

Impacts of China Energy Security Strategy Implementation on Vietnam⁽¹⁾

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Abstract: China's implementation of energy security strategy in recent years has been one part of developing national comprehensive strategies to ensure the country's dynamic but stable progress. This activity has been affecting the energy market, the global and regional security environment including neighboring countries and Vietnam in many aspects. The paper aims at analyzing: 1) Some issues of Vietnam energy security in relation to Chinese energy security; 2) The impact of China's energy security strategy implementation on Vietnam. In addition, Vietnam may get a new approach to promote its energy sector.

Key words: Vietnam, China, energy security.

Energy security is dynamic, uncertain and risky. It is no longer a national problem, but also a matter of global economic security. Global energy prices affect every corner of the world economy. Due to global diversity and complex factors influencing energy security, China has only implemented it through the relative balance between geopolitical power, soft power and hard power. That means China cannot rely solely on energy consumption policy in a narrow sense to deal with its domestic energy shortages. Instead, the energy security of China requires the integration of energy policy with macroeconomic, fiscal, monetary and foreign policies, as well as international cooperation in energy security. In the light of new perspectives on energy security of China, one of energy security goals is to dominate foreign energy markets, establish and strengthen the position of China to make its partners become more reliance on it.

Thus, China recently implementation on energy security have multi-dimension impact and influence to the global, the regional energy market and security environment including Vietnam. To fully understand the impacts and influences of China's implementation on strategy for energy security to Vietnam, we need to assess some key issues of Vietnam energy security.

First, Vietnam has been short of energy seriously, and this will continue. With current economic, population growth, and particularly urbanization acceleration, the total energy sources are not sufficient. Coal provides only about 12,000 MW, equivalent to 72 billion kW/ h per year to 2025 - 2030. Gas resources in the offshore petroleum rigs are just enough for gas power plants to produce more than 100 billion kWh/year

⁽¹⁾ This research paper is funded by Vietnam National for Science and Technology Development (NAFOSTED).

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and approximate 3-5% of the required gas supply for other industrial users. Potential crude oil will soon reach the ceiling (about 17 to 18 million tons/year) and decline gradually after 2015. Vietnam hydropower resources can produce from 65 to 70 billion kWh annually.

Experts predict three scenarios for Vietnam's electricity consumption by 2030. The minimum scenario is that by 2030, Vietnam will consume about 225 TW/h of electricity, while the medium scenario forecasts 250 TW/h, and the maximum scenario expects 325 TW/h electricity shortages (Đoàn Văn Bình, 2013). There are three reasons for power shortage: First, the demand for electricity is growing so fast; second, Vietnamese hydropower is too much depended on while hydropower production levels fall in the dry season, in case drought occurs long there will be a shortage of water for the plants to produce electricity. Third, Vietnam can hardly increase electricity production in critical circumstances.

Thảo Nguyên (2013) estimated that primary energy demand of Vietnam in 2030 would be over 250 million tons of oil equivalence (TOE), increased 5 times compared to 2009. Energy from hydroelectric sources will reach maximum in this decade, while Vietnam fossil energy sources are limited and it had to import coal for power generation from 2011, instead of 2015 as expected.

Second, Vietnam's energy system is not balanced. Currently, the main energy source is largely dependent on coal. Power structure in Vietnam is about 60% thermal power, hydropower followed by about 40%. Electricity

sector expects in 2020, hydropower will decrease to 28.5%, thermal power will be 56.9% and imported power from other countries will account for 5.8%. According to Vietfuji 2013, structure of electricity consumption in Vietnam is unbalanced: industry and architecture consumption accounts for 51%; Living 40%; commerce and services 5%; agriculture, fisheries and the remaining 1% to 3%.

Third, Vietnam energy lacks necessary investment. First of all, that relates to the legal framework and standards. Although Vietnam has promulgated several official documents on energy issues, they are neither synchronized nor consistent with international practice. The basic and renewable energy sources have not received attention it deserves as well as the appropriate evaluation. Capital investment in the energy sector has not fully met; the energy balance between the North, the Central and South is still not synchronized. Besides, energy trading companies are slow to reform and lack of integration.

Some of the challenges in the implementation of strategic energy security of Vietnam in the coming time is that its supply may be cut suddenly which prompts steep cost increase to shock, damage, even paralyze national economic activity and daily life. This is the main threat to Vietnam's energy security. This relates to some fundamental areas such as: a) Vietnam's crude oil resources are running out. In the coming years, if Vietnam cannot find new wells, the currently producing wells will not meet the total Vietnam demand for consumption; b) Vietnam energy market structure is

unsustainable; c) Vietnam fuel market is inefficiency and d) the investment strategy for Vietnam's energy is not based on economic efficiency.

Some specific energy security issues include: a) electricity supply security. Despite the amount Vietnam's power plants produce in accordance with their design capacity, they do not meet the increasing power needs. Dependence on the thermal power plants and hydropower particularly in changing conditions is more of a dilemma. In the summer, many Vietnam hydropower plants can only guarantee more than half of design capacity due to lack of water. b) fuel and oil security is not sustainable. To date, Vietnam current program sets to reserve 1 million liters of oil, equals to the consumption of fuel oil in 30 days. Despite ensuring this goal, the strategic oil reserves will not be enough to stabilize the domestic economy at normal time, it is worse if the world faces oil crisis.

The major causes making Vietnam energy security unstable are: a) the low performance of the energy sector; b) uneconomical and inefficient energy consumption; c) higher energy and electricity intensity than average of the world; d) low production efficiency and access to markets; e) high costs of extraction, transformation, transmission and distribution due to obsolete technology and inadequate management; f) energy prices do not accurately reflect production input and distribution of energy products; g) investment in energy development has not met expectations; h) many projects do not progress, etc.

2. Impact of China's implementation of energy security strategy on Vietnam

2.1. Positive impacts

Thanks to China's strengthening energy market abroad, Vietnam has enlisted some certain Chinese capital and technology to develop its energy sector. However, in the long term, Vietnam should not rely too much on Chinese funding and technology. China has been a consumer of Vietnamese energy products, and some lessons and experience of China in the process of implementing energy security strategy may be useful for Vietnam. To produce enough energy, Vietnam should not just stop at the "strategic" or "planned" at the macro level, rather it needs to have specific regulations, targets and actual implementation in different areas, at different time as China once did.

Vietnam must prioritize energy savings and sets it a key, long term objective that all industry levels, agencies and people have to implement. Communication and education to save energy should be applied to all people, initially for the industry consumes large energy such as industrial bulk, transportation, etc. The implementation of energy saving must be executed from there. Vietnam should have standards and specific institutions for industries and enterprises producing and using energy resources in order to redress the environmental pollution. We must gradually diversify energy sources, restructure fuel energy sources, use local advantages and developing renewable energy sources, new energy.

2.2. Some negative influences

2.2.1. Political impact

Due to energy shortage, China has tried to get energy resources, especially oil and gas. Seeing any possibility of exploiting this resource anywhere, China will attempt to get it at any price, by any method. The issue of the East Sea is a good example. In April 2012, the US Energy Information Administration (EIA) estimated that oil and gas reserved in the East Sea were about 11 billion barrels of oil and 190 trillion cubic feet (about 5,400 billion cubic meters) of natural gas (Peng Guangqian and Yao Youzhi, 2005: 441). According to Thanh niên Newspaper (2012), China claims to have found natural hydrate in the North of East Sea since 2007, with estimated reserves are 19.4 billion m³.

Other Chinese studies estimated that the East Sea had more than 200 oil and gas structures with about 180 oil and gas fields and nearly 20 billion tons of crude oil, one of the areas with the largest oil reserves in the world. To date, the factual reserves of fuel resources in the East Sea have not been verified. However, China has always considered implementing its energy security strategy in this place. Exploitation of energy resources in the East Sea is China's excuse to mount implementing energy security strategy with political issues, resolve internal conflicts by turning hard parts to the world.

Foreign researchers conclude that Chinese Communist Party's maritime policy is not only to make hegemony roads and fish in the sea but also to capture the entire oil gas resources under the seabed. That China uses domestic fuel consumption shortages tied to unverified fuel reserves in the East Sea has

resulted in strained Vietnam-China political relations, triggered tensions in bilateral relations, and caused difficult for Vietnam in its relations with some countries in the region.

2.2.2. Economic impact

The energy sector is one of China's big advantages compared to Vietnam. Like China, Vietnam currently has energy shortages which results in more power plants, including hydropower are almost built by Chinese corporations. China has more capital, and experience bidding in Vietnam with the fact that many Chinese energy companies won bidding contracts in many thermal and hydropower projects in Vietnam. In the past 10 years, Chinese bidders have always won biddings of power projects, construction, fertilizer, chemicals. For example, Chinese contractors won bids for 13 thermal power projects, accounting for nearly 30% of total electricity capacity.

According to Vietnam National Coal - Mineral Industries Group (VINACOMIN), out of 7 coal power plants under management of VINACOMIN, 4 EPC (Engineering – Procurement – Construction) packages receive international bidders (and three Chinese, one Japanese contractors won), 2 packages awarded to Chinese bidders directly and one limited bidding among Chinese contractors. Thus, Chinese contractors won 6/7 coal power plant contracts under VINACOMIN. The situation of Vietnam hydropower projects is somewhat similar to thermal power projects.

Chinese power companies have economic contracts with Vietnam hydropower plants such as Lai Châu, La Hông, the Sông Bung

4, Dakr'tih and some other plants. Chinese enterprises earn huge economic benefits when they win the bidding, and it is believed that Chinese contractors have potential to win 50% in the construction package.

Apart from any implication, the factual economic benefits from winning the bidding and implementing electricity projects come to Chinese sides. Vietnam electricity companies losses when planning and implementing power projects, including projects located in key regions of Vietnam. China also gains benefits as an importer of raw minerals including coal and crude oil from Vietnam - China energy relation.

In 2011 and 2012, China was Vietnam's largest coal export market. In 2012, China imported around 80% Vietnam coal. Coal exports to this market reached 1.56 million tons in November 2012 with an approximate turnover of 95 million USD excluding unofficial import (Pvcoal, 2013). Either official or unofficial commercial trade, China's coal import corporations gain significant profits. Coal imported from Vietnam is much cheaper than transporting it from the west to the eastern and the coastal region of China.

China is also the largest customer of Vietnam's crude oil. In the first quarter 2010, China imported 265.3 thousand tons of crude oil from Vietnam. In November 2011, Vietnam's crude oil export to China reached 1.2 million tons with a turnover of 984.7 million US dollars. In the period from January to October 2012, Vietnam exported 7.8 million tons of crude oil, of which 1.13 million tons were exported to China, accounting for 14.5%.

In certain difficult economic conditions, Chinese technology and capital may help Vietnam get temporary benefits in several energy projects. However, in the middle and long term, this makes Vietnam's energy sector in particular and Vietnam in general depend too much on China. China's new energy security strategies are to master foreign energy markets and make its partners more dependent on China.

2.2.3. Environment and security impacts *Environment impact*

China has the advantage of terrain of upstream rivers that flow into Vietnam. Upstream Mekong River (The Lancang River) is in China, where it has built numerous dams, hydropower plants and reservoirs. Among them were the Manwan Hydropower Station (126 meters high, 1.500MW capacity, completed in 1993) and Dachaoshan Dam (118 meter high, 1.340MW capacity, completed in 2003), Xiaowan Dam (292m high, 4.200MW capacity (just after Three Gorges Dam on the Yangtze River), Jinghong Dam (107 meter high, 1.500MW capacity). There are four major dams in Yunnan, and the biggest is Nuozhadu Dam (5.500MW capacity, 22,740 million m³ reservoir capacity).

These dams are having negative impacts on the environment and security of Vietnam. Although upstream accounts only about 25% of the total water flow in the Mekong River, but Xiaowan dam will greatly affects the flow downstream. Changes in water flow will of course affect fertility levels among fish, such as large catfish and freshwater dolphins spawn in the Tonle Sap (Great Lake), Cambodia in flood season,

and swim upstream in Laos. Moreover, a too big Xiaowan reservoir will retain a lot of river silt which affects downstream. Mekong River delta often receives quite a lot sediment and water. With less water, sediment will fall and the sea can encroach into the Mekong River basin downstream. Similar to the Mekong River, the Red River and the Black River in Vietnam also suffer the same fate.

Low water flow seriously affects electricity production of Hòa Bình and Sơn La hydroelectric plants of Vietnam as well as people living on both sides of the two rivers. "The China hydropower plants have profoundly altered the water flow in Vietnam, worsening water shortages in the dry season on the rivers."

Vietnam and the Lower Mekong countries of the Mekong River Commission want China to cooperate in solving problems related to the exploitation of the river, including fishing capacity, but China refused to participate.

Security impact

China projects of thermal, gas and hydropower plants in Vietnam raise security issues. First, many of these projects are in the key areas of Vietnam, and many Chinese workers illegally immigrate to work there. Second, Chinese workers in many projects in Vietnam cause insecurity where they work. Ambitious Chinese petroleum negatively impacts the security and sovereignty of Vietnam in the East Sea.

China repeatedly opposed the project of joint development between Vietnam and foreign oil companies to exploit oil and gas

fields in waters under Vietnam sovereignty. China cut cables of the oil exploration ship of Vietnam (Bình Minh II ship on May 26th 2011; Viking II, on June 9th 2011) while these vessels were conducting normal economic activities in the territorial waters of Vietnam. In June 2012, China blatantly invited foreign contractors to exploit 9 petroleum blocks located in the waters of Vietnam. The world considered this action the conspiracy to monopolize the East Sea, once again China absurdly declared its shaped line sovereignty in the area.

In May 2014, China unilaterally, illegally put HD - 981 rig in the exclusive economic zone of Vietnam. Moreover, China also mobilized 80 vessels including warships with the excuse of protecting the rig which created tension in the waters of Vietnam. All China actions above are the security concerns for East Asia, the East Sea and directly affect the security and sovereignty of Vietnam.

Conclusion

In recent years, China has had a new approach to energy security. Accordingly, the energy security of China can only be done through a relative balance between geopolitical power, soft power and hard power. Implementation of energy security requires integrate energy policy with macroeconomic, fiscal, monetary, foreign policy and international energy security cooperation to ensure stable energy supply from outside China. Another objective of energy security was to establish, consolidate and strengthen China's position in relations with the countries concerned. Therefore, in

the implementation process, China has had much impact on the world and Vietnam.

Some Chinese experience and lessons on building viewpoints, content and policy to implement energy security such as energy saving, optimization and diversification of energy resources may have a positive impact to Vietnam. While Vietnam still has economic difficulties, it may benefit from Chinese capital and energy technology investment. However, the implementation of China's energy security in recent years has had many negative impacts on Vietnam energy and national sovereignty. They affect a significant number of areas, including politics, economy, environment and security. The negative impacts of China's implementation of energy security to Vietnam cause difficulties for Vietnam in economic development and protection its territorial sovereignty. However, damaging Vietnam also causes major difficulties for China. The image of a peaceful development China conducting a policy of "harmonious world", "harmonious Asia", "world peace", "Asia peace" in the eyes of the world is seriously hammered.

It requires both sides actively seek appropriate solutions to overcome this negative impact. The most important thing is to adhere to laws of the market, respecting the norms of international law and recognizing the implementation of energy security in many countries.

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