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# The Asian Super Grid in Northeast Asia and China's Belt and Road Initiative

*Gaye Christoffersen*

## Introduction

In April 2015 China became the world's largest oil importer, and its domestic energy un-governed spaces became a problem for world oil markets due to opaqueness and unpredictability. A Chinese analyst warned that China could become a 'Black Energy Swan' capable of sudden, unexpected black swan events in the world oil economy as long as it was forced to operate under the West's global governance system. If China had a larger role in global energy governance, it might evolve into a 'White Energy Swan', leading to China becoming more transparent, responsible, predictable, and following international rules and practices (Xu Xiaojie, 2011). The main characteristic of the current system's world oil market that Chinese energy planners disliked was its uncertainty, volatility, and competition.

The world debates whether China is intent or not on restructuring global governance and overturning the US-led liberal world order. In fact, China has indicated it would like to restructure global energy governance, creating a global energy regime according to Chinese rules rather than those organizations created by the West such as the International Energy Agency (IEA).

At present, China as the world's largest oil importer has influence over the world oil market as oil exporters seek Chinese markets and investment. Beijing, determined to have a role in global energy governance commensurate with its oil importer status, has increased China's governance role in Western institutions such as the International Energy Agency, shaping the organization from within. However, Western institutions pressure China to reform, become more market oriented, and strengthen its capacity for domestic energy governance.

Rather than reform domestically, China has attempted to create an alternative global energy order within the Belt & Road Initiative (BRI), creating a system of energy producers exporting directly to China through bilateral agreements, outside the world oil market and

beyond the reach of Western countries. BRI is motivated by anxiety over dependence on the world oil market. It is a strategy to secure and withdraw oil and gas resources from the world oil market leaving China no serious competition from the market or other non-market arrangements (Christoffersen 2016b).

Some Chinese analysts argued for constructing alternative energy governance structures through organizations that the West was not a member--the BRICS, the Shanghai Cooperation Organization (SCO) with eight members, and ASEAN Plus Three (10 members of the Association of Southeast Asian Nations plus China, Japan and South Korea). Some of the SCO countries are energy exporters to China. ASEAN Plus Three countries have a longer history of energy cooperation. These organizations could then be drawn into the BRI. President Xi Jinping in 2018 tried to pull the SCO into the BRI but met opposition from India and therefore did not have a consensus in the SCO. The October 12, 2018 *SCO Joint Communique* listed the six countries who did reaffirm their support for the BRI but did not indicate that SCO would be subsumed under the BRI. The Communique indicated support for cooperation on renewable energy projects and construction of energy infrastructure facilities.

Northeast Asian countries resist total incorporation into the BRI while demonstrating interest in profiting from it. Northeast Asian countries prefer to search for a regional multilateral regime. There have been many Northeast Asian energy initiatives in the past three decades each initiative was promoted by one country hoping to take the leadership position. All failed as other countries resisted. Chinese were observers in these initiatives and participated in them without enthusiastically supporting them. Chinese presentations were often on China's bilateral energy cooperation (Christoffersen 2016a).

In the early 1990s, China promoted the Tumen River Development Programme through collaboration with the UN Development Programme (UNDP) as an initiative that could form a Northeast Asian regime with Beijing leading. Japan and the US did not participate. Local Russians in the Russian Far East were initially opposed to it. This regional initiative assumed a regional division of labour: Russian oil and gas, Chinese labour, and Japanese investment and technology. Until 2009, when North Korea withdrew its participation, the Tumen project included China, Russia, both Koreas and Mongolia. The Tumen project is now known as the Greater Tumen Initiative (GTI). The GTI Strategic Action Plan 2006–2015, included regional energy cooperation. GTI's Energy Working Group met most recently on November 2, 2018 in Ulaan Baator.

Chinese continue to promote some of the Tumen project's concepts such as China's Northeast and Russia's Far East should economically integrate, and Russia should be an exporter of raw materials for China's industrialization. Russia has never accepted this role although it becomes more dependent on oil and gas exports to China (Christoffersen 2018a).

In 2018, Beijing promotes BRI which undermines formation of a multilateral Northeast Asian energy regime. Beijing also participates in several Northeast Asian energy projects. The Northeast Asian Super grid is a good example. This paper examines the Northeast Asian Super grid, China's participation in it, and China's promotion of energy relations within the BRI.

## Asian Super grid

Since the end of the Cold War, various proposals have emerged for cross-border energy infrastructure including oil and gas pipelines and regional electricity grids. Beijing and Moscow initiated oil pipeline discussions in 1993. Russia and South Korea proposed the Vostok gas pipeline project in the early 1990s, a gas pipeline from Vladivostok to South Korea transiting North Korea. Visions of regional power grids have been discussed since then (Yun and Zhang 2005).

Japan has taken a leadership role in a Northeast Asian electricity grid based on renewable energy. The concept of the Asian Super Grid was announced in 2012 by Softbank CEO Son Masayoshi, a project of his Japan Renewable Energy Foundation (renamed as Renewable Energy Institute ), in the post-Fukushima shift in Japan toward renewable energy. Mongolia's Gobi Desert would be the site of a giant wind farm that would feed a regional grid linking Mongolia with high voltage direct current (HVDC) transmission lines to Japan, South Korea, China and Russia. SB Renewables formed a joint venture with Mongolia's Newcom (Matthews 2012). It would be a smart grid using IT to manage fluctuating power supply with fluctuating demand, promoting free trade in clean electric power.

In 2014, Mongolia and Gobitech hosted a forum and issued a report on forming a regional grid, the "International Symposium: Roadmap to Asia Super Grid." The partners in Gobitech are Energy Charter Secretariat (ECS), Energy Economics Institute of the Republic Of Korea (KEEI), Energy Systems Institute of the Russian Federation (ESI), Ministry of Energy of Mongolia (MOE), and Japan Renewable Energy Foundation (JREF). Mongolia has numerous Soviet-era power plants, coal-fired and inefficient. Gobitech promotes clean energy production in the Gobi Desert for transmission on a regional grid. Russia's Irkutsk would supply hydropower from the North. Gobitech's vision is Mongolia and Russia exporting clean energy power to Shanghai, Seoul and Tokyo (Renewable Energy Institute, 2014).

KEEI was a partner in the 2014 report. Korea Electric Power Corporation (KEPCO), which dominates South Korea's electricity industry, supported regional cooperation. KEPCO had presented its vision of a regional Super grid in 2014. In 2016, the Asia International Grid Connection Study Group formed and KEPCO joined.

Gobitech promotes a legal framework, Energy Charter Treaty (ECT), in order to protect intellectual property rights, attract investment, and maintain a reliable transit regime. Because of cross-border energy infrastructure, cooperation was needed from international organizations and financial institutions--APEC, ESCAP, International Renewable Energy Agency (IRENA), the EC and ADB.

Gobitech recommends forming a Northeast Asian communications platform for consultations, a multilateral energy regime, and has suggested utilizing a framework similar to South Korea's intergovernmental collaborative mechanism on cooperation in Northeast Asia (ECNEA). South Korea's initiative ECNEA, which has now concluded, followed middle power diplomacy, and was considered more successful than the Chinese and Japanese initiatives because it had avoided geopolitical struggles. Mongolia was a member of ECNEA when it was formed in 2005 but China and Japan participated only as observers. Russian membership gave this mini-lateral potential to form the core of a broader regional energy regime as a producer-consumer dialogue (Christoffersen 2016a, p. 184-186).

In August 2017, the Renewable Energy Institute issued *Asia International Grid Connection Study Group Interim Report*, reporting on the economic feasibility of a regional grid. The report seemed to be asking the Japanese government for a firm commitment of its support for the regional grid (REI August 2017). In June 2018, REI issued a second interim report, considering alternative routes between Japan and Russia, Japan and South Korea, and their costs, business models, and legal frameworks (Renewable Energy Institute, June 2018).

## **China in Asian Multilateral Regimes**

Up until September 2013, Chinese energy experts focused on China's bilateral energy relations. For example, in preparation for the Asian and Pacific Energy Forum (APEF), a May 2013 Track I ministerial meeting in Vladivostok, UNESCAP held a meeting in 2012 of energy experts for the purpose of building a consensus. A Chinese presentation emphasized China's bilateral cooperation regionally, through "energy channels" that radiated out from China to Russia, Central Asia, Myanmar, and offshore for oil and gas, and to North Korea for coal. These energy channels exist within the inner ring of what was forming into a Sino-centric order (Gao 2012). Another Chinese analyst suggested construction of energy trans-border infrastructure. The May 2013 APEF subsequently recommended that NEA energy experts keep networking to strengthen cooperation, that is, continue to build the NEA energy epistemic community and promote cross-border energy infrastructure.

The author was told in 2012 by a Chinese energy analyst that Beijing did not want any Chinese analysts discussing Northeast Asian multilateral energy cooperation although at the time it was not clear why. These Chinese ideas on bilateral energy cooperation would emerge a year later when the BRI was announced in September 2013, and then elaborated further in the BRI Action Plan: regional energy channels should all radiate out from China to energy exporting countries along economic corridors. If China participated in a Northeast Asian energy regime, China should be at the center of it.

Mongolia, and Central Asian nations, are focused on BRI's promise of infrastructure which is insufficient in the region. At the September 2018 Eastern Economic Forum in Vladivostok, Mongolian President Khaltmaa Battulga called for starting construction on the Northeast Asian Super Grid. Mongolia is intent on becoming the centre of Northeast Asia's energy supply.

Russia and Mongolia have been incorporated into the BRI through the China-Russia-Mongolia economic corridor. Corridor meetings have been held since 2014. In September 2016, the "Outline of the Construction of the China-Mongolian-Russian Economic Corridor" marked the first framework beyond bilateral for BRI. In December 2016, they signed the *Intergovernmental Agreement on International Road Transport along the Asian Highway Network*. The Mongolian Foreign Ministry in November 2017 indicated that planning for railway and road transit corridors, and science and technology parks, had advanced further than energy infrastructure plans. Mongolian priority was on electricity transmission lines, implying preference for Gobitech.

Russia proposed a Sino-Russian natural gas pipeline transiting Mongolia at the June 2018 meeting of the Corridor, an idea that has circulated for decades. Mongolia supports but China discourages, preferring direct bilateral routes rather than transiting third countries.

After participating in Gobitech for several years, in March 2016 China formed an international non-profit organization Global Energy Interconnection Development and Cooperation Organization (GEIDCO), headquartered in Beijing. GEIDCO claimed to be dedicated to promoting clean and green sustainable energy development worldwide. GEIDCO's Chairman was Liu Zhenya, Chairman of the State Grid Corporation of China. GEIDCO's Vice Chairman was Son Masayoshi from Japan's Renewable Energy Institute, and also former US Secretary of Energy Steven Chu was Vice Chairman.

GEIDCO adopted the Asian Super grid idea as its own, promoting "Global Energy Interconnection" as the global version of the Asia Super grid. China claimed to be launching a global clean energy electricity grid although most electricity produced domestically is from coal-fired plants.

Although GEIDCO appeared to be a Chinese organization for participation in the Northeast Asian Super grid, it was a project for the BRI. On June 28, 2018, GEIDCO held the "Forum on Energy Interconnection & Belt and Road Development in Arab States" in Beijing. The Forum was jointly organized with the League of Arab States.

## **Chinese construction of an alternative global energy order**

The path that China took in Asian energy cooperation was driven by a vision that Beijing would be the leader of a Northeast Asian energy regime despite its status as a net-importer of oil and gas. China's success in securing oil resources overseas depended on excluding competitors' access to those resources by bringing neighboring countries' resources within a Sino-centric order.

The Chinese drive to create non-market oil and gas relations with net-exporting countries is based on Chinese energy policymakers' uneasy relationship with the world oil market and China's dependence on oil imports since the PRC was founded. Each decision over importing oil and technology has led to energy debates over China's relationship with the world oil market.

In July 2011, *People's Daily* declared that China's participation in global energy governance was an important strategic goal for China's energy diplomacy. It felt China's current status in global governance did not reflect its status as the world's largest oil importer. China needed to create a new political framework for global energy governance that gave China a larger role and greater status (*People's Daily*, July 27, 2011).

At the World Future Energy Summit in Abu Dhabi in January 2012, Chinese Premier Wen Jiabao proposed the creation of rules governing global energy supply overseen by an international body to govern energy markets for greater stability.

The CCP's 18th Party Congress, November 8-14, 2012, initiated Xi Jinping's foreign policy of greater Chinese assertiveness to restructure the regional and global order including in the energy sector. Xi, in order to mobilize organizations and resources domestically, called for an "energy revolution" in a campaign-style mobilization reminiscent of the past.

The BRI is meant to create a land bridge that encompasses Central Asian and Middle Eastern oil exporting countries within a geopolitical framework that will bind these energy

producing regions closer to China (He, Li, Xu, Zhu, Zhang, 2017). China perceives pipelines as more secure than energy brought via sea lines of communication (SLOCs). There are six economic corridors that span Eurasia. These Eurasian corridors cut across and ignore Northeast Asian energy regimes.

Beijing created the Global Forum on Energy Security (GFES), meeting since 2012, to be China's international platform for exchanging views on transformations in global energy governance and China's role in it. The GFES was organized by the Chinese Academy of Social Sciences with support from other organizations including the China Energy Fund Committee (CEFC). The 2nd GFES met August 2013 with a focus on energy security and global energy market regulation, unconventional oil and gas. Presentations included topics such as China's role in global energy governance and energy collaboration. The concept of the Asia Super Grid was mentioned at the GFES 2013. There was no suggestion of an alternative energy order but emphasis on energy infrastructure networks. Within two months, the Belt & Road Initiative would be unveiled in Kazakhstan in September 2013. Eventually the GFES became the platform for exchanging views on energy transactions within the Belt & Road Initiative. In June 2015, the GFES annual meeting focused on the Silk Road energy order titled 'Strengthening Energy Cooperation in the One Belt One Road Regions.' GFES continued the themes of energy connectivity along OBOR and collective energy security in 2016 and 2017. The 2018 meeting was titled "Belt & Road Initiative, Global Energy Governance and Innovation," a theme of the geopolitics of energy and global governance.

The Chinese Foreign Ministry is responsible for energy diplomacy along the Silk Road (Shi and Yang, 2015). It issued the Action Plan for BRI in March 2015. The energy component of the Plan included: energy infrastructure within the BRI region, oil and gas pipelines, cross-border power-transmission lines, joint development of coal, oil, gas, minerals, and cooperation in renewable energy. The multilateral organizations that the Action Plan designated as arenas for Beijing to implement BRI were primarily organizations that lacked US membership (Visions and Actions, March 2015).

Chinese analysts anticipate that the BRI will restructure the international energy order, bringing a large number of exporting countries into a political framework that will manage relations between producer and consumer countries. Chinese hope this will be more stable than dependence on the world oil market (Yang Chenxi, 2018). The issue at present is that the BRI does not have a political framework. Chinese debate whether it is an initiative or a strategy but all parties recognize that it does not have a framework of its own and thus there is a search for other mechanisms that could be incorporated into the BRI.

## **Chinese NOCs and BRI**

In 2015, Chinese NOCs, China National Petroleum Corp. (CNPC), Sinopec, and China National Offshore Oil Corporation (CNOOC) were instructed by Beijing to define their contribution to BRI, to gain better access to oil resources along the Silk Road (CNPC, 2015). Chinese energy analyst Xu Xiaojie urged Chinese NOCs to shift their 'going out' strategy from global investing to concentrating investment within the BRI region, further enhancing the 'Silk Road' strategic concept. China has built oil and gas pipelines across Central Asia which predate BRI. All these older pipelines and any new pipeline are now designated a BRI project.

Chinese organizations needed to be mobilized due to their reluctance to take on politically motivated, money-losing projects. Chinese NOCs had shifted to a commercial logic in their going-out strategy which would lead to extensive corruption, and hundreds of oil executives would be investigated by the Central Commission for Discipline Inspection (CCDI). CNPC's publication *China Oil & Gas*, in its no. 2 issue 2017, had several articles focused on the leading role energy cooperation played in the BRI.

CNPC began going out in 1993 seeking oil and gas resources. It invested in producing countries, laying a foundation for BRI long before it was announced. The going out strategy created four interconnected energy channels: the Kazakhstan-China oil pipeline, the Myanmar-China oil and gas pipelines, the Russia-China oil and gas pipelines, and the Central Asia-China gas pipeline. These energy channels would become a basis for the economic corridors of BRI (Ma, 2012). These pipelines are considered by Chinese to be secure compared to oil imported by sea but 90% of Chinese oil arrives by sea (Wang Zhen, 18).

The going out strategy created "oil and gas cooperation zones" for Chinese NOCs throughout Eurasia, the Middle East and Africa as they invested in equity oil. Energy trade from these cooperation zones expanded. By 2016, China imported 356 million tons of oil, four times the import amount of the year 2000. Chinese SOEs were able to sell their energy engineering and technical services of the NOCs and their subsidiaries, locking in a certain technical dependence (Wang Zhen, 19).

Developing oil and gas channels to China were a priority for BRI as it developed an energy connectivity system. There was an expectation that Chinese NOCs would sell energy engineering and technical services in host countries and their carbon resources directed toward China. Eventually a different global energy governance system would emerge, not dominated by the US and Europe, with a different set of rules than exists in the current global energy governance. All BRI countries would coordinate their energy policies. The BRI energy system would be government-directed rather than based on markets (Wang Zhen, 22-23).

## **Russia in BRI**

Beijing has suggested that a Northeast Asian energy regime could form around the Sino-Russian oil and gas pipelines. This concept depends on economic integration of China's Northeast (dongbei) and Russia's Far East (RFE), a decades-old idea that has origins in the Tumen project.

Sino-Russian oil and gas pipeline projects have had side agreements on regional integration. In February 2009, China and Russia signed a \$25 billion loan for oil agreement for constructing an oil pipeline, the Eastern Siberia-Pacific Ocean pipeline (ESPO). China Development Bank would loan Rosneft \$15 billion and Transneft \$10 billion in exchange for 15 mmt per year of crude oil, 2011 to 2030, to pay back the loan. An additional side agreement forced on Moscow, *Program of Cooperation between Northeast China and Russia's Far East and Eastern Siberia (2009-2018)* had 200 projects. Many of these projects currently remain unfinished creating large financial losses for Chinese companies.

In March 2013, China asked Russia to double capacity of ESPO on Skovorodino-Mohe pipeline to 30 mmt/year. After long delays, in January 2018 the second oil pipeline began commercial operation. Rosneft plans to supply 50 mmt to China in 2018. The natural gas pipeline, the eastern route, is scheduled to start operation in 2019.

Chinese incorporated dongbei-RFE integration within BRI when Li Hui, Chinese Ambassador to Russia, in February 2015 suggested to a Moscow university audience that BRI would cover the Chinese side of dongbei-RFE integration and the Chinese side of oil and gas pipelines.

In March 2015, at the Boao Forum, the Chinese Foreign Ministry issued an action plan for BRI, the *Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road* (Vision and Actions 2015). The Russian Far East was included in the action plan, in cooperation with Heilongjiang, Jilin and Liaoning, provinces in China's Northeast, in multi-modal transportation networks on land and sea. It was presented as a fait accompli that dongbei-RFE economic integration was incorporated into the BRI.

By 2015, Chinese complained that Russia had failed to implement these 200 projects from the 2009 agreement on dongbei-RFE economic integration. They continued to exist only on paper, ceased functioning before completion, and caused Chinese economic losses. Chinese were concerned this pattern of noncompliance would be repeated by Russia in the BRI, blocking dongbei-RFE integration.

Russia is now exporting oil to China from a spur off of ESPO, fueling Heilongjiang's industrialization, and to the Asia-Pacific from Kozmino (Nakhodka). Oil exports out of Kozmino follow market logic while those to China are ambivalent on adherence to market principles and have led to several contentious Sino-Russian price disputes.

Due to Russia's weakening economic position from sanctions and declining oil prices, Putin sold energy assets to Beijing because, he said, "Russia needed the money." On June 25, 2016, Putin visited Beijing and signed 30 agreements that included several energy deals. Rosneft, agreed to sell China National Chemical Corporation (ChemChina) a 40% stake in Rosneft's planned petrochemical complex VNHK in Russia's Far East. Rosneft also signed with ChemChina a one-year contract to supply up to 2.4 million tons of crude oil to ChemChina between Aug. 1, 2016, and July 31, 2017. Rosneft signed a framework agreement with Sinopec for the construction of a joint venture gas processing and petrochemical plant in East Siberia. Rosneft committed to negotiating a potential sale to Beijing Gas Group (BGG) of a 20% stake in Rosneft's subsidiary Verkhnechonskneftegaz which is exploring and developing Verkhnechonskoe oil and gas condensate field in Eastern Siberia. Gazprom signed with CNPC a preliminary agreement on the construction of underground gas storage facilities on Chinese territory. Rosneft and China's Shandong Kerui Petroleum Equipment signed a MOU for oil field services (Christoffersen 2018b).

Many of these agreements were already in the pipeline and many were only MOUs. There were actually only two contracts signed. CNPC had previously purchased, in January 2014, 20% of shares in the Yamal LNG gas project. In March 2016, CNPC purchased an additional 9.9% of the shares. The Yamal purchase is called the first Arctic Belt & Road project. The Arctic Belt & Road made Chinese more insistent on dongbei-RFE integration, using transport through Southern Primorski krai to access the Arctic.

In 2017, the mysterious China Energy Fund Committee's CEFC China Energy Company Ltd (Huaxin), China's largest private oil company, signed an agreement to pay \$9.1 billion for 14.16% of Rosneft shares. However, the founder and chairman of CEFC, Ye Jianming, was placed under investigation by CCDI, and CEFC ceased to function. Qatar purchased CEFC's share of Rosneft.

In September 2018, during the Eastern Economic Forum in Vladivostok, Rosneft and CNPC signed an agreement for cooperation in oil and gas exploration and production in Russia. CNPC will be able to acquire minority shares in Rosneft's major oil and gas fields in eastern and western Siberia.

At the 2018 Eastern Economic Forum, Northeast Asian leaders from Russia, China, Japan, South Korea and Mongolia called for Northeast Asian regional energy cooperation but emphasized different priorities. Xi Jinping promoted the idea of transnational infrastructure and a regional energy regime. Japan and South Korea were interested in LNG from Russia which does not require cross-border infrastructure cooperation. Mongolia wanted a Russian gas pipeline that transited Mongolia to China, and it wanted help building the Asian Super Grid.

Chinese NOCs have acquired significant shares in Russian oil and gas assets but this Sino-Russian oil and gas cooperation has not yet demonstrated its value as the core of a Northeast Asian energy regime. Other Northeast Asian countries, Japan and South Korea are making direct bilateral ties with Russia.

## **Chinese Views on BRI and Northeast Asia Energy Cooperation**

Chinese analysts claim Northeast Asia has the necessary conditions for regional energy cooperation as each country is complementary to the others. The different levels of development are a basis for complementarity. Japan and South Korea are developed countries while China, Russia, Mongolia and the DPRK are developing countries. Chinese revive their concept of an international division of labor in the region with Russia and Mongolia net exporters of energy resources, while China, Japan, and South Korea are energy net importers (Piao, Guo, and Li, 2018).

Chinese believe that great powers' geopolitical games have spilled over into energy relations, intensifying resource competition, blocking cooperation. Chinese still recall the 2003 Sino-Japanese competition over direction of a Russian pipeline, the Eastern Siberian-Pacific Ocean (ESPO), as malicious. Beijing wanted the pipeline to go only to Daqing, China in a non-market framework rather than extend further to Nakhodka to export to Japan and the Asia-Pacific market. The pipeline went to Nakhodka with a spur connected to Daqing, indicating Russia preferred to avoid dependence on only one buyer. Chinese remember this competition as a zero-sum game between energy importers. Chinese also remember that Russia, as an energy exporter, used zero-sum games with China to increase the price of oil, delaying pipeline construction of ESPO. This had also delayed the natural gas pipeline (Wu and Cui, 2017).

Chinese are certain that most countries want to use non-economic instruments to protect their energy security. Chinese energy diplomacy, as managed by the Chinese foreign ministry, is considered a non-economic instrument that avoids market relations. Chinese be-

lieve Northeast Asia has failed to form regional mechanisms which would restrict commercial competition, i.e., failed to form non-market relations fixed to energy infrastructure and institutionalized into a system where there would be no bargaining. They present Northeast Asia as in an unnatural “uncooperative” condition lacking political trust necessary for a more natural state of an institutionalized political framework for multilateral energy relations. Trust would allow for the formation of an Energy Community between China and its neighbors. This Energy Community could be used to promote the BRI (Yang Zewei, 2017).

Chinese researchers have argued that the energy channels and infrastructure proposed by the Belt and Road Initiative can resolve the problem of Northeast Asian regional energy cooperation. Northeast Asian countries need oil and gas pipeline networks and power grids. BRI could supply investment through the Silk Road Fund and the Asian Infrastructure Investment Bank. BRI can be implemented bilaterally, and does not initially require a multilateral framework but rather could evolve into one as Japan and South Korea join the Sino-Russian economic corridor and the China-Mongolia-Russia economic corridor. Chinese implied that in the absence of political trust and Northeast Asia in an uncooperative state, BRI could solve this situation (Piao, Guo, and Li 2018).

The Asian Infrastructure Investment Bank (AIIB), on the other hand, seems somewhat independent from BRI. Although AIIB prioritizes cross-border infrastructure, it promotes sustainable renewable energy projects with the theme of “lean, clean, green,” clean means no corruption or political projects. It is not clear that AIIB would fund a political project of BRI.

## **Conclusion**

On October 31-November 1, 2018, in Ulaan Baator, the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), China Electricity Council (CEC), Ministry of Energy of Mongolia, and Asian Development Bank (ADB) organized a meeting on “Northeast Asia Regional Power Interconnection and Cooperation Forum 2018.” Many proposals for energy cross-border cooperation and results of feasibility studies were presented. The meeting sought to address the lack of an intergovernmental framework on multilateral energy cooperation that could bring all the Northeast Asian countries and stakeholders together. The need to create a framework was discussed but it is unclear if it was finalized.

After the meeting, ADB signed loan and grant agreements totalling \$85.6 million with the Mongolian government to develop Mongolia’s first distributed renewable energy system and improve Mongolia’s tax administration. The 41-MW distributed renewable energy system will decrease carbon emissions. This project could be the first step in creating an Asian Super Grid centred on Mongolia.

For the past three decades, Northeast Asia has contemplated numerous energy initiatives but has failed to form a cooperative mechanism for energy cooperation between China, Russia, Japan, South Korea, and North Korea. None of the initiatives were ever successfully realized because each country has its own vision of a Northeast Asian regional order which informs its understanding of how energy relations should be organized. Nevertheless, institutionalizing Northeast Asia continues to be a region-wide goal.

The BRI has not yet successfully consolidated all of Northeast Asian energy relations into its framework. Japan and South Korea are still examining the BRI. China has not announced BRI in North Korea although it exports oil from Daqing to North Korea and imports electricity from border power plants. Russia is a key net-exporter in BRI and yet has constructed alternative regional projects that compete with the BRI. Russia and Mongolia stress industrialization within the BRI and not just being raw material suppliers to Chinese industrialization.

The Asian Super Grid is a multilateral energy project promoted by Russia, South Korea, Japan, Mongolia, and China. It is currently under serious consultations, supported by UNESCAP and ADB. The Asian Super Grid will make progress if Northeast Asian countries can agree on the form of a multilateral mechanism.

China has promoted the BRI as a mechanism which could incorporate the Asian Super Grid and give China a leadership position in Northeast Asian energy. It is not clear other Northeast Asian countries would support that effort. Japan and South Korea stress market-based relations, the need for a legal regime and protection of intellectual property. China views a regional political framework as based on non-market energy relations, a way to avoid the world oil market. Chinese stress the need for political trust rather than a legal regime. Chinese promote the Sino-Russian oil pipelines as a core of a Northeast Asian energy regime that Japan and South Korea could join, but there have been disputes over oil prices in the Sino-Russian pipeline which prevents it from being a stable core of a regional regime.

Northeast Asia has an organizational deficit, a failure to form a Track I Northeast Asian multilateral regime despite continuous efforts. Although these Northeast Asian initiatives have failed at institutionalization, they have nevertheless contributed to broad regional learning, and the strengthening of an epistemic community in support of regional cooperation. The kind of Northeast Asian institution more likely to emerge is an “energy regime complex,” defined as a mix of formal international institutions and informal networks, a patchwork of loosely linked institutions (Prantl 2011). To Track I and Track II projects, we should also add failed initiatives and initiatives that go dormant without actually failing, which could provide a framework that could be revived—repurposed and given new meaning and content at a future date. One could assume path dependence, that is, previous organizational experience constrains perceived options available for subsequent institutional design. A broader approach that includes Track I and II projects, failed and dormant institutions, provides a comprehensive understanding of the possibilities of a future Northeast Asian energy regime.

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*Gaye Christoffersen is Professor of International Politics at the Hopkins-Nanjing Center of Johns Hopkins University.*

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**SWP**  
Stiftung Wissenschaft und Politik  
German Institute for International and Security Affairs

Ludwigkirchplatz 3-4  
10719 Berlin  
Telephone +49 30 880 07-0  
Fax +49 30 880 07-100  
[www.swp-berlin.org](http://www.swp-berlin.org)  
[swp@swp-berlin.org](mailto:swp@swp-berlin.org)