Comparison of Natural Gas Regulation in China, Australia and the US

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Outline

• Purpose of this Research
• Review of Natural Gas Regulation in China
• Regulation System in Australia
• Regulation Regime in U.S.A
• Comparison and the way forward
Purpose of this Research

• Strong correlation between energy and economic fluctuation;
• Example: natural gas plays a vital role in post-tsunami era in Japan;
• Regulation regime is the back-bone for natural gas industry
Review of Natural Gas Regulation in China (Industry Review)

- China’s GDP raised from $11.54 trillion in 2011 to $13.39 trillion in 2013;
- However, China’s energy consumption still largely rely on coal and crude oil

(Source: Hu Yanqing, 《中国能源消费版图》)
Review of Natural Gas Regulation in China (Approval Regime)

• China’s natural gas approval system is government based

• Two main parts:
  a. MOLR: Exploration & Production Permission
  b. NDRC & NEA: preliminary enquiry of project & rotating approval
Review of Natural Gas Regulation in China (Jurisdiction & Policy)

- Drafting of national natural gas law is still in discussion;
- Hybrid legislation: Law mixed up with government document

- China’s Twelfth Five Year Plan
- China’s Twelfth Five Year Plan for Natural Gas Development
- Law of PRC on Mineral Resource
- Oil & Natural Gas Pipeline Protection of PRC
- Law of PRC on Work Safety
- Measurement of Free & Fair Access to Pipeline in PRC
- Technical Role & Act
Review of Natural Gas Regulation in China (Milestone)

• “Measurement of free and fair access to pipeline in People’s Republic of China”

• It is not a legal binding document; however, it initiates the establishment of mid-stream equal access regime
Review of Natural Gas Regulation in China (Milestone) (Cont.)

- CNPC Fractionize its Middle-Stream Assets:
  Consolidate assets and liabilities for China West-East Pipeline Phase 1 & 2 into Eastern Pipeline Corp, and sell stock right to private enterprise.
Regulation system in Australia

- Three Gas Markets: East, West and North;
- Long Term Contract;
- Sydney and Adelaide hubs for short Term Trading Market -- a day ahead wholesale spot market for gas.
Regulation Regime in U.S.A

- U.S. domestic energy can be divided up into oil, natural gas, coal, nuclear and renewable energy. These five sources of energy are vital for both living and industry production.

- The U.S. natural gas market has experienced 100 years of development. Through this 100 years, the regulation of natural gas has changed a lot. Nowadays, the United States is the world's most opening gas market, which is also a highly competitive gas market and an efficient pipeline transportation market.
## Regulation Regime in U.S.A

<table>
<thead>
<tr>
<th>Time</th>
<th>Issues</th>
<th>Results</th>
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<tbody>
<tr>
<td>1900s</td>
<td>Early gas development and regulation</td>
<td>Natural monopoly, lack of any competitor</td>
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<tr>
<td>1911 to 1928</td>
<td>The federal government began to intervene</td>
<td>The U.S. Supreme Court determined that the management of interstate pipeline network from the state government was contradicted to the Constitution's regulations.</td>
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<td>1938</td>
<td>U.S. natural gas bill</td>
<td>The federal government began to directly manage interstate gas business.</td>
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<td>1954</td>
<td>Philips resolution - Price Management</td>
<td>The High Court stated that the sale of natural gas producers to interstate natural gas pipeline operators should be regulated by the Federal Government.</td>
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<td>1978</td>
<td>Natural Gas Policy Act</td>
<td>This act attempted to constrain the highest gas prices and remove legal barriers to interstate natural gas sale.</td>
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<td>1985</td>
<td>The Federal Energy Regulatory Commission Act No. 436</td>
<td>The act allowed the pipeline company provides its pipeline transportation services to users based on specific requirements, which pipeline Service charges were set to upper and lower limits. Users could freely select price within this range.</td>
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<td>1989</td>
<td>Anti-controlled natural gas act</td>
<td>The wellhead price was finally allowed to move freely.</td>
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<td>From 1992 to now</td>
<td>The Federal Energy Regulatory Commission Act No. 636</td>
<td>The act completed the final step to separate the natural gas pipeline transportation services with products, any user could freely choose natural gas sellers, network operators and natural gas storage providers, also freed to choose the quantity of natural gas as well.</td>
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In recent years, America's total energy consumption has declined to 95Q Btu at 2009. Total U.S. domestic energy production experienced significant growth during 2007 to 2012, however, because of its increased exports and decreased imports of energy, the total energy consumption in the United States declined by 6.13 percent during this time period.
Regulation Regime in U.S.A

- The USA’s shale gas exploration and development began from the 19th century. However, due to technical and policy reasons, people showed not so many interests in it. Until the year 2000, due to the rising gas prices and the progress of drilling technology, shale gas became economical to explore and develop, especially in 2009, with the rapid development of shale gas makes, the U.S. natural gas reserves increased by 40%, and the United States has gradually changed from natural gas importer to exporter.

Shale gas leads growth in total gas production through 2040 to reach half of U.S. output

Source: EIA, Annual Energy Outlook 2014 Early Release
Comparison

Legislation within these three countries varies

• Australia and the USA—the Common Law system

• China—the Civil Law system
Comparison

• Who are the regulators and the authorities?

• Who are the regulators responsible for?

• The objectives of regulation

• Why is regulation needed?
The Way Forward

• Improvement in China’s natural gas regulation will be required.

• What can be done?
THANK YOU!