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Energy Security Considerations Driven by Geography and Policy Regulation for China: European Best Practices

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Abstract

Climate change mitigation would continue to be the main driver towards the transformation of the existing global energy system. This pledge, in conjunction to natural necessity for energy security, shapes the playfield of modern energy policy, not excluding the energy policies of China and the EU. This manuscript provides a theoretical analysis of geography as it affects Chinese energy security, describes the contribution of EU as a “soft power” for Asia and analyses the regulation applied in the EU as best practice for China.

Keywords: Climate change, European Union, China, Energy regulation, Emissions Trading Scheme, Third Energy Package.

Introduction

Given the climate change is a global challenge without borders, each one of the major contributors to carbon emissions, China, EU, Russia and the US but also the rest of the world, maintain the legitimate concern of adequately equal participation to this effort. Otherwise, free riding could create obstacles in terms of motivation per se. This discussion has already taken place in the respective forums [1] but remains, to a certain degree, a valid argument for requesting states to take climate change mitigation actions, while always respecting their sovereignty.

Global geopolitics of energy affect climate change mitigation decisions. Energy production from indigenous resources, which could be carbon intensive, offers benefits in terms of energy security. Nevertheless, modern societies tend to differentiate themselves from environmental unfriendly supplies [2]. The climate change mitigation global need would eventually lead to increasingly stringent environmental policies.

These policies would probably disincentive the consumption of

carbon intensive coal to initially lighter hydrocarbons such as oil and gas. This could probably affect China, which is currently a major producer of domestic coal. Based on this assumption, a quantification of oil supplies projection in time for the global major consumers indicates that China could probably meet most of its domestic demand with imports [3].

If this is the case, these imports would arrive through land pipelines or the maritime route. The geographical position could introduce bottlenecks or challenges in energy transfers. As far as pipelines are concerned, EU has to offer a comprehensive approach in regulating their installation and operation. However, they remain a costly option with benefits on the regions without sea access or for purposes for diversification of energy supply. On the other hand, the sea route has specific advantages in terms of cost, flexibility and geography. Additionally, it operates under an open competitive global market with considerable reserves. Ships are able to transfer bulk amounts of energy at lower cost than pipelines. Given the availability of global fleet, they are able to ramp up transfers quickly if this is required by consumption. However, this situation antagonizes the interests of neighboring states who seek to have access to the same maritime routes [4].

Geographical Position: The emerging importance of South China Sea to Asian energy trade

South China Sea [5] is the marginal sea of the Pacific Ocean that spans across Malacca and Taiwan Straits. The Spratly Islands are hundreds small islands in South China Sea, which have a significant geostrategic position. They are originally not inhabited and most of them do not have native water resources. Their arable land is limited; they attract limited tourism and they have some fishing supplies. They are near important sea lines and it is estimated they reserve significant amounts of oil and gas.

China maintains an extensive industrial export basis along its eastern coast. These factories require a vast amount of energy to operate, part of which is imported in the form of oil or liquefied gas coming from the Middle East, Africa or produced regionally. Having mentioned the above, the importance of energy trade to keep this enormous production machine up and running is substantial. A considerable part of this energy crosses South China Sea and Spratly Islands. This is the base of the interest for China and the main incentive to be active in the region. However, this area is also claimed by the neighboring countries. Inevitably this situation creates behavioral complexities especially with the neighboring countries [6]. The above, to a certain degree, affect the energy security question under consideration.

Regulation: Asian reality, ASEAN and EU climate policies

The EU is the largest importer of energy, but China trends in increasing its imports. Based on this, Chinese policies could be benefited by the respective EU policies, especially when considering issues of energy security, which a matter widely debated in Europe. Nevertheless, in terms of bilateral relations, it appears that in the future, EU and China might be competing for the same resources.

As a matter of fact, this appears superficially to their bilateral relations. Europeans remain thoughtful for the way China is dealing with the developing rich in resources nations such as the oil exporting Africa. On the other hand, Chinese are misunderstanding the connection that Europeans make between energy security, human rights, and democratic values [7]. However, it has to be mentioned that communication initiatives are being implemented on governmental and industrial level, which will probably reduce the potential impact of these misperceptions.

“Soft power” is the main characteristic of EU’s foreign policy. The approach towards Asia as a whole remains pertinent to this principle. EU allocates funds to support the region financially and to provide humanitarian and development aid. The common understanding of Asian public perception appears to favor the European approach [8]. Nevertheless, individual European Member States are also defense equipment providers for Asia.

Based on the previous considerations, even though it’s not likely that EU would be a major “hard power” player in the region, the interconnections of the globalized economy and the already accepted soft approach provides incentives to the nations of the region for maintaining a behavioral pattern similar to the EU’s. However, the degree to which this behavior will shape Asian policy as a whole, remains to be detailed [9].

On one further step, the Association of Southeast Asian Nations (ASEAN) presents similarities to EU approach. For non-traditional security matters, including climate change, ASEAN could bear the responsibility of providing the forum on which the interested countries of the region are able to advance their common understanding on these issues [10]. China is not one of

the ten ASEAN member countries. Having mentioned the above, the bilateral relations of EU-ASEAN in conjunction to China remain an issue of paramount importance.

As far as the climate change policy is concerned, EU applied and tested policies that could be of the interest for Asia. Except from the already implemented feed-in-tariffs platform [11] in China, the European Emissions Trading Scheme (ETS) [12] and the provisions of the European Third Energy Package are policy initiatives that demonstrate significant value.

Emissions Trading Scheme is reluctantly applied to regions of China; however, it is more complicated for a centrally controlled economy to achieve on a country level the benefits meant for an open market system. As a matter of fact, ETS imposes “allowances” for permitting industry to emit greenhouse gases. The regulation authority requests that every carbon equivalent tone to have a price, which is defined based on the competition. Emitters have to bid at the ETS pool for certificates in a competitive manner. The most polluting industries require to pay more for these certificates, practically incentivizing them to reduce emissions through e.g. energy efficiency measures and use of renewables or nuclear energy. One of the direct benefits of having ETS certificates on an open market is the capability of the participants to express their ability to pay for carbon, instead of imposing an a priori fixed carbon cap price. This flexible mechanism is more palatable as a procedure to the stakeholders, increasing the effectiveness of the mechanism per se and better expressing the real capabilities of the society.

As far as the European affairs are concerned, it is observed that industries move to this direction, nevertheless, it has to be mentioned that the whole bucket of energy efficiency and climate change mitigation policies affected this trend. Another issue of concern is the low “allowances” price that has been achieved up to now, mostly caused by a tremendous quantity of free certificates. Having this said, maybe the real incentive created from ETS can be further enhanced through reducing the available carbon emission allowances in the market. ETS for China, which is mostly a controlled energy priced is a complicated exercise in order for this mechanism to be effective and consequently better fitted to the Asian country societal requirements.

The Third Energy package, as the fundamental legal framework in regulating the transportation of hydrocarbons in Europe, is based on the principles of unrestrictive access to facilities and unbundling [13,14]. According to this, the primary holders of energy are expected to offer it openly and transparently. As an additional safeguard towards preferential allocation of capacity, the operators of the transportation systems have to be administratively unconnected from the suppliers. This mechanism is widely defined under the term ownership unbundling.

In this case, all the major consumers have direct access to the facilities; this eventually would be translated to their optimal operation since the preferential treatment that increases prices

is prohibited. Additionally, the Emissions Trading Scheme enhances the capability to transfer in the market a valued importance of the environment. It has to be mentioned though, that all these principles, theoretically, could be met applying effective control to state owned assets but it is more complicated to achieve them if the assets are owned by the exporter who by definition is incentivized to increase its political or financial profit.

Discussion and Conclusion

The plans of the Chinese government to meet the needs of the energy consumption, require to build new infrastructure such as power stations, pipelines or terminal stations and regulate their operation. As well as, the country needs to create incentives in order to be able to smoothly regulate carbon emissions and improve the smoke problem at the major cities. All the above need to implement respecting issues of energy security in transferring energy from the energy producing regions. To which degree the European approach could be beneficial to this exercise is a question that remains to be answered. Our future work would further elaborate in these questions and provide more robust simulated solutions to tackle these challenges.

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