



Taiwan's Energy Dependence and the Securitization of SLOCs

By Serafettin Yilmaz / *Issue Briefings*, 6 / 2015

Almost entirely dependent on imported energy resources, the securitization of sea lines of communication in the South China Sea is a critical aspect of Taiwan's energy security.

While recent scholarship on energy security in Asia has focused on major consumers such as China and Japan, only scant attention has been paid to Taiwan in spite of the fact that Taiwan is as much import-dependent as Northeast Asia's other economic heavyweights. This essay offers a brief analysis of Taiwan's energy security in the South China Sea. It first attempts to construct a framework for the concepts of energy security and securitization of energy policy. It then examines Taiwan's strategic reliance on Middle Eastern hydrocarbon resources. Finally, it looks into the issue of sea lines of communication (SLOCs) in the South China Sea through which most of the resources Taiwan acquires is transported.



Energy Security and Securitization of Energy Policy

With the advent of mechanical production and motorized transportation, hydrocarbon resources have become the staple source of sustainable industrial growth. However, the uneven geographic distribution of resources and disparate levels of economic development have created unbalanced relationships (import and export dependencies) between consumers and suppliers, which, from the late 1960s, led to the emergence of the concept of energy security. As the debate intensified alongside dramatic geopolitical changes across the globe, various scholarly approaches to the notion emerged.

The idea of security involves three broad aspects: The first is whether it is real or perceived. Being a relative, therefore interpretative concept, a situation can be perceived differently by different actors. In some cases, the action taken by one side to reinforce its feeling of security might result in the deterioration of the other side's perception of its own well-being. For instance, in the case of oil, what is considered to be conducive to an increase of financial security by supply side (e.g., price increases due to global shocks) can be seen as a security issue by the demand side.

The second aspect involves the question of the level of response to the perceived security threat. As far as energy



policy is concerned, the level could involve an individual or collection of individuals, market forces, or a state or collection of states. In most cases, all three components are involved in one way or another. Nonetheless, the nature and the outcome of the strategy are largely determined by the level of participation.

Thus, depending on the actor, analysis of energy security can be conducted from a national, institutional or societal perspective. When energy security is considered a domain of high politics in which states are the main players (primarily because energy dependency is firmly attached to geopolitics), then one can speak of securitization. Securitization of energy policy is therefore the sum of a complex set of variables that determine the way nations shape and manage their energy strategy.

Generally speaking, securitization comes as a result of the interplay among three factors. The first is dependency, which is defined as the presence of a discrepancy between national production and consumption. Hydrocarbon resources are distributed unevenly across the globe. Oil and natural gas in particular are concentrated in some geographical areas while relatively scarce in others. Relativity arises from the fact that dependency is also a factor of the amount of national



consumption in proportion to production. Major industrial nations such as China and the US have significant domestic production of these resources. However, since total demand exceeds total production, they are considered dependent. For example, in 2014, [China's crude oil](#) production reached over 4 million barrels per day (b/d), whereas it consumed over 11 million b/d. For the U.S., the [ratio of production to consumption](#) was 13 million b/d to 18 million b/d.

The second factor is geopolitics. The geography of energy resources involves their physical distribution, transportation, and utilization and has three critical components: physical structures such as refineries; transportation structures such as pipelines, tankers, and railways; and storage structures such as oil tanks and silos. Politics, on the other hand, involves state-level or state-led interactions, including negotiation, regulation, supervision, and management of the acquisition, allocation, and use of energy resources.

The last aspect is the nature of response to the perceived internal and external energy security challenges. Internally, any development that affects the quantity and reliability of indigenous energy supplies creates concern. Among those are geography (the physical location of the resources), level of technology, efficiency, and political effectiveness. Externally,



all factors that affect the availability of energy supplies lead concerned parties to implement relevant measures in response. Among those factors are military interventions or internal political, social, or economic disorder in resource-exporting countries; terrorism and piracy; security of the maritime and overland routes; and natural disasters. Depending on the primary actor, the nature of response varies.

In general, if national security is analyzed under three categories, namely, social, cultural and political; economic; and military, the response to energy security cuts across all three categories. Then, viewed from demand side and at the state level, energy security may be [defined as the sum of the strategies proposed by the state](#) for the uninterrupted provision of a reliable and adequate supply of resources at reasonable prices. The question of the provision of uninterrupted supply, doubtlessly, includes handling the risks related to the security of the SLOCs.

Taiwan's Energy Structure

According to the [Energy Statistics Handbook 2011](#), Taiwan's total energy consumption has grown from over 300 million barrels equivalent of oil in 1991 to 700 million barrels in 2011, registering an average growth of 3.78% annually. As of 2011, the energy and industrial sectors consumed over 45% of the



total, whereas transportation, services and residential sectors accounted for 12%, 11%, and 11%, respectively. Compared to 1991, only two sectors' shares (industry and services) have increased whereas energy intensity in the agricultural, residential, and transportation sectors decreased. In 2014, coal and coal products contributed 8.33% of total consumption of [energy in Taiwan](#), which was a 6.98% decrease compared to 2013; petroleum and natural gas products constituted 38.54% and 3.22%, respectively, which represented a slight increase of 0.33% and 0.09%. Solar, thermal, and other renewables, constituted 0.10%, a decrease of 0.59% over the previous year.

Dominated by conventional resources, Taiwan's energy mix has not changed significantly over the past two decades. [In 2014](#), oil accounted for over 48% of the total energy consumed, followed by coal (30%), natural gas (12%), nuclear (8%), and other renewables. As Taiwan's indigenous energy resources are quite limited, almost all of the hydrocarbon resources are imported. In 2011, coal consumption reached 64.79 million metric tons. As of 2011, coal is no longer produced in Taiwan, so all of it is imported. Annual oil consumption has grown from 188 million barrels per (b/y) year in 1991 to 280 million b/y, over 99% of which was imported. Natural gas consumption has grown somewhat moderately: From 1,340 million cubic meters



in 1991 to 1,499 million in 2011. Domestic production of natural gas declined from 987 million cubic meters in 1991 to 330 million in 2011.

From the perspective of high politics, of the three conventional energy resources, crude oil is the most important due to the fact that over 80% of it comes from the Middle East. Indeed, while Indonesia and Australia provide almost 80% of Taiwan's coal supply and about half of the natural gas came from Malaysia, Indonesia and Australia, over 80% of the crude oil is acquired from five Middle Eastern countries: Saudi Arabia (33.8%), Kuwait (23.1), the UAE (6.0%), Iran (3.8%), Iraq (2.8%) and Oman (1.4%). In this respect, Taiwan's energy dependency pattern is similar to that of Japan; in 2011, Taiwan's rate of dependency on foreign energy stood at 97.68%, slightly higher than that of Japan (96%).

The structure of Taiwan's energy acquisition suggests a heavy reliance on hydrocarbon resources with oil accounting for more than coal and natural gas combined. The majority of the oil and, to a lesser degree, natural gas, comes from the Middle East via maritime routes that include the Malacca Strait and the South China Sea. Therefore, stability and security in the region remains a top concern for Taipei given that, first, it has a rather imbalanced ratio of hydrocarbon production to



consumption, and second, a bulk of the imported energy resources pass through the chokepoints in the conflict-prone South China Sea.

Geopolitics of Taiwan's Energy Security

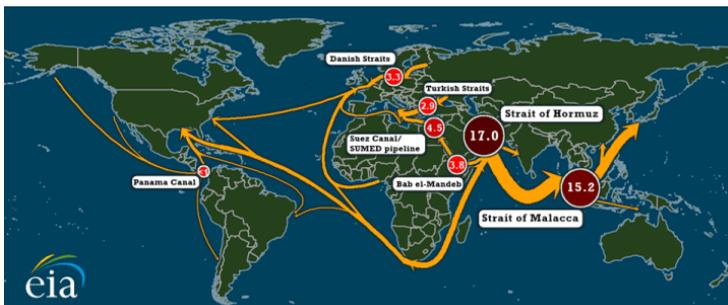
Chokepoints are narrow channels located along the most widely used sea lanes. The Energy Information Administration (EIA) identifies seven oil transit passageways. Among those, the Gulf of Hormuz and the Strait of Malacca are the busiest, having the highest volume of daily oil flow. [In 2014](#), 17 and 15.2 million b/d of oil was transported via the Gulf of Hormuz (17% of oil traded worldwide) and the Strait of Malacca (15% of oil traded worldwide), respectively.

“Linking the Indian and Pacific Oceans,” the Strait of Malacca offers “the [shortest sea route between the Middle East and growing Asian markets](#).” The narrowest point in the Phillips Channel of the Singapore Strait is merely 1.7 miles wide, which creates “a natural bottleneck, as well as potential for collisions, grounding, or oil spills.” The region has also been a busy theater for non-traditional security challenges such as piracy and theft. More recently, the growing tension among a number of sea-bordering nations about sovereignty over sea features and lines of demarcation along with increasing extra-



regional interference has resulted in a considerable deterioration of intra-regional relations.

In this volatile geopolitical environment, major countries have been working on strategic alternatives. For instance, [Japan has for long sought](#) an agreement with Russia for an oil pipeline from the north although the prospects of its realization remain slim. China, in addition to establishing strong overland and maritime energy ties with [Russia and other Central Asian countries](#), has put into use the parallel [oil and gas pipelines in Myanmar](#), bypassing the Strait of Malacca. Still, even at full capacity, the pipelines would carry only a fraction of the oil and natural gas that reaches China via sea.



All estimates in million barrels per day. Includes crude oil and petroleum products. Based on 2013 data.

Source: U.S. Energy Information Administration, 2012.

Taiwan, on the other hand, lacks the energy hinterland of China or Japan and is entirely reliant on seaborne trade for the



provision of imported sources. Therefore, it is not only energy-dependent but also remains relatively more vulnerable to major disruptions to the flow of resources along sea routes, including the Strait of Malacca and South China Sea. This renders Taiwan's energy security a matter of high politics, effectively entitling Taipei to play a major role in the design, guidance, execution, and assessment of energy strategy.

A crucial aspect of this policy involves ensuring freedom of navigation in the South China Sea. Indeed, given that imported energy is indispensable for Taiwan, where industry makes up of 35% of the total economy and over 30% of its GDP, the freedom of navigation issue is a critical security concern. However, Taiwan's military presence across the major oil routes and the strategic chokepoints in the South China Sea is limited, although this could change in the future as Taiwan continues with the [development of Taiping \(Itu Aba\) Island](#), the only territory it holds in the Spratlys. Also, being a party to and a stakeholder in the existing territorial disputes in the region, Taiwan could be forced to interfere in a future flare-up among the claimants. Furthermore, in addition to conventional challenges, non-traditional security issues might impact the free flow of energy, as well. For one thing, in the Strait of Malacca, piracy is still a greater concern. In fact, "the number



of [pirate attacks in the \[Malacca Strait\] region](#) still ranks highly as compared with the world's other important waterways.”

An armed conflict in the region due to sovereignty-related maritime disputes or EEZ violations might directly or indirectly affect the security and safety of the flow of energy resources to Taiwan. The absence of considerable naval presence in the South China Sea and the over-reliance on energy imports from the Middle East leave Taipei vulnerable to maritime trade disruptions, including trade in oil and natural gas.

Thus, the case of Taiwan fits into the securitization framework as, among others, the tenuous situation in the South China Sea exposes the country to energy procurement risks. For Taiwan, hydrocarbon resources are still the single most important type of energy and the Middle East remains a significant source of imports. Taiwan's energy strategy, for this reason, has to be forward-looking, proactive in ensuring the safety and security of its maritime energy trade, and diversification-oriented. Although the likelihood for a major disruption of trade in the South China Sea due to an armed conflict among major disputants is low, diversification of energy sources, such as pursuing surveying partnership options with Russia, could help Taiwan ease its Malacca dilemma.



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