechanism; otherwise, the cost of subsequent integration and connection will be very high. There is also an urgent need to establish a coordination mechanism connecting the standards of various departments at the top leadership level. Finally, "dual carbon" standardisation should also delink itself from temporary enthusiasm originating from being a key hot topic.

2. Loose combination of technology R&D with standards

An important core standard in the "dual carbon" standard system is the advanced technical standard on energy conservation and carbon reduction. The most crucial aspect is to develop technical standards that can truly achieve energy conservation and carbon reduction, such as standards on raw material substitution, energy substitution, and advanced technologies. It is therefore urgent to develop such standards so that advanced energy conservation and carbon reduction technologies can be rapidly popularized and applied.

3. Divergence between relevant policies and standards

Due to the long process that characterizes the development of standards, there is a divergence between policies and standards. As a matter of fact, standards are the product of consensus, which requires repeated communication, coordination and corresponding development cycles. Moreover, standards need to be closely linked with policy makers, so that the standards that can fulfil policy needs can be actively introduced, avoiding the need to go through policy adjustments.

4. Lack of overall planning for standard implementation

Many departments are involved in “dual carbon” work, therefore standardisation development is separated by department. These departments are also “talking past each other” at the implementation level. It is recommended to break the segmentation, continuously improve and build the overall standard system architecture in line with the “dual carbon” strategy, realize the whole-chain management and supervision on standard planning and implementation in a holistic manner, so as to ensure the effects of overall implementation of “dual carbon” related standards.

5. Increasingly complicated situation of international standardisation

Fighting climate change has become a hot topic throughout the world. Many technical committees that had never been involved in climate change related standards have now emerged internationally, occasionally putting forward proposals for developing climate change standards, the projects of which have been successively established. This move also poses new challenges to the International Organisation for Standardisation (ISO): although the Climate Change Coordinating Committee (CCCC) has been established at the ISO level, they may still overlap with each other or require coordination, requiring during the process a significant amount of resources and experts. In the meantime, concepts and standard development plans that are unfavorable to developing countries, such as “zero carbon”, have also emerged.

6. Recommendations for “dual carbon” standardisation

Carbon dioxide peaking and carbon neutrality standardisation is a complex systematic project. In order to speed up the construction of the standard system and promote the effective implementation of standards, relevant actions should focus on the following aspects:

(1) To rely on the Office of the Leading Group on “Dual Carbon” of the State Council, study and establish a dedicated coordination mechanism for carbon dioxide peaking and carbon neutrality standards, and strengthen technical coordination and standard implementation. To accelerate the construction of carbon dioxide peaking and carbon neutrality standard system, realize the full coverage of key industries and fields for carbon emission, and plan the connection and supporting relationship between the national standards, sector standards, local standards and association standards, as well as the development and revision of standards in an overall manner.

(2) To speed up the development of urgently needed technical standards, including mandatory standards on energy consumption quota and energy efficiency, and give full play to the leading role of standards. To strengthen the development of basic general standards on carbon emission measurement, accounting and reporting, verification, product carbon footprint and low-carbon assessment. To accelerate the development of standards on carbon removal technologies such as ecosystem carbon sequestration and sink enhancement, CCUS and direct air capture (DAC), and give play to the leading role of standards in the innovation and application of carbon removal technologies. To improve the carbon market standard system, to develop standards on carbon emission quota allocation, adjustment, payment, offset and application guidelines for key emission industries, to establish and improve information disclosure standards related to the carbon market, and to study standards on the specification for the implementation of carbon emission trading and requirements for trading institutions and personnel. To improve the basic general standards on terms related to green finance and sustainable finance, as well as carbon emission verification and accounting of financial institutions, and improve the standards on green financial products and services, rating and evaluation of green bonds and carbon neutrality bonds, information disclosure and green finance statistics, and give play to the supporting role of the standard system for carbon dioxide peaking and carbon neutrality.

(3) To build a sophisticated standard implementation and supervision system. To form an integrated guideline for standard application, and establish a solid implementation mode with mandatory national standards as the core, in combination with the industry characteristics. To strengthen the coordinated efforts of enterprises, universities, research institutions and consumers, enhance the coordination among standards, industrial policies and regulations, and consolidate the publicity, implementation, supervision and service of standards.

(4) To realize the technological innovation and digitalisation of standards. To accelerate the digitalisation of standards with those on energy efficiency and energy consumption indicators as the core, support the effective application of standards for enterprises, and actively achieve the goal of energy conservation and carbon reduction.

(5) To actively participate in exchanges and cooperation activities on international standards. To actively transform international standards suitable for China's national conditions, and improve the consistency level of domestic standards with international ones. To strengthen the cultivation and training of experts and talents on international standardisation affairs, constructively participate in international standards in the fields of carbon emission, energy conservation, new energy, carbon sink and CCUS, and actively contribute the wisdom and experience of China. In parallel, it is necessary to closely track and pay attention to international developments, strengthen the exchange and communication mechanism between different TCs in China, and actively provide technical support for international climate negotiations.

Note: THIS ARTICLE IS TRANSLATED BY SESEC FROM THE BRANCH OF RESOURCE AND ENVIRONMENT OF THE CHINA NATIONAL INSTITUTE OF STANDARDISATION.

Introduction of SESEC Project

The Seconded European Standardization Expert in China (SESEC) is a visibility project co-financed by the European Commission (EC), the European Free Trade Association (EFTA) secretariat and the three European Standardization Organizations (CEN, CENELEC and ETSI). Since 2006, there has been three SESEC projects in China, SESEC I (2006-2009). SESEC II (2009- 2012) and SESEC III (2014-2017). In April 2018, SESEC IV was officially launched in Beijing, China. Dr. Betty XU was nominated as the SESEC expert and will spend the next 36 months on promoting EU-China standardization information exchange and EU-China standardization cooperation.

The SESEC project supports the strategic objectives of the European Union, EFTA and the European Standardization Organizations (ESOs). The purpose of SESEC project is to:

- **Promote European and international standards in China;**
- **Improve contacts with different levels of the Chinese administration, industry and standardization bodies;**
- **Improve the visibility and understanding of the European Standardization System (ESS) in China;**
- **Gather regulatory and standardization intelligence.**

The following areas have been identified as sectorial project priorities by the SESEC project partners: Internet of Things (IoT) & Machine-to-Machine(M2M) communication, communication networks & services, cybersecurity & digital identity, Smart Cities (including transport, power grids & metering), electrical & electronic products, general product safety, medical devices, cosmetics, energy management & environmental protection (including eco-design & labeling, as well as environmental performance of buildings).

SESEC IV China Standardization and Technical Regulation Newsletter

SESEC IV China Standardization and Technical Regulation Newsletter is the gathering of China regulatory and standardization intelligence. Most information of the Monthly Newsletter was summarized from China news media or websites. Some of them were the first-hand information from TC meetings, forums/workshops, or meetings/dialogues with China government authorities in certain areas.

In this Newsletter

In this Newsletter, some news articles were abstracted from Chinese government organizations. All new published standards, implementation or management regulations and notice are summarized; original document and English version are available.