

Suggestions for Improving Greenhouse Gas Emission Reduction Policies

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Abstract. To address global climate change, the Paris Agreement requires parties to take action to reduce greenhouse gas (GHG) emissions. At present, the greenhouse effect has caused more serious environmental problems, and in response to this phenomenon, various countries have formulated corresponding emission reduction policies. In recent years, China's development process has also begun to note that the country's development must not be at the expense of the environment. Therefore, the management of greenhouse gas emissions is also being strengthened. Based on this, this paper provides a analysis of the meaning of greenhouse gas emission reduction policies and suggestions for improving them, with the aim of providing ideas for their implementation and thus helping to improve the environment in general.

Keywords: greenhouse gas; emission reduction policy; improvement strategy

1. Introduction

The main factor of global warming is the emission of greenhouse gases such as carbon dioxide from human activities, and coping with climate change has become a major challenge for the global community. China has proposed carbon peaking and carbon neutral targets, with CO₂ emissions striving to peak by 2030 and working towards carbon neutrality by 2060. Since China's reform and opening up, the ecological environment has been more seriously damaged and polluted under the development model of first pollution and then governance. After 2006, China's carbon dioxide emissions jumped to the first place in the world, reaching 9.826 billion tons in 2019. China is the largest developing country in the world, and economic development and CO₂ emissions will not be decoupled for quite some time.

2. Greenhouse effect and carbon emissions

When sunlight shines into the earth, part of the sunlight is reflected back to the cosmic space, and part of the sunlight is absorbed by the greenhouse gases to keep the earth's surface warm, this phenomenon is called the greenhouse effect.

The greenhouse gases in the earth's atmosphere allow the short-wave radiant heat from the sun to reach the ground, and strongly absorb the infrared long-wave radiant heat radiated from the ground, only a small part of it is lost to the universe, therefore, if there are too many greenhouse gases in the atmosphere, blocking the earth's normal heat dissipation, which leads to the gradual increase of the earth's atmospheric temperature, forming the greenhouse effect of the atmosphere.

Why are carbon peaking and carbon neutrality targets proposed? Because the problem of global warming is becoming more and more serious. The main cause of global warming is the excessive use of energy and the overexploitation of natural resources in the process of human development, causing the concentration of greenhouse gases in the atmosphere to increase at an extremely fast rate.

The greenhouse effect has both positive and negative effects on human society. Without the greenhouse effect, the Earth would be too cold for human habitation. It is estimated that without the atmosphere, the average temperature of the Earth's surface would be -18°C. It is with the greenhouse effect that the average temperature of the Earth is maintained at 15°C. However, too many greenhouse gases at the moment can cause the average temperature of the Earth to be higher than 15°C. At present, the increase in the content of atmospheric greenhouse gases such as water vapor, carbon dioxide (CO₂), methane (CH₄) and chlorofluorocarbons caused by human activities, which absorb more infrared radiation to retain energy, lead to an increase in the global surface temperature, intensifying

the greenhouse effect and causing global warming. The increase in global temperature leads to the melting of glaciers and the rise in sea level, which brings great disasters to coastal residents; the increase in global climate directly leads to ultra-high temperatures in summer in some regions, thus inducing heart disease and many respiratory diseases, especially the greatest danger to newborns and the elderly. The increase in global temperature will promote the spread of certain infectious diseases, expand the epidemic and endanger human health.

3. Suggestions for improving greenhouse gas emission reduction policies

With the gradual increase of policy objectives to solve environmental problems, the means to achieve its goals have evolved, and it is necessary to choose appropriate policy instruments around the realization of the goals, and make joint efforts to meet the requirements of carbon emissions through technical, management, financial, regulatory and carbon market construction.

3.1 Promote new clean energy sources

The main methods to reduce CO₂ emissions are: no or less use of fossil energy; improving the efficiency of energy use; developing non-fossil energy sources such as hydro, nuclear, geothermal, wind and light energy; using zero-carbon fuels (biomass fuels, etc.); carbon capture and storage; and electrification of end-use equipment. On the one hand, greenhouse gas emissions can be controlled by various means such as changing the energy structure, controlling the use of fossil fuels, increasing the proportion of clean renewable energy use, and improving energy use efficiency. On the other hand, the absorption of greenhouse gases can be increased through afforestation and carbon sequestration technologies.

3.2 Strengthen emission management

In the process of implementing the greenhouse gas emission reduction policy, the corresponding departments should continuously improve the specific emission reduction standards and regulations, so as to achieve the purpose of strengthening the emission standards. In the specific management process, through the construction of the corresponding technical standard system, the access standards can be effectively improved. In addition, specific departments should be able to regulate the energy consumption limit of the corresponding unit, and through the implementation of the revision of the basic energy-saving standards, and other work, and finally make the "dynamic" adjustment of the specific standards possible. By strengthening the control of emission standards in various fields, it can effectively help the construction of the energy management system of enterprises. At the same time, strengthening the management of low-carbon fuel standards, actively encouraging the use of new energy vehicles, in addition to scientific restrictions on high-emission vehicles, will ultimately help the green development of the city.

3.3 Improve the financial policy

In the process of implementing the greenhouse gas emission reduction policy, the corresponding departments should broaden the financial input channels effectively, and also increase the investment as much as possible, so that a more stable financial input mechanism can be built. In addition, the fiscal budget for climate change should be continuously increased according to the actual situation, and energy saving and clean energy development should be included in the budget as much as possible. It is also necessary to continuously enrich the ways of financial investment so that the implementation of corresponding policies can be effectively guaranteed. By setting up special funds, we can help the implementation of energy-saving product procurement. On top of that, the department should also improve the specific way of project management so that the efficiency of the use of funds can be more effectively improved. By improving the approval process, the transparency of each link can be enhanced, and the use of funds can be more effectively monitored.

3.4 Improve the regulatory mechanism

At present, it is necessary to effectively strengthen the regulatory mechanism of greenhouse gas emissions, and to make the specific data of the statistics public, so that the management process is more transparent. At the same time, the improvement of the greenhouse gas emission monitoring system should be one of the key tasks, so that the corresponding policies can be more effectively monitored. In addition, the specific emission reduction targets should be scientifically set and considered in the long term. At the same time, the uncertainty of economic development and specific emission reduction targets should be fully considered, and the decision-making mechanism of specific targets should be scientifically improved, so as to realize the effective improvement of the regulatory mechanism of emission reduction targets and make the corresponding emission reduction targets be more effectively implemented in practice.

3.5 Establishing carbon market construction

At present, the corresponding departments should actively carry out the pilot work of carbon trading, so that the construction of carbon market can be put into practice. In addition, it is necessary to select industries with good greenhouse gas emission statistics to carry out carbon trading pilot work. Thus, the specific trading platform and products can be regulated more effectively, and finally achieve the purpose of accumulating trading experience. At the same time, the scientific design of the carbon market should be emphasized, and the specific rules of carbon trading should be studied in depth. On this basis, the specific lessons and experiences of China's carbon dioxide trading practice should be analyzed, so that the design of the carbon market can be better carried out. For the specific trading subjects, enterprises should be the specific trading subjects as far as possible. For the initial allocation of allowances, the historical emissions of enterprises should be fully considered, and this should be used as the basis for the joint efforts to issue free allowances for enterprises.

4. Conclusion

From a comprehensive point of view, in the process of promoting urban green development, we should pay attention to the implementation of greenhouse gas emission reduction policies. And the specific policy formulation link, to be able to carry out a scientific and comprehensive analysis of the actual situation, and the basis for the formulation of the corresponding policy. At the same time, the specific emission standards should be effectively strengthened and the corresponding financial policies should be improved. In addition, the corresponding regulatory mechanism should be improved, so that the emission reduction policy can be better implemented.

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