

**Freezing and Phasing Down HFCs, Advancing Climate Action**  
- Commemorating the International Day for the Preservation of the Ozone Layer 2024

The Montreal Protocol on Substances that Deplete the Ozone Layer (hereinafter referred to as the Montreal Protocol) was adopted on September 16, 1987, with the aim of gradually phasing out the production and consumption of ozone-depleting substances (ODS) through global action. To commemorate the signing of the Montreal Protocol, the United Nations established September 16 as the International Day for the Preservation of the Ozone Layer in 1994.

Since China's accession to the Montreal Protocol in 1991, it has consistently fulfilled its obligations under the Montreal Protocol, and achieved compliance targets on schedule. Over more than 30 years of implementation, China has cumulatively phased out a total of about 628,000 tons of ozone-depleting substances, accounting for more than half of the phase-out amount in developing countries. This has also avoided the emission of over 26 billion tons of carbon dioxide equivalent greenhouse gases, making significant contributions to the gradual recovery of the global ozone layer and playing an active role in mitigating climate change.

In October 2016, the parties to the Montreal Protocol reached an agreement on the Kigali Amendment, which aims to control and phase down hydrofluorocarbons (HFCs), potent greenhouse gases that contribute to global warming. In April 2021, President Xi Jinping announced China's acceptance of the Kigali Amendment, strengthening the control of non-carbon dioxide greenhouse gases such as HFCs. This marked a new chapter in China's efforts to collaboratively protect the ozone layer and address climate change under the Montreal Protocol.

According to scientific assessment, the international community's fulfillment of the control measures of the Kigali Amendment can avoid global average warming of up to 0.5 °C by 2100, which is a significant climate benefit against the global temperature goal of the Paris Agreement. Since accepting the Kigali Amendment, China has taken multiple measures to promote control and management of HFCs, achieving positive progress.

Firstly, improve the regulation and policy system, and establish measures for control and reduction of HFCs. On December 29, 2023, the State Council announced the Decision on Amending the Regulations on the Administration of Ozone Depleting Substances, which came into force on March 1, 2024. The newly revised Regulations buttress the new requirements for compliance with the Kigali Amendment, incorporate HFCs into the existing compliance control system, further improve management measures, strengthen legal responsibilities, and lay a solid legal foundation for the fulfillment of the Kigali Amendment. Meanwhile, the Ministry of Ecology and Environment is preparing the Country Program for China's Implementation of the Montreal Protocol (2024-2030), which is expected to be launched in the near future. The country program will establish China's compliance timeline and roadmap before 2030, focusing on strengthening management system for HFCs throughout their lifecycle and specifying policy measures and responsibilities to unite the efforts of all aspects in advancing compliance work to a new level.

Secondly, implement quota and licensing management to achieve gross control targets for HFCs. The year 2024 is a freeze year for China's compliance with the Kigali Amendment and for gross control of HFCs production and consumption. The Ministry of Ecology and Environment, together with the National Development and Reform Commission and the Ministry of Industry and Information Technology, has established a dual management system for both construction of HFC chemical production facilities and quota and licensing. Following the principle of need-based distribution, the quotas for HFCs production and domestic use for 2024 amounted 1.449 billion tons and 643 million tons of carbon dioxide equivalent. Additionally, as a major exporter of HFCs, China has established and strictly implemented licensing management for HFCs imports and exports since accepting the Kigali Amendment in 2021, conducting nearly 30,000 approvals for HFC imports and exports each year, and cracking down on smuggling and illegal trade. Through the informal Prior Informed Consent mechanism (iPIC) under international agreements, we

have prevented 59 potential illegal trades of HFCs, involving approximately 1.45 million tons of carbon dioxide equivalent, making outstanding contributions to global climate and environmental governance.

Thirdly, strengthening the effectiveness of supervision and enforcement, and promoting the enhancement of HFCs compliance capacity. The Ministry of Ecology and Environment carries out quota licensing approval in accordance with the law and regulations, establishes a verification mechanism for all HFCs production enterprises, and carries out statistical surveys relying on the national information management system to comprehensively collect information of HFCs production and consumption. It has incorporated monitoring and enforcement of HFCs into the daily environmental monitoring and enforcement plan, continued to conduct "the random selection of inspectors and inspection targets and the prompt release of results" and special enforcement actions in key industries and regions, and made efforts to create a sound market environment for compliance. It has organized training workshops for local ecological and environmental bureaus (EEBs) and industrial enterprises, and launched phase III of the capacity building projects in seven EEBs of key provinces and cities, so as to comprehensively improve the level of supervision.

Fourthly, strengthening scientific and technological research to strengthen the basis of HFCs compliance. By benchmarking international advanced experiences, the construction of atmospheric monitoring networks for HFCs and ozone-depleting substances has been gradually improved in Changdao, Shandong Province, and China's compliance effectiveness evaluation and early-warning assessment system has been constructed. The Ministry will promote high-level compliance and high-quality development in a coordinated manner, accelerate the research and development of alternatives technologies for HFCs in the automobile, home appliance and relevant industries, encourage the application of natural refrigerants, adhere to the path of independent innovation, promote the transformation and upgrading of the industry through compliance, and accelerate the development of new quality productivity.

As a responsible developing country, China will strictly implement the Montreal Protocol and its Kigali Amendment, continue to strengthen the management and monitoring of ozone-depleting substances and HFCs, promote the research, development and application of green and low-carbon alternatives, and continue to deepen international cooperation in the field of climate governance, so as to work together with the international community to address global challenges such as ozone layer depletion and climate change.