

"2019-2020 Implementation Plan for National Carbon Emission Trading Total Allowances Setting and Allocation (Power Generation Industry)" (Draft for Public Consultation)

Explanation on Promulgation

1. Drafting Process

The allowance management system is an important component of China's national carbon emissions trading market (hereinafter referred to as the national carbon market). The "Outline of the 13th Five Year Plan for Economic and Social Development of the People's Republic of China" also requires the establishment of a carbon emissions reporting, verification, certification and allowance management system for the major participating entities. As stipulated by the 2017 "National Carbon Emission Trading Market Establishment Work Plan (Power Generation Industry)", allowances for the power generation industry are to be allocated in accordance with the standards and methods formulated by the National Development and Reform Commission (NDRC) (the relevant responsibilities have since been transferred to the Ministry of Ecology and Environment) and energy sector.

In October 2019, the Ministry of Ecology and Environment (MEE) held eight training sessions on the allocation and management of national carbon market emissions allowances, carried out trial allowance calculations for the power generation industry, and solicited opinions on the plan for total allowances' setting and allocation implementation from local governments and power generating enterprises. Based on these undertakings, the MEE revised the total allowances' setting and allocation implementation plan for the power generation industry and convened experts for a series of related discussions. While considering the COVID-19 epidemic's effect on the power generation industry and aiming to minimize the national carbon market's impact on power generating enterprises, the MEE developed the "2019-2020 Implementation Plan for National Carbon Emission Trading Total Allowances Setting and Allocation (Power Generation Industry)" (hereinafter referred to as the Plan). In August 2020, the MEE also sought written comments on the Plan from organizations including the NDRC, the Ministry of Industry and Information Technology, the National Bureau of Statistics, the National Energy Administration and other relevant central

government agencies, as well as various provincial-level ecological and environmental authorities, major power generation corporations, the China Electricity Council, and other relevant industry associations. Based on their input, the MEE then further revised the Plan and promulgated its current version for public consultation.

2. Main Content

The Plan's main content includes eight parts, specifically a list of major emitting entities included in the Plan; the types of generating units included in the Plan; the total amount of allowances; the allowance allocation method; the distribution of allowances; the surrendering of allowances; details on managing any merger, restructuring, or closure of major emitting entities; and other instructions.

3. Answers to Key Questions

(1) The Inclusion of Self-Supply Power Stations

The "National Carbon Emission Trading Market Establishment Work plan (Power Generation Industry)" stipulates that self-supply power plants in other industries with an annual emissions total of 26,000 tons of CO₂e (or a total energy consumption of 10,000 tons of standard coal equivalent) or higher are treated the same as major emitting entities within the power generation industry. Previously, when the MEE requested that local governments submit a list of major emitting entities, trial allowance calculations, and verifications of carbon emissions data, all qualified self-supply power stations were effectively considered as major emitting entities; thus, each local government possesses a working basis for distributing allowances to self-supply power stations.

(2) Definitions Regarding Cogeneration Units

According to the "Regulations on Development of Cogeneration" and clause 4.4.30 of "Terminology of Energy Saving for Electric Power" (DL/T 1365-2014), "cogeneration units" should satisfy the following criteria: 1) the annual average of general thermal efficiency of the unit must be greater than 45%; 2) the heat-to-electricity ratio of units below 50MW in capacity must be greater than 100%, the heat-to-electricity ratio of units with a capacity of 50-200MW must be greater than 50%, and the heat-to-electricity ratio of units with a capacity

of 200MW or more must be greater than 50% during the heating period; 3) the unit must meet local governments' policy requirements. Given changes in urban industry and residential demand for heating, most of the approved cogeneration units (the vast majority of which have capacities at or below 300MW) do not meet the above requirements concerning the heat-to-electricity ratio and the general thermal efficiency. Moreover, local government policies do not uniformly define the specific parameters for cogeneration. If units with a heat-to-electricity ratio or general thermal efficiency not meeting these standards are allocated emissions allowances based on the standard amount for pure-condensing generation units, these units will face a larger shortage in emissions allowances, in turn making them obsolete. Given requirements to ensure the national heating supply, as well as the operating conditions of China's cogeneration units and the differences in relevant local policies, the "generating units supplying external heating during the reporting year" will be categorized as "cogeneration units" in the practice of national carbon market allowance management.

(3) Considerations in Selecting the Years of Allocation

Relevant data from major emitting entities, such as their supplied power, supplied heat, and carbon emissions, serve as the basis for determining the allocation of emissions allowances in various localities. In order to set a solid foundation for future work related to the national carbon market, the MEE organized local governments' work in conducting verification and reporting of carbon emissions data for major emitting entities from 2013 to 2019. However, given various constraints such as local funding shortages and the COVID-19 epidemic, considerable challenges remain for the 2019 carbon emissions data reporting process; it is not expected that data collection will be completed within a relatively short period of time. Thus, if only the allowances for 2019 are allocated in 2020 and the major emitting entities are still required to fulfill their relevant compliance obligations, the compliance deadline would likely be extended to 2021, resulting in a large time difference between the year of allowance allocation and the year of compliance fulfillment. Conversely, if only the allowances for 2020 are allocated in 2020, participating entities will face a high degree of uncertainty due to the impact of the COVID-19 epidemic; furthermore, the list of major emitting entities cannot be determined in a sufficient timeframe given the delays in data collection from the previous year (i.e. 2019). Given the above considerations and in order to smoothly launch the operation of national carbon market, allowances for both 2019 and 2020

are set to be allocated in 2020. Both years' deadlines for surrendering emissions allowances will be announced separately from this policy.

(4) Determining the Number of Baselines

When using the baseline method to allocate emissions allowances, the number of baselines should be determined in consideration of multiple factors such as the scientific nature, applicability, and fairness of the allowance allocation method, as well as its effectiveness in promoting industries' emissions reductions. If too many baselines are set given the technology level, and production conditions of power generating units, the carbon market's effectiveness in promoting the use of advanced power generation technology will be hindered. However, if there are too few baselines, the allocation method's scientific rigor, applicability, and fairness will be compromised, thereby excessively burdening small-scale and lower-efficiency units. Given factors such as the situation of China's power generating units, the need to balance out a potential lack or surplus of allowances, and the effectiveness of reducing carbon emissions, the number of baselines is set to four in total.

(5) Note on the Correction Factor for Heat Supply

As the amount of supplied heat from a cogeneration unit increases, the general efficiency of the unit also increases. China's current method to determine the supplied amount of heat and power from a single cogeneration unit follows a guideline of "determining power by heat," which means that the heating efficiency (the heating coal consumption) of the cogeneration unit is fixed and that any increase in the general efficiency of the unit is fully reflected in its power generation efficiency. Therefore, as the amount of supplied heat increases, the carbon emissions intensity per unit of supplied power decreases, and vice versa. In order to reflect changes in allowances determined for a cogeneration unit's power generation, which is correlated to its heating ratio, the category of "cogeneration unit" is thus divided into "coal-fired cogeneration units" and "gas-fired cogeneration units," and the supplied heat correction factor is calculated separately for each. Within these groups, "coal-fired cogeneration units" includes all technical types (including medium pressure, high pressure, ultra-high pressure, subcritical, supercritical, ultra-supercritical, and unconventional coal-fired units), and "gas-fired cogeneration units" also includes all technical types (including both level F units and those below level F). Based on sample calculations, variation curves for carbon emissions intensity can be obtained for coal-fired and gas-fired

cogeneration units with different heating ratios; the heat supply correction factors for the two types of units are respectively $(1 - 0.22 \times \text{heating ratio})$ and $(1 - 0.6 \times \text{heating ratio})$.