



# Russia-China Eastern Route Pipeline

## -A Great Energy Channel to Connect Northeast Asia

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**1. Brief Introduction of the Pipeline**

**2. Progress of the Chinese Section**

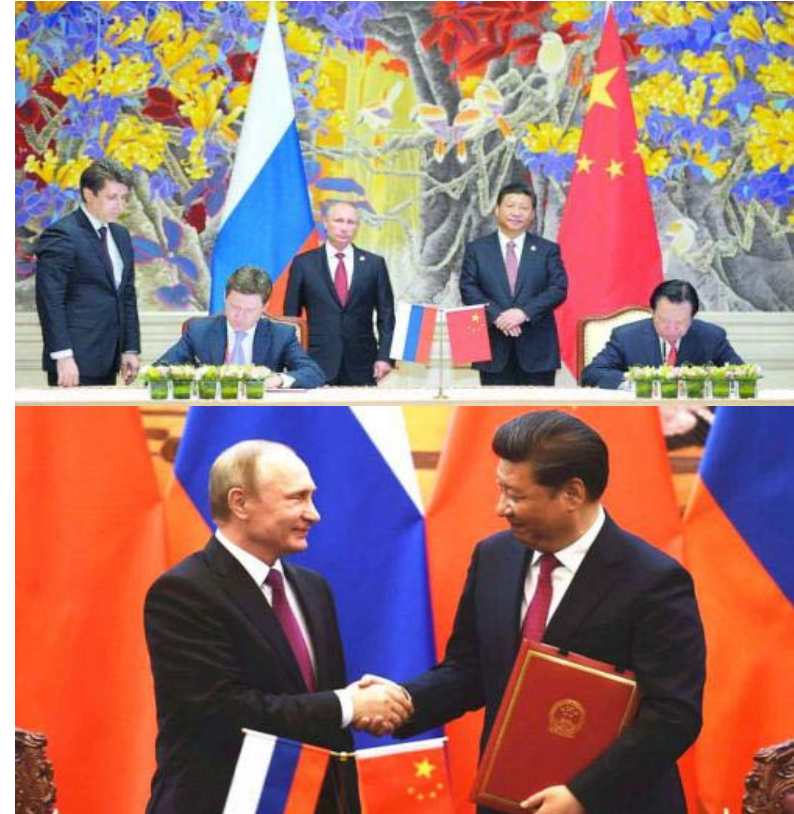
**3. Potential Benefits of the Project**

# 1. Brief Introduction of the Pipeline



## 1. Background

- In May 2014, under the witness of the Chinese and Russian Heads of State, CNPC and Gazprom signed the Sales and Purchase Agreement (SPA) for Russian gas to be supplied via the eastern route in Shanghai.
- In May 2015, the SPA came into effect after being approved by the two governments.
- In July 2017, under the witness of the Chinese and Russian Heads of State, CNPC and Gazprom signed the Supplementary Agreement to the SPA in Moscow, clarifying that Russia shall start supplying natural gas to China before December 20, 2019.



# 1. Brief Introduction of the Pipeline



## 1. Background

- In September 2014, the commencement ceremony of the *Power of Siberia Gas Pipeline* (the Russian section of Russia-China Eastern Route Pipeline) was held.
- In June 2015, the commencement ceremony of the Chinese section of Russia-China Eastern Route Pipeline was held.



# 1. Brief Introduction of the Pipeline



## 2. Brief Introduction of the Project

- Russia-China Eastern Route Pipeline consists of two parts, the Russian section and the Chinese section, with a total length of 5,490 kilometers and a designed capacity of 38 billion cubic meters per year.
- The Russian section is *the Power of Siberia Gas Pipeline*, with a length of 2,156 km.
- The length of the Chinese section is 3,340 kilometers.



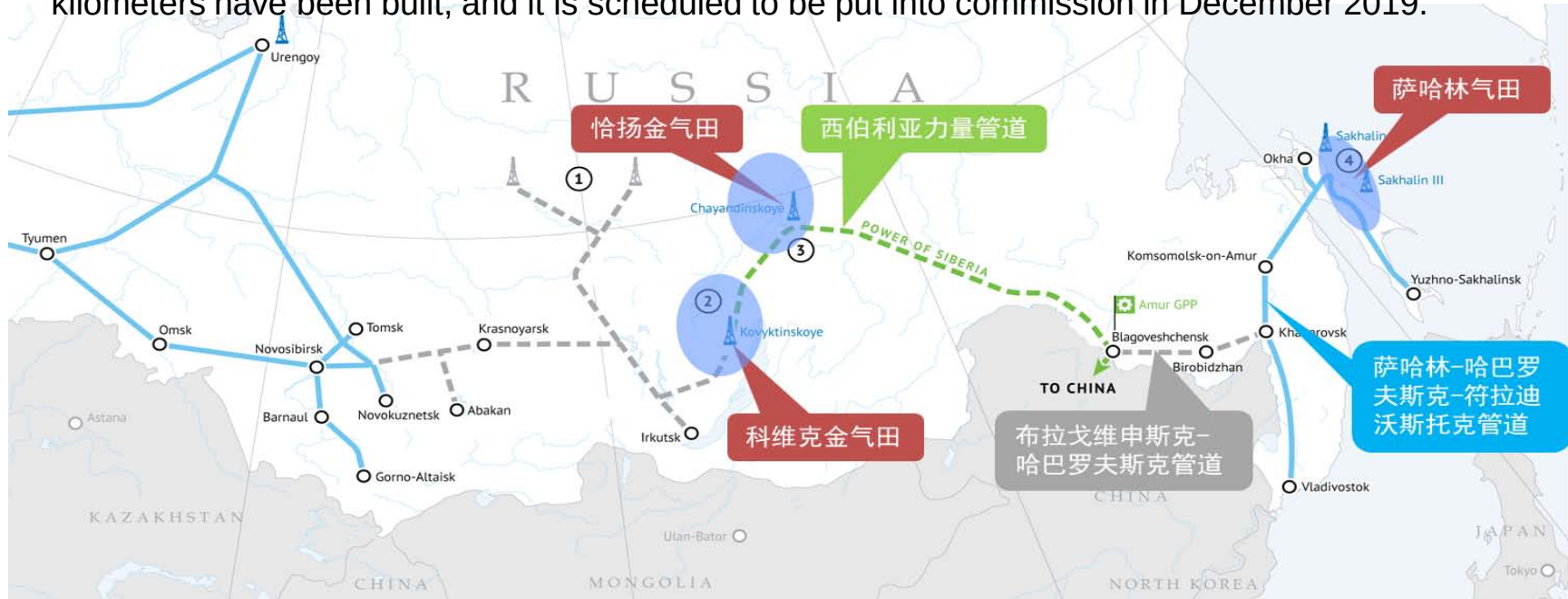


# 1. Brief Introduction of the Pipeline



## 2. Brief Introduction of the Project

- The Russian section is *the Power of Siberia Gas Pipeline*, starting from Kovikkin, Chayangjin gas field, ending in Blagoveshchensk/Heihe, with a length of 2,156 km; design capacity is 38 billion cubic meters per year; the diameter is 1,420 mm; the design pressure is 9.8 MPa. More than 2,000 kilometers have been built, and it is scheduled to be put into commission in December 2019.



# 1. Brief Introduction of the Pipeline



## 2. Brief Introduction of the Project

- The Chinese section begins from Heihe City, Heilongjiang Province, passing through the Northeast China, North China, East China and other regions, ending in Shanghai, with a total length of 3,340 kilometers, The diameter is 1422/1219 mm, with a design pressure of 12/10 MPa, and a designed capacity of 38 billion cubic meters per year.
- The Chinese section consists of three sub-sections, which are Heihe-Changling, Changling-Yongqing, Yongqing-Shanghai.





1. Brief Introduction of the Pipeline

2. Progress of the Chinese Section

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## 2. Progress of the Chinese Section



### 1. Heihe-Changling Section

- The Heihe-Changling section has a total length of 865 kilometers, a diameter of 1422 mm and a design pressure of 12 MPa. The pipeline is mainly laid in the Northeast region.
- It was approved by the state government in 2017 and 70% of the project has been completed as the construction work has been building over 600 kilometers.
- The construction shall be finished in October 2019.



## 2. Progress of the Chinese Section



### 1. Heihe-Changling Section (Control Engineering Work)

- The Heilongjiang/Amur River border river crossing project was jointly invested, constructed and operated by both China and Russia, and shall be commissioned by the China Petroleum Pipeline Bureau.
- The project is a controlled project in the Heihe-Changling section, with a length of 1.2 kilometers, including one main and one backup shield tunnels.
- At present, the main and backup shield tunnels have been completed, and pipeline installation work is ongoing. It is scheduled to be completed in October 2019.



## 2. Progress of the Chinese Section



### 2. Changling-Yongqing Section

- The Changling-Yongqing section has a total length of 1,110 kilometers, The pipe diameter is 1422 mm with a pressure of 10 MPa. The pipeline is mainly laid in the Northeast and North China.
- The construction work is planned to be started in early 2019 and shall be completed in 2020.



## 2. Progress of the Chinese Section



### 3. Yongqing-Shanghai Section

- The Yongqing-Shanghai has a total length of 1,446 kilometers, The pipe diameter is 1219/1422 mm with a pressure of 10 MPa. The pipeline is mainly laid in the East China.
- The construction work is planned to be started in early 2019 and shall be completed in 2020.





1. Brief Introduction of the Pipeline

2. Progress of the Chinese Section

3. Potential Benefits of the Project



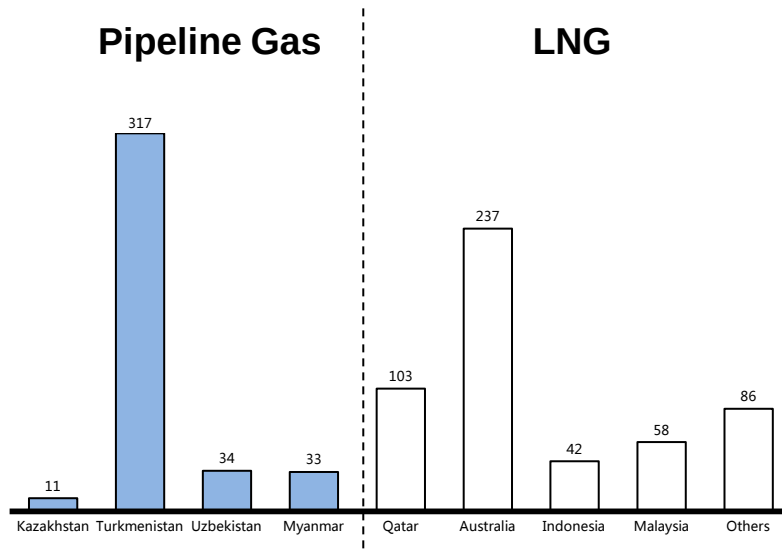
### 3. Potential Benefits of the Project

#### 1. Construct a “Belt and Road” Channel for Natural Gas Supply

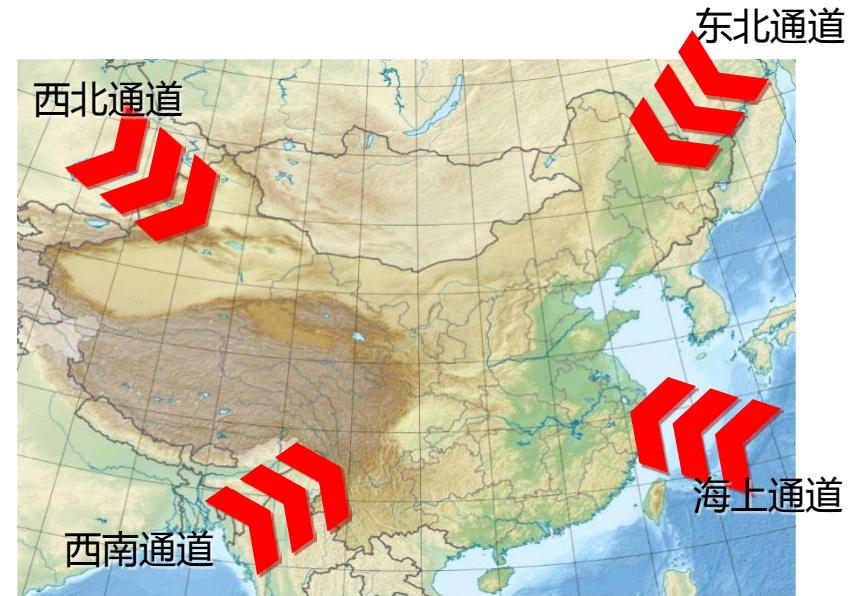
- It symbolizes the formation of strategic channels of the four major natural gas resources.

Natural gas import in 2017

Unit: 100 million cubic meters



Strategic channels for gas imports





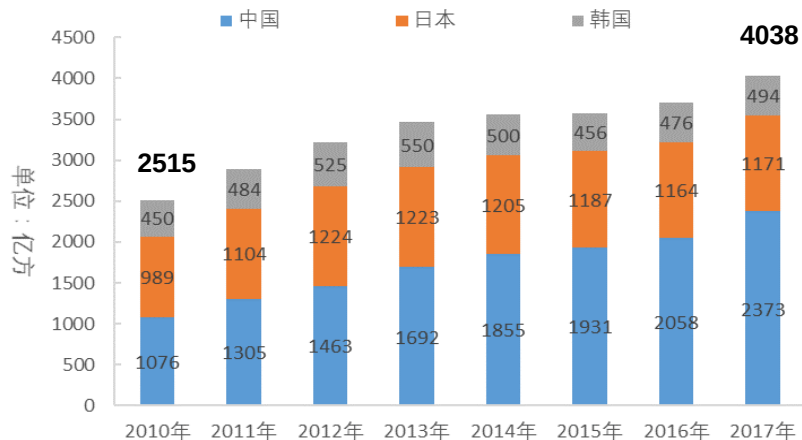
# 3.Potential Benefits of the Project



## 2. Enrich the Resources Supply in Northeast Asia

- Enhancing resource supply capacity in Northeast Asia and optimizing natural gas supply structure.

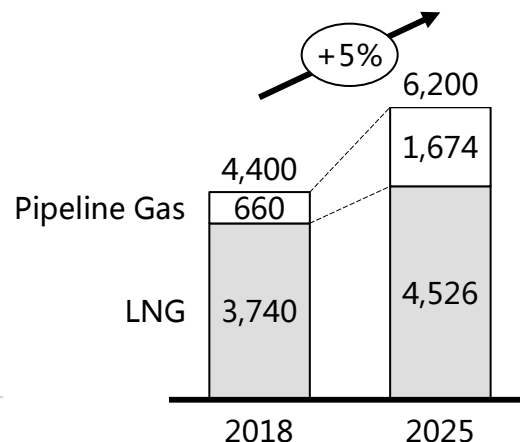
Natural gas consumption of major importing countries in Northeast Asia



- Northeast Asia is an important natural gas consumption region in the world, accounting for 11% of global consumption in 2017. Since 2010, the average annual growth rate has been 7.0%, of which China's growth rate has reached 12.0%.

Northeast Asian region's imported resources

Unit : 100 million cubic meter



- Natural gas imports in Northeast Asia are currently dominated by LNG, accounting for 85% of the total imports.
- The introduction of 38 billion cubic meters of natural gas from the Russia-China Eastern Route Pipeline will increase the proportion of pipeline gas in the region to 27% by 2025, an increase of 12%.
- Russia-China Eastern Route Pipeline will supply 38 billion cubic meters of natural gas, accounting for about 10% of the imported resources in Northeast Asia in 2025, it could greatly enhance the resource supply capacity of Northeast Asia.

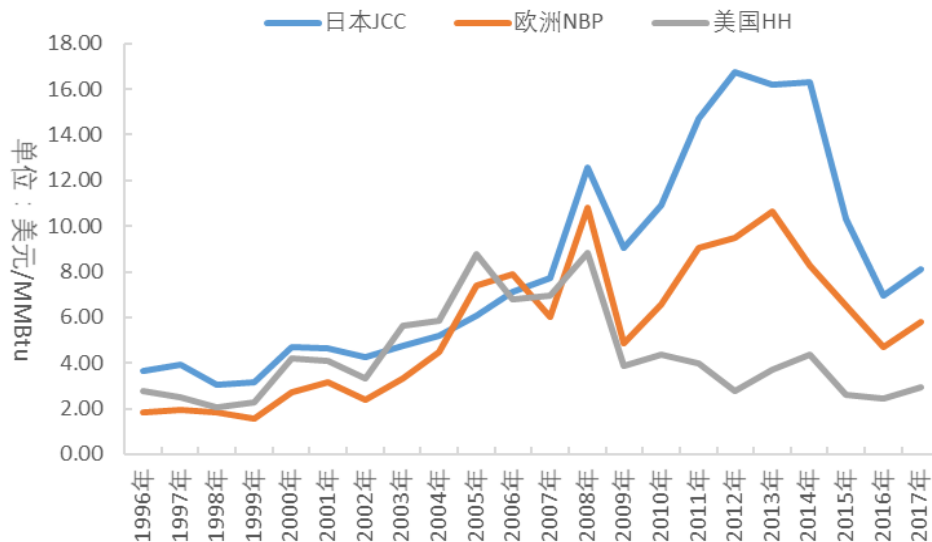
# 3.Potential Benefits of the Project



## 3. Promote the natural gas price in Asia back to reasonable and comparable range

- The first international natural gas trunk pipeline in Northeast Asia, reducing the proportion of LNG imports and forming regional price competition for pipeline gas and LNG.

Comparison of natural gas trade price trends in Asia, Europe and North America



- The characteristics of LNG as the dominated import resource in Northeast Asia have made the global LNG “Asian premium” phenomenon in the region, especially since 2009, this phenomenon has become more and more obvious.
- The introduction of 38 billion cubic meters of natural gas from Russia-China Eastern Route Pipeline has strong competitiveness, large quantity and great influence, which can effectively suppress the “Asian premium” phenomenon and will have an impact on the price formulation mechanism of the region.
- In the future, the natural gas price of Russia-China Eastern Route Pipeline may have a solid impact on the formulation mechanism of natural gas trade prices in Northeast Asia.

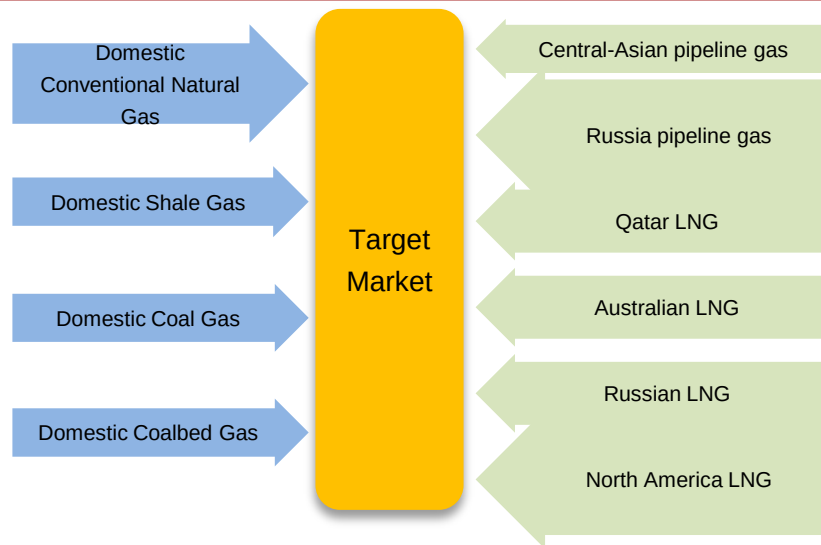
### 3.Potential Benefits of the Project



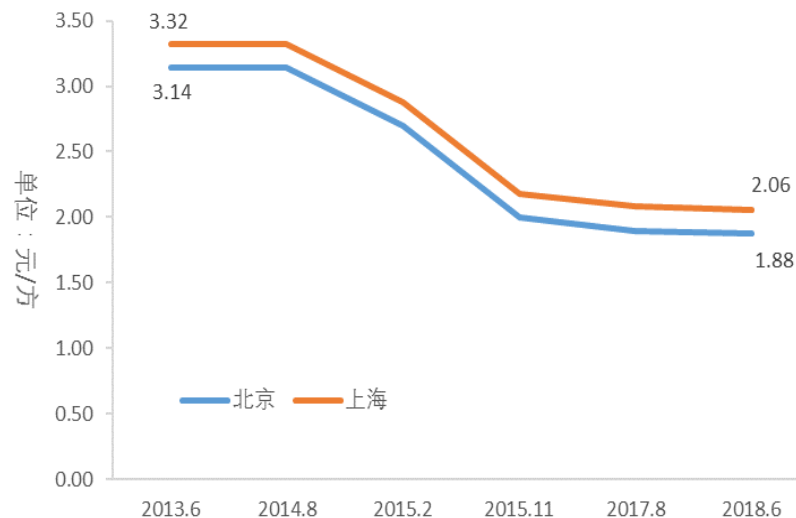
#### 4. Help to Build CHINA-HUB

- The target market of Russia-China Eastern Route Pipeline are highly diversified in the supplying resource. The international natural gas resources are fiercely competitive.
- Natural gas prices in non-residential gate stations of the target markets are declining year by year.

The competition player in the target market of Russia-China Eastern Route Pipeline



The price trend of the target markets of Russia-China Eastern Route Pipeline



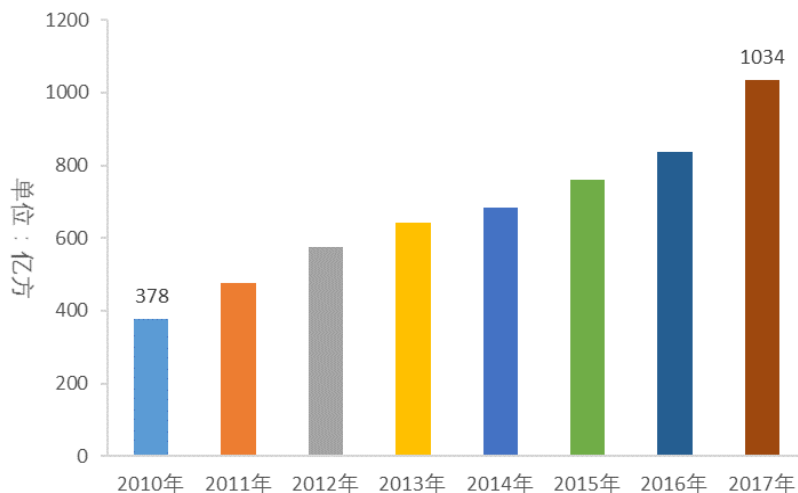
### 3.Potential Benefits of the Project



## 5. Covering One Half of the Chinese Market

- The target market of Russia-China Eastern Route Pipeline is huge and has good development potential.
- It covers 12 provinces(municipal cities), 47% of the country's total GDP, 39% of the population, and 44% of the natural gas market.

Target market consumption of Russia-China Eastern Pipeline



Regional coverage situation



### 3.Potential Benefits of the Project



#### 6. Improve Gas Flow Path Possibility and Pipeline Network Layout

- On the basis of the gas flow path from the West to East, the new flow path of North to South has been added.
- Further improving the layout of natural gas pipeline network in Eastern China.



### 3.Potential Benefits of the Project



#### 7. Promote Clean and Environmentally Friendly Development

- The construction of a ecological friendly civilization is the national policy, and the implementation of the project can effectively improve China's environment.

The project will:

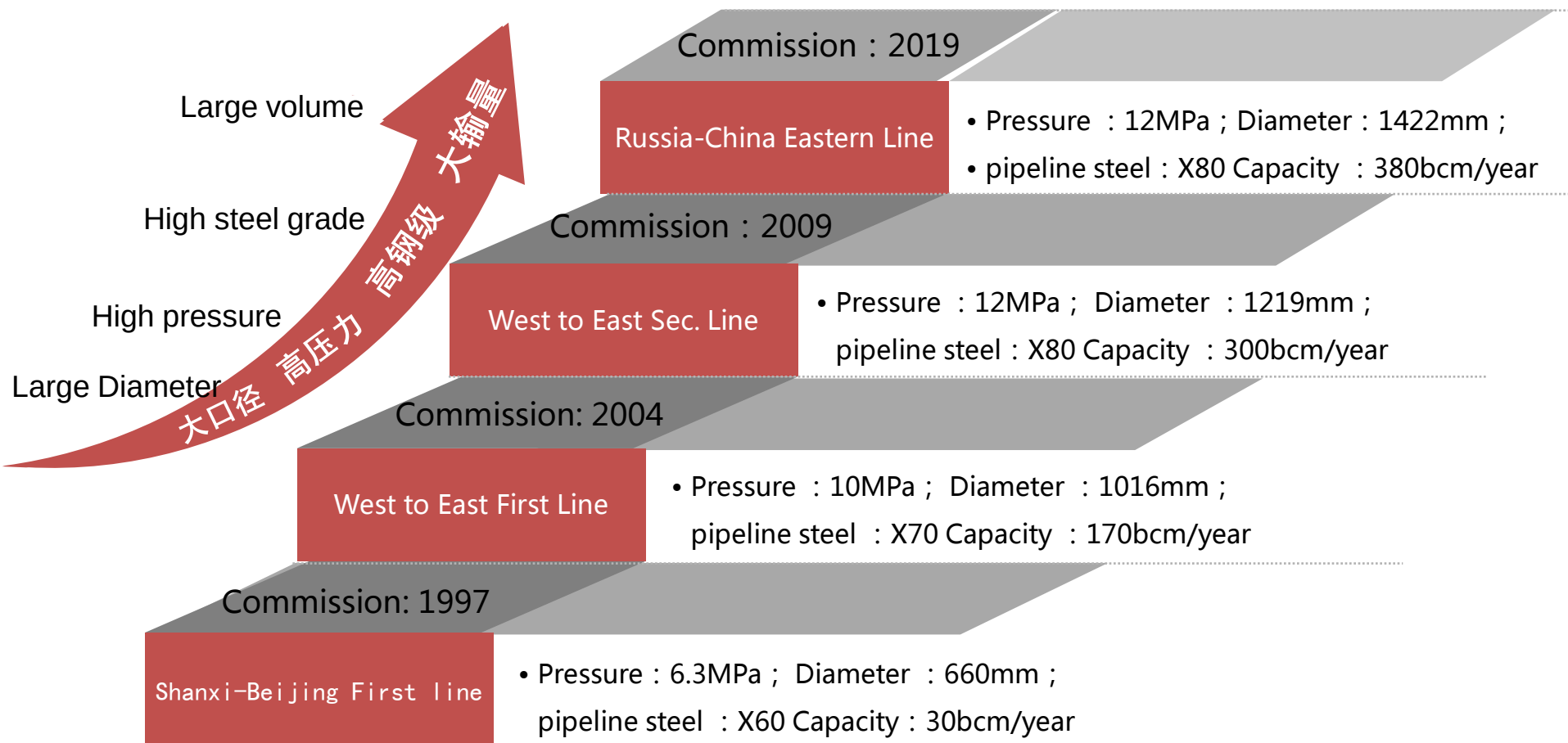
|                        |                           |
|------------------------|---------------------------|
| Replace coal           | <b>76.76 million tons</b> |
| Reduce carbon dioxide  | <b>163 million tons</b>   |
| Reduce sulfur dioxide  | <b>1.82 million tons</b>  |
| Reduce nitrogen oxides | <b>460,000 tons</b>       |
| Reduce dust            | <b>840,000 tons</b>       |

Per year





### 3.Potential Benefits of the Project



# Thank You!



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