

# Current Status and Future Prospects of Sino-Russian Gas and Oil Cooperation

## IEEJ Seminar

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**Table 1. Comparison of China and Russia, as of 2015.**

	<b>China</b>	<b>Russian Federation</b>
Area	9.6 mn sq km	17.1 mn sq km
Population	1.401 bn	0.142 bn
Population Density	140 / sq km	8.4 / sq km
Capital	Beijing	Moscow
Largest City	Shanghai	Moscow
Government	Unitary socialist republic	Federal semi-presidential Republic
GDP (nominal)	US\$ 11.385 tn	US\$ 1.236 tn
GDP per capita	US\$ 8,280	US\$ 8,447
Foreign reserves	US\$ 3.33 tn	US\$ 0.36 tn
Military expenditure	US\$ 216 bn	US\$ 84.5 bn

Source : IMF World Economic Outlook (Oct 2015) & other sources

# **Current Status of Sino-Russian Gas and Oil Cooperation and its implications towards Bilateral & Multilateral Gas and Oil Cooperation in Northeast Asia**

## **Changed Environment :**

- **Oil Price Collapse in summer 2014**
- **US & Russia's Pivot to Asia policy competition**
- **LNG : Pendulum move from Seller's market to Buyer market**
- **Global climate change does matter**

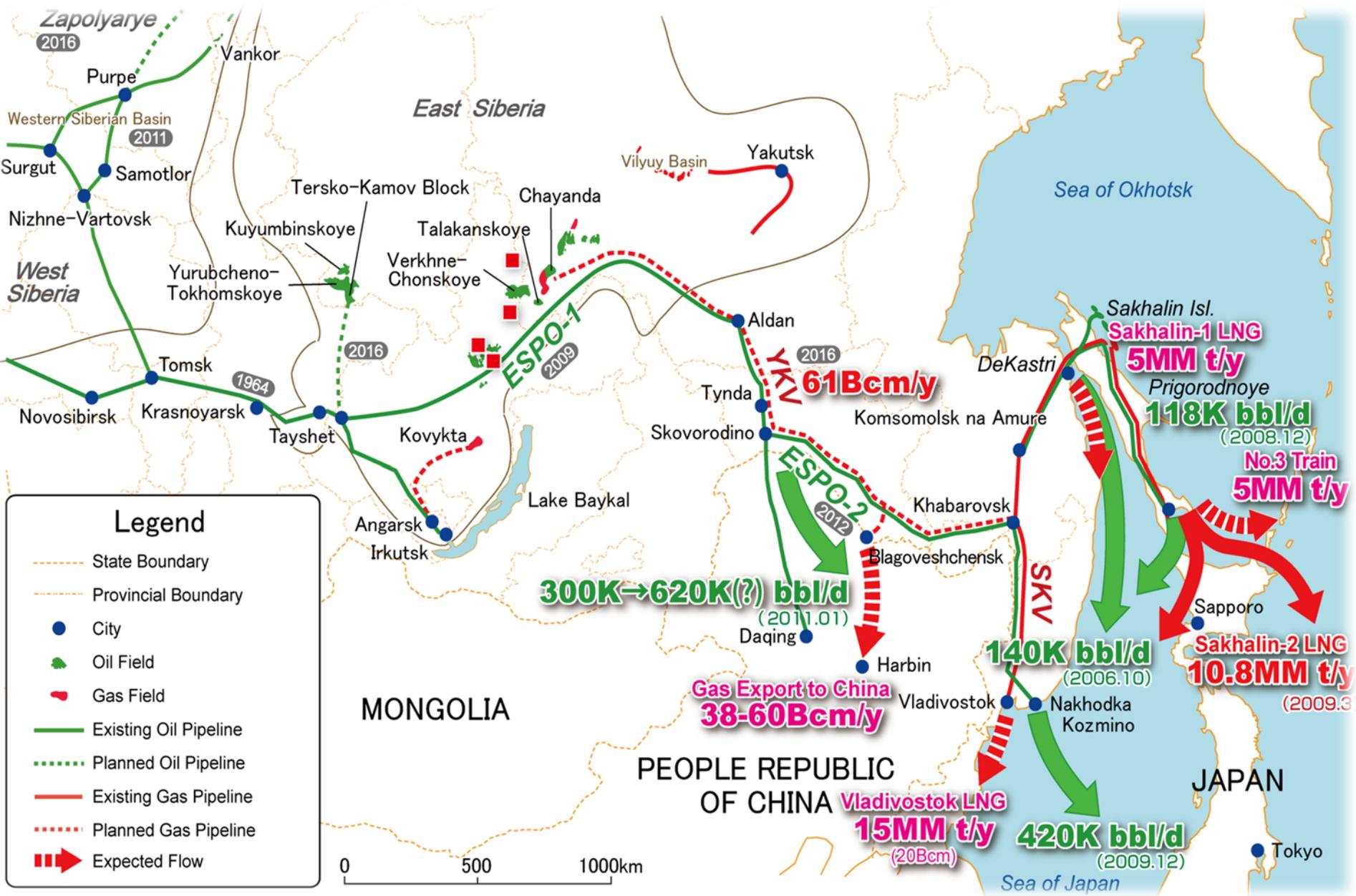
## **From Bilateral to Multilateral Cooperation :**

- **Bilateral (Sino-Russian gas cooperation) vs. Multilateral (Russia-China-South Korea-Japan gas cooperation)**
- **East Africa LNG supply Hub : from Bilateral to Multilateral cooperation, based on Asian Consumers Alliance – Mozambique Block I and Block IV unitisation scheme**
- **Arctic Northern Route oil and gas supply to Northeast Asian consumers : the option that cannot invite any conflict of interest among the players**

## **Update of Sino-Russian Oil Cooperation**

- **ESPO played the pivotal role in strengthening the cooperation**
  - **2013 two major oil supply deals – Rosneft & CNPC (US\$ 270 bn ), and Rosneft & SINOPEC (US\$ 85 bn).**
  - **Before oil price collapse in summer 2014, CNPC was evaluating the three buy-out targets – Taas-Yuriakh 49%, Vankor 10%, and Rosneft 19.5%, but none of the target transactions was made, while ONGC took the 15% stake of the Vankor.**
  - **In June 2015, Rosneft agreed to supply 2.4 mt/y of crude to China National Chemical Corporation (ChemChina), and in September 2015, Rosneft agreed to purchase a 30% of ChemChina Petrochemical Co. Ltd., a ChemChina subsidiary.**
  - **In early September 2015, Rosneft and SINOPEC signed the HOA on cooperation within the proposed joint development of Russkoye and Yurubcheno-Tokhomskoye fields. Sinopec Group has the right to acquire a 49% stake in ESOGC and Tyumenneftegaz, that hold the exploration licenses for Russkoye and Yurubcheno-Tokhomskoye fields respectively.**
- Good intentions with strong need to cooperate !!**

# Drastic Increase of Energy Flow from Russia to Asia



**Table 2. Projected Oil Production of Northeastern Provinces :  
2005-2015**

Unit : mt/y

	Daqing	Jilin	Liaohe	Total
<b>2005 (P)</b>	<b>45.0</b>	<b>5.5</b>	<b>12.2</b>	<b>62.7</b>
<b>(A)</b>	<b>44.95</b>	<b>4.58</b>	<b>12.26</b>	<b>61.79</b>
<b>2010 (P)</b>	<b>34.71</b>	<b>5.89</b>	<b>10.57</b>	<b>51.17</b>
<b>(A)</b>	<b>39.87</b>	<b>6.10</b>	<b>9.50</b>	<b>55.47</b>
<b>2014 (A)</b>	<b>40.00</b>	<b>4.93</b>	<b>10.22</b>	<b>55.15</b>
<b>2015 (P)</b>	<b>30.00</b>	<b>6.00</b>	<b>9.35</b>	<b>45.35</b>
<b>(A)</b>	<b>38.39</b>	<b>?</b>	<b>10.37</b>	<b>?</b>

Source : Author's data base

## **Update of Sino-Russian Gas Cooperation**

- **In May 2014, the deal of long waited POS (Power of Siberia) I gas supply to China, with the 38 bcm/y (US\$ 400 bn worth) was a major breakthrough of Sino-Russian gas cooperation, and in Nov 2014 the MOU on POS II (or Aatai) gas supply (with 30 bcm/y) to western China was a big encouragement.**
  - **Oil price collapse in mid-2014 had deprived any significance of the two gas supply deals. The US/EU sanctions against Russia with regard to the Crimean Peninsula annexation drove Japan to hold back from the Vladivostok LNG Project, which requires Japan's commitment (market and financing provision) for the start of this project.**
  - **In early September 2015, Novatek and China's Silk Road Fund (SRF) signed an agreement for the purchase of a 9.9% equity stake in the Yamal LNG project. The completion of the deal will make the shareholder structure as follows : NOVATEK (50.1%), Total S.A. (20%), CNPC (20%) and SRF (9.9%).**
  - **At that time, the conversion of POS II's MOU into a binding agreement was not materialised. Instead, Gazprom had announced the option of a third gas pipeline for its Sakhalin gas export to China via Sakhalin-Khabarovsk-Vladivostok line.**
- A big question is whether Gazprom's strategy can protect its pipeline gas market in China? Can Gazprom's monopoly on pipeline gas export to Asia be justified?**



**Gazprom's POS I Development Scheme needs to be revised under the current oil price regime.**

- **POS 1 development scheme is based on Chayanda gas and Kovykta gas development scheme with US\$ 55 bn investment. When Vladivostok LNG 3 trains scheme cannot move without Japan's LNG market provision, it is desirable to take the staged development as there is not enough market to handle the 61 bcm/y gas supply by 2025.**
- **POS 1's priority is to supply 38 cm/y of pipeline gas to Northeastern provinces (20 bcm/y) and Bohai Bay gas market (18 bcm/y). The Bohai market is the target of LNG supply from North America and Australia.**
- **With regard to the delay (1-4 years) of POS 1 gas supply, the option of POS 1 extension to Korea from Weihai to Incheon via the Yellow Sea sub-sea pipeline will help the protection of 18 bcm/y pipeline gas market. To maximise the benefit of this subsea pipeline, the option of gas swap between China and Korea based on upstream assets in Russia's east Siberia and Central Asian Republics, in particular Turkmenistan and Uzbekistan should be explored seriously. (Considering the role of Korean companies in constructing gas treatment plant construction in Central Asia, it will not be difficult to secure the upstream equity (that can handle 5-10 bcm/y production capacity).**

# New Silk Roads | China is assembling new trade routes, binding other regions closer to it



Sources: Xinhua (Silk Road routes); U.S. Department of Defense, Gazprom, Transneft (pipelines); United Nations (rail entry points)

**Table 3. China's Primary Energy Consumption by Source**

	<b>2000</b>	<b>2005</b>	<b>2015</b>
<b>Coal</b>	<b>69.2</b>	<b>70.8</b>	<b>66.0</b>
<b>Oil</b>	<b>22.2</b>	<b>19.8</b>	<b>17.1</b>
<b>Gas</b>	<b>2.2</b>	<b>2.6</b>	<b>5.7</b>
<b>Hydro, Nuclear &amp; Renewable</b>	<b>6.4</b>	<b>6.8</b>	<b>11.2</b>

Source : CNPC (2015)

**China aims at increasing the gas share in 2020, 10.8% and in 2030, 15.4%, according to SASAC (Dec 2015).**

**Table 6. Outlook for China's Gas Market**

unit : bcm

	2015		2020		2030	
	C	O	C	O	C	O
<b>Conventional</b>	<b>132.0</b>	<b>138.5</b>	<b>170.0</b>	<b>185.0</b>	<b>210.0</b>	<b>230.0</b>
<b>Unconventional</b>	<b>14.9</b>	<b>18.8</b>	<b>31.6</b>	<b>59.7</b>	<b>57.3</b>	<b>116.0</b>
- SG	5.0	6.5	10.0	30.0	20.0	60.0
- CBM	7.9	9.3	11.6	14.7	17.3	26.0
- CTG	2.0	3.0	10.0	15.0	20.0	30.0
<b>Imported LNG</b>	<b>35.0</b>	<b>40.0</b>	<b>60.0</b>	<b>70.0</b>	<b>70.0</b>	<b>80.0</b>
<b>Imported Pipe Gas</b>	<b>40.0</b>	<b>44.0</b>	<b>75.0</b>	<b>80.0</b>	<b>120.0</b>	<b>130.0</b>
<b>Total</b>	<b>224.9</b>	<b>241.3</b>	<b>336.6</b>	<b>394.7</b>	<b>457.3</b>	<b>556.0</b>

Note : C means conservative projection, and O means optimistic projection.  
 SG means shale gas CTG means Coal to Gas.

Source : CNPC (2015)

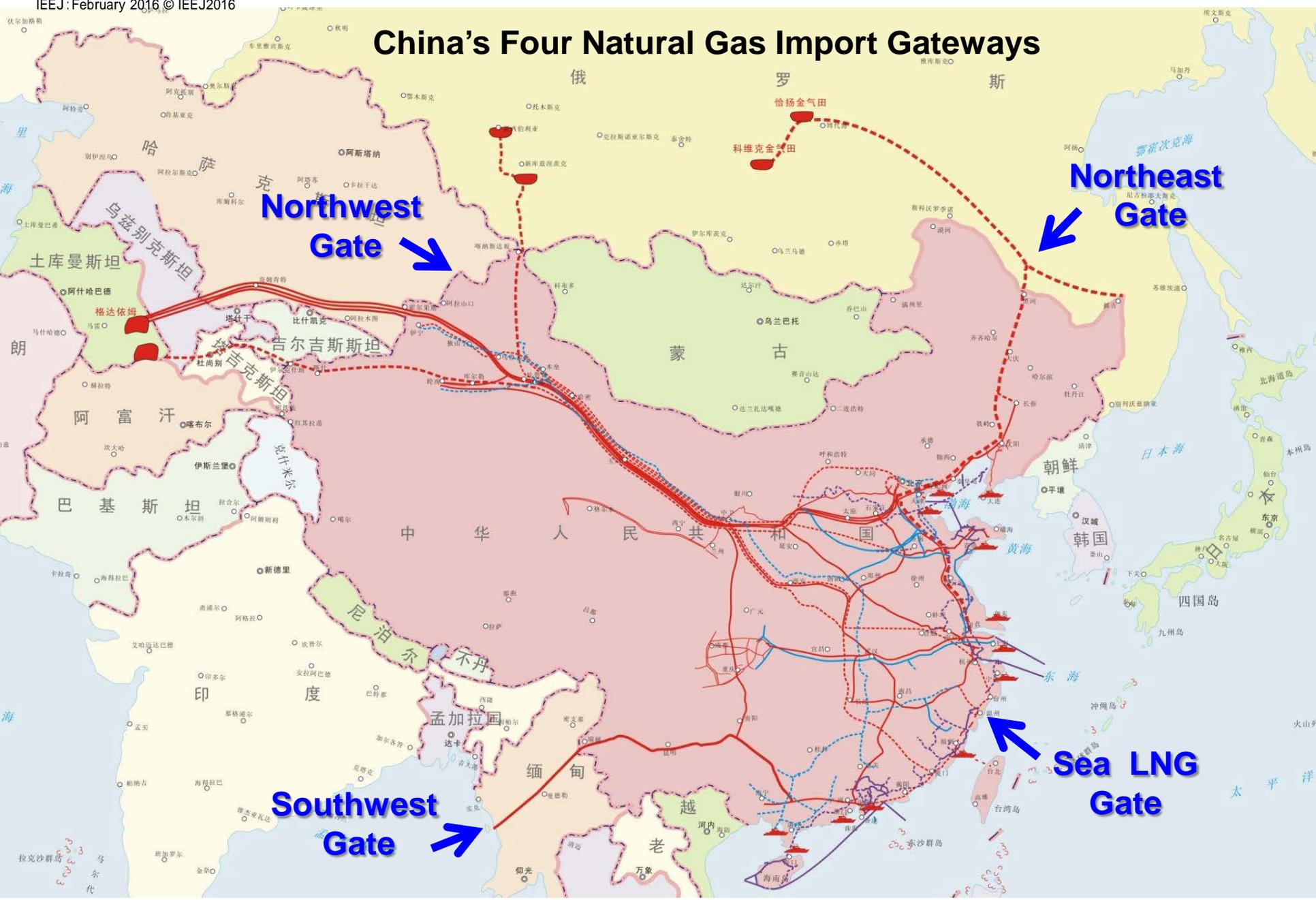
**In 2015, CNPC had readjusted its gas demand projections by 2030 significantly as the business as usual volume is 100 bcm/y less than the 2012 projection figure. China's share production performance will affect the pipeline gas and LNG import fundamentally.**

**CNPC's figures strongly indicates that pipeline gas import volume will be definitely bigger than LNG import volume, even though China's LNG import terminals' capacity (stage I + II) will be much bigger than Japan's LNG import capacity of 85-90 mt/y when around 20 terminals are completed.**

**Beijing leadership may rethink of the Altai route import when the South China Sea's dispute issue (Spratly Islands) is intensified in the coming years. As Beijing aims at maximising the pipeline oil and gas supply from Russia and Central Asian Republics to reduce its vulnerability of sea-lane supply, Russia could be a full but indirect beneficiary of the South China Sea dispute.**

**In the coming few years, China's gas import volume will be the biggest in Asia, and it is very necessary to promote gas consumers' cooperation among Korea, Japan and China proactively.**

# China's Four Natural Gas Import Gateways



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