A "Political, Economic and Social(PES)" Analysis of China's Decarbonisation Commitment in the Paris Agreement

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Abstract:

China is one of the biggest carbon emitters in the international society and is also the most significant carbon consumer worldwide. Given that China significantly relies on coal, oil and natural gas, the decarbonisation promises made by China in Paris Agreement seem challenging. It is what motivates China to make such a commitment? This article uses the PES model to see the incentives that encourage the Chinese government to make such a promise. From the political point of view, China's decarbonisation effort reflects President Xi's green development goal and proactive engagement in international environmental governance. For economics, decarbonisation provides the upgrade opportunity for domestic industries and creates more economical and trade benefits through green economic transfer. In addition, decarbonisation is also could be seen as a response to the shared concern on environmental issues in Chinese society.

Keywords:

Paris Agreement; Decarbonisation; China; PES

1.Introduction

China is one of the core countries that pushed the establishment of the Paris Agreement

in 2017, which is a milestone agreement in the global environmental governance attempt to tackle the climate change crisis. According to the National Determined Contributions (NDCs) of the Paris Agreement, China set its "Double Carbon Goals, DCGs (*shuangtan mubiao*)". The centrepiece of the DCGs is China's commitment to peak carbon emissions and reducing carbon dioxide emissions per unit of GDP by 60% from 2005 levels by 2030. China has also pledged to be carbon neutral by 2060.

Since the industrialisation era, the greenhouse gases (GHGs) emitted by humans have been the leading cause of global temperature rise and climate changes. The GHGs and its side-effects climate change have caused many environmental, political and socio-economical negative impacts on human beings. We need great movement in the decarbonisation of the world in order to avoid the disastrous consequences of climate change. The Paris Agreement is the most important achievement of the human self-rescue movements led by the International Panel on Climate Change (IPCC).

China, the world's largest producer and consumer of coal, consumes half of global coal production and is the biggest emitter of carbon emissions. (He, et al., 2020) China's DCGs commitment is ambitious but crucial to achieving global decarbonisation and the Paris agreement. However, China's heavy reliance on fossil fuels, especially coal, is the biggest obstacle to achieving its goals. In 2018, coal accounted for 60 % of China's primary energy consumption, creating 50 % of PM2.5 pollution and 70 % of carbon emissions. (IEA, 2019) China accounts for about 28.8% of global energy-related carbon emissions. (BP, 2020)

Under such difficult circumstances, what motivates the Chinese government to set this carbon commitment for China? This paper will adopt the PES (Political, Economic and Socio-cultural) model analysis method and combine documentary analysis of previous studies to analyse the motivation behind China's voluntary carbon reduction target set up under the framework of the Paris Agreement from the perspectives of politics, economy, and social culture.

2. Political Incentives: Xi's Environmental Policy and Diplomatic Image

First of all, China's decarbonisation commitments could be seen as the domestic political agenda and narrative spillover. The environmental issue is one of the flagship policy commitments of Xi's administration since he came into power. In 2012, the "ecological civilisation construction" strategy, part of the "great rejuvenation of the Chinese nation" narrative, was written into the 18th CPC National Congress report.

China has experienced rapid economic development and industrialisation since the reform and opening up, which has also caused severe environmental problems. Around 2010, large-scale smog caused by industrial emissions spread across the country, causing public health concerns and dissatisfaction. Attention to the environment from civil society has risen rapidly, and the public expects the government to refine the difficult situation. China has instituted a new environmental protection law and established a new Ministry of Ecology and Environment to fulfil the previous discoordination and vacancy at law and government levels. At the same time, China also set up a carbon emission trading mechanism, although it has not been widely promoted so far. These domestic political narratives and strategic policies provide the basis for China's international decarbonisation commitments.

Secondly, China's decarbonisation commitments show China's willingness to deliver proactive diplomatic participation in international affairs. China wants to play a more proactive role in global governance with the rise of China. (Xinhua, 2016) As the world's largest coal consumer and carbon emitter, China takes the lead in making commitments on carbon emissions, which is conducive to building a good image of a responsible country and setting an example of independent contribution for developing countries. (He, et al., 2020) China's commitments will also help spur more countries to set ambitious carbon reduction targets and plans based on NDCs principles. At the same time, some commentators see China's proactive moves as a response to opposition to environmental governance, including the Trump administration, which withdrew the US from the Paris Agreement. (Wagner, 2020) China's commitments help enhance its participation and image in global governance. (Hilton & Kerr, 2017)

To conclude, the political incentives for China's decarbonisation commitments are based

on the domestic “ecological civilisation construction” political agenda of Xi’s administration and China’s seeking of a proactive role in global governance with the rise of China.

3. Economic Incentives: A More Productive and Sustainable Economic Development

China’s decarbonisation commitments have strong economic incentives. On the one hand, decarbonisation can help China achieve sustainable economic growth and create new opportunities. On the other hand, the decarbonisation commitment will help China’s supply chain adapt to the new requirements of some regions or countries regarding the carbon neutrality of imported goods.

First, the commitment to carbon neutrality will help China’s economy grow more sustainably and promote technological advancement. Chinese DCGs will help China’s economy improve technologies and energy productivity. (Teng & Jotzo, 2014) China has established a carbon emissions trading mechanism that allows owners of carbon emissions to use market means to trade carbon emissions. The system encourages companies to reduce their total emissions and improve energy efficiency while leveraging the role of the market in carbon trading. In the quest for economic growth, China’s decarbonisation commitment requires Chinese companies and industry to continuously research new technologies to reduce carbon emissions while maintaining or improving existing efficiencies, enhancing total factor productivity. Studies have shown that increasing energy intensity by 1% can increase total factor productivity by 1.1%. (Ward, et al., 2012)

A study in Australia shows that the government could use the tax money from carbon trading to optimise the welfare system, helping low- and middle-income families to become richer. (Jotzo, 2012) Strengthening the social welfare system could help construct a more inclusive and sustainable social and economic development and create more social opportunities.

Secondly, as a large trading partner of many countries, China’s exports need to fulfil

different environmental policies of other countries and regions in imported goods. Europe has been a pioneer in environmental topics, and they have proposed the "fit for 55" EU green transition plan. The "Carbon border adjustment mechanism" policy in the "fit for 55" plan requires a strict standard on carbon emissions from imported goods entering the EU. Some high-emitting products may be subject to high carbon taxes. Research by the Boston Consulting Group suggests that the EU carbon tax could erode profits in some industries by as much as 40%. (Figures, et al., 2021) China's decarbonisation commitment will help stimulate local companies to reduce carbon emissions, cultivate them to adapt to global carbon emissions policies and minimise the impact on import and export development the import carbon taxes might cause.

Third, the rapid cost decline of other environmentally friendly energy technologies solutions offers an attractive alternative to fossil fuels over the past decade. Solar PV, wind and savings cell technologies have developed rapidly over the past decade, with their weighted electricity costs falling by up to 80%. (IRENA, 2019) One study suggests that if non-coal units generated 62% of China's electricity, prices for generating electricity would fall by 11%. (He, et al., 2020)

The economic incentives for Chinese decarbonisation commitment come from promoting domestic productive and sustainable economic development and compliance with different countries' environmental requirements for imported goods. Also, the other environmentally friendly energy solutions and lower costs provide incentives.

4. Social Incentives: Health Concerns to Carbon Emissions and Pollutions

The main social incentive for China's decarbonisation commitment comes from people's concern and dissatisfaction with the health problems caused by carbon emissions and pollution. Burning a ton of coal produces 2.6 tons of CO2, 10.7kg of PM2.5 and 10.2kg of SO2, which are harmful to the environment and human health. (Wang, 2020) A 2016 study found that 40% of the deadly PM2.5 particles in China's atmosphere come from coal-burning

emissions. In 2013, 155,000 deaths in China were linked to harmful gases generated by coal burning. In 2017, people died because the coal-burning number had increased to 750,000. Most of them are premature deaths. (Wong, 2016)

With the deepening of people's understanding of the relationship between the environment and health, the public's requirements for environmental quality are getting higher and higher. That requires reducing China's reliance on coal and other fossil fuels, which emit large amounts of greenhouse gases and harmful substances to human health. Therefore, people's concern about the environment and health has become a kind of expectation for environmental policy, which gives the Chinese government's commitment to decarbonisation ample social incentive.

5. Conclusion

China is the biggest coal-burning and carbon emitter in the world. It promised to peak the carbon emissions in 2030 and realise carbon neutrality in 2060. It is an ambitious goal for China to achieve according to its high reliance on coal and other fossil fuels. This article briefly uses the political, economic, and social (PES) model to analyse the incentives behind China's decarbonisation commitments. For the political aspect, Chinese decarbonisation has been based on the political agenda of the Xi administration since 2012. It is also an expression of China's willingness to be a proactive actor and leader in global environmental governance with the rise of China. As for the economic view, incentives come from the domestic seeking of sustainable and inclusive development, the need to fulfil the export markets' environmental policies, and the market and price motivation. Finally, the social concern on health problems caused by coal-burning and environmental pollution provides another incentive to implement decarbonisation.

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