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Topic: What are the solutions to climate change?

[1] Guangzhou.

Background

Nowadays the climate change is becoming more and more serious. But with the prevalence of right-wing forces and trade protectionism around the world, more and more governments are deliberately ignoring these issues. Nations that have achieved considerable success in slowing down climate change are also facing constantly swinging policies, decreased government spending, and lower social recognition and awareness of related issues.[1] Finding new solutions to slow down, even reverse the trend of global warming is urgent. Also, it can not be neglect that new solutions should minimize their impact on economic growth, and use performance and efficiency to persuade the public and society that green energy and environmental protection can coexist with industrial upgrading and economic growth.

Applications

New energy vehicles are the best example in recent years. With the development of high energy density batteries such as hydrogen energy batteries[2], the advantages of electric vehicles are gradually emerging compared to traditional oil vehicles and organic power vehicles.

The advantages of fast acceleration, low noise, smooth movement, and better compatibility with intelligent software and hardware have made it possible for electric cars to replace gasoline cars in some countries. Although there is still a problem of rapid battery power loss in extremely cold regions[3], in the vast majority of countries, the only remaining issue for electric vehicles to replace oil vehicles is the deployment of charging stations.[4]

Another commendable technological development is drones, which have a wide range of applications in fields like forest prevention and control, fire detection and pesticide spraying. [5]In the past, these tasks required helicopters, but the combination of drones and remote sensing technology has improved the efficiency of emergency handling[6]. By analyzing multimodal information, it has reduced the waste emissions of heavy polluting special equipment such as helicopters and agricultural equipment when deployed. In addition, an increasingly rapid response time can curb the development of forest fires earlier and reduce greenhouse gas emissions caused by forest fires.

Aside from some specific technological advancements, some institutional innovations also contribute to the prevention of environmental changes. The most effective initiatives in recent years have been the introduction of carbon neutrality concepts and the implementation of carbon taxes. By increasing the cost of using heavy polluting energy sources such as traditional chemical energy, carbon pricing can force large enterprises to take on the social responsibility of energy transformation and climate change mitigation.[7] However, the effectiveness and efficiency of carbon pricing still require more data, successful examples and consideration. Excessive carbon pricing can lead to high production costs for companies and factories, causing them to escape abroad and the loss of domestic employment opportunities. This requires an international and authoritative organization to lead and gather consensus from all aspects. However, in the current trend of deepening anti globalization, any institutional innovations aimed at addressing climate change will be extra challenged.

Conclusion

In a word, against the backdrop of the rise of right-wing forces in various countries around the world, it is foreseeable that trade protectionism and overproduction will prevail. The institutional innovations in the past, such as the introduction and application of concepts like carbon neutrality and carbon pricing, have been effective in curbing climate change. But currently, these solutions will face challenges and additional scrutiny.

The solutions to address climate change in the future should also focus on solving practical issues related to production efficiency and cost. This will pose new challenges to materials science and applied chemistry.

3 AI Content Announcement

AI tools are used to polish the incorrect usage of vocabularies in this paper. Also AI tools are used to inspire me of the writing of the Carbon Pricing part, which I am not familiar with. But no direct usage of AI generated contents in this article.

Reference

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