

Asia gas hub: To be or not to be?

Dr. Kaho YU



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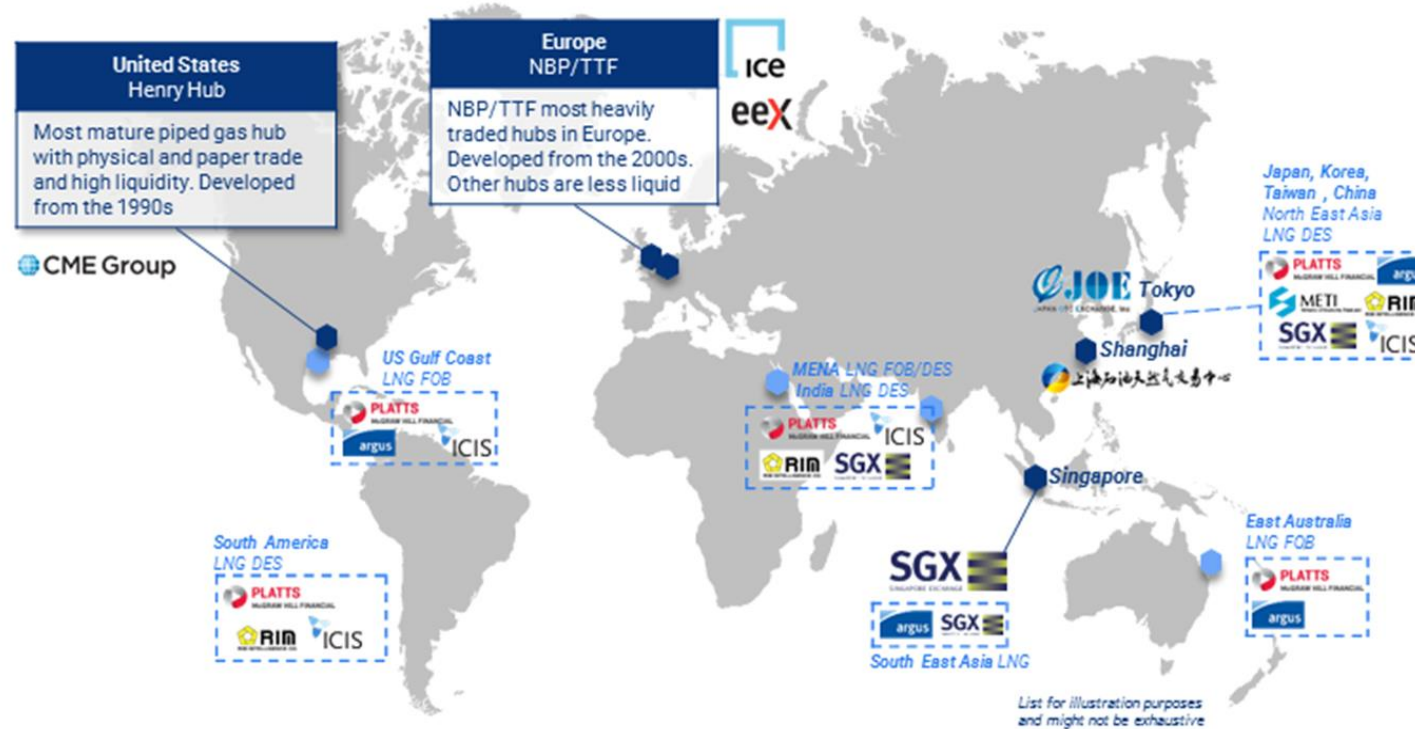
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- **Factors driving the creation of an Asian gas hub**
 - **Competition among Asian ports: a Chinese gas hub?**
 - **Role of Singapore**
 - **Q&A**



Factors driving the creation of an Asian gas hub

Factors driving the creation of an Asian gas hub

LNG hubs across the globe



Source: Wood Mackenzie



Factors driving the creation of an Asian gas hub

Why Europe or US hub?

- **Mainly oil-indexed price, but other price indices rising**
 - European spot prices
 - US FOB price
 - Japan Korea Marker (JKM) published by Platts.
- **JKM rising but remains small**
 - Physical market or hub with daily liquidity is absent
- **Europe is still the global benchmark for LNG spot:**
 - Liquidity
 - Financial instrument
 - Trade between Atlantic and Pacific regions



Factors driving the creation of an Asian gas hub

Why create a gas hub?

- Gas hub: a central pricing point for gas trading
- To avoid domination by a few producers
- To secure gas supply (import) and promote continuity of gas supplies (export)
- Boost economic growth and earning potential
- Generate investments, innovation and trading activities



Factors driving the creation of an Asian gas hub

Criteria for a gas hub?

- Diverse sources of gas supply – domestic, LNG and pipeline
- Strong and diverse customer base – power, industry, households
- Liquidity – robust daily trades and market liberalisation
- Regulation – support by the government
- Independent legal system – protects traders and investors
- Robust infrastructure network – storage sites, pipeline network, ports



Factors driving the creation of an Asian gas hub

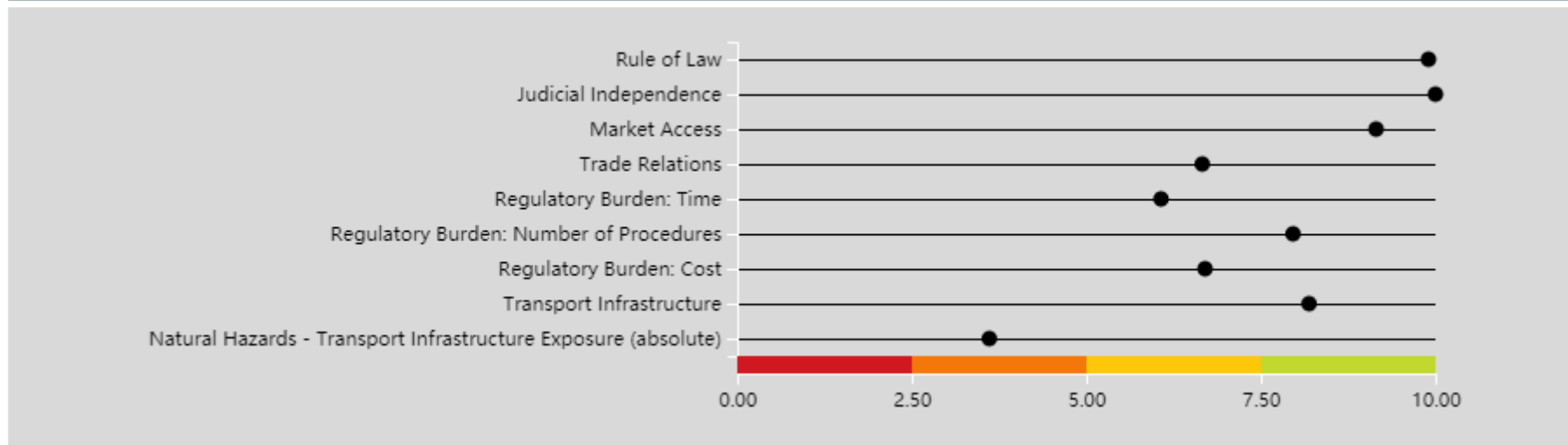
Risks associated with a gas hub?

- Market risks – supply and demand
- Policy and regulatory unpredictability
- Regulatory burden – time, cost and number and complexity of procedures
- Infrastructure risk – natural hazard on transport facilities
- Big power relations – trade disputes, tariffs on LNG

Factors driving the creation of an Asian gas hub

Risks associated with a gas hub?

Risk Scorecard for Germany's Gas Hub





Competition among Asian ports: a Chinese gas hub?

Competition among Asian ports: a Chinese gas hub?

China's advantages

Market

- Largest gas market in Asia
- Likely the largest LNG importer by 2025
- LNG exporter targeting Chinese market

Policy

- Free trade zone, e.g. Zhoushan Connectivity - Belt and Road
- Coal-to-gas policy

Infrastructure

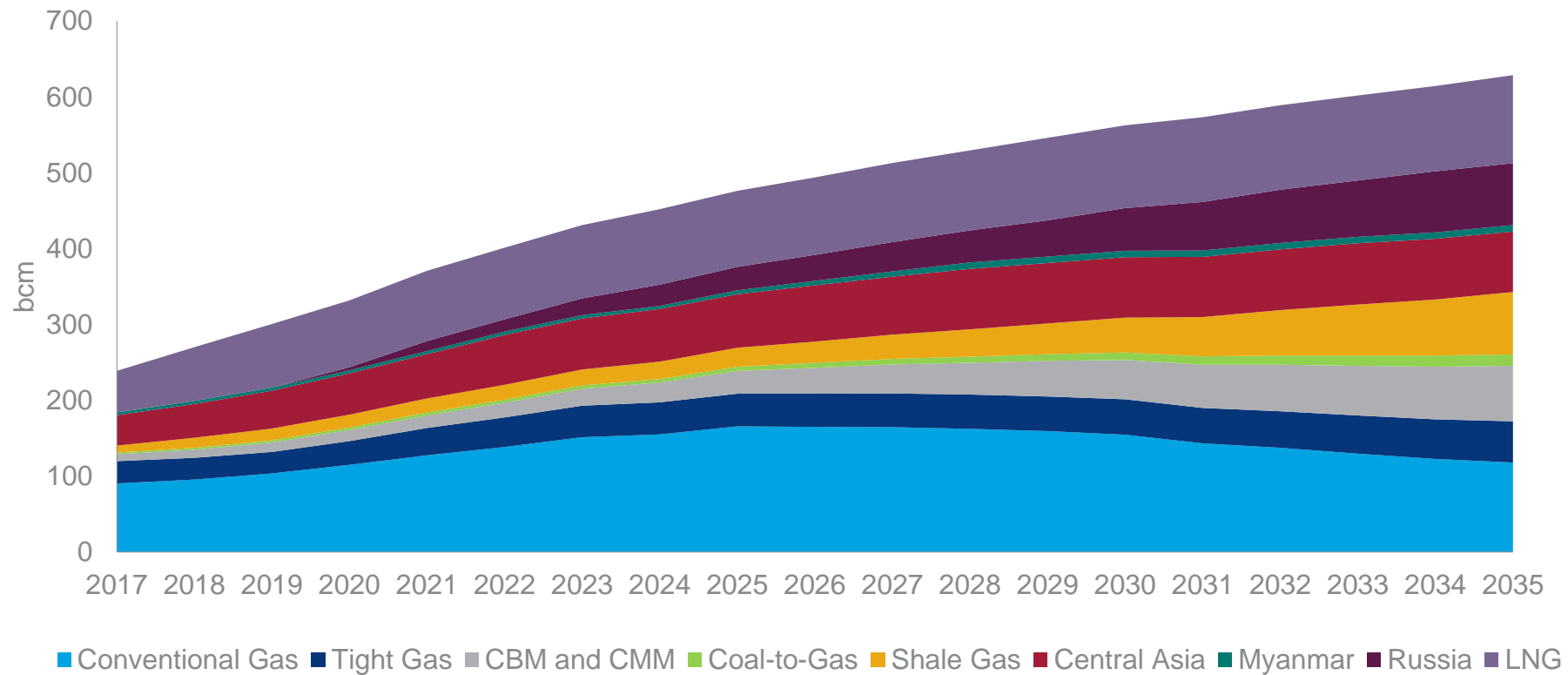
- West–East Gas Pipeline
- Pipeline gas-to-LNG
- New LNG terminals

China to establish an Asia gas Hub?

Competition among Asian ports: a Chinese gas hub?

China's gas demand and supply

- Forecast of China's domestic and imported gas supply



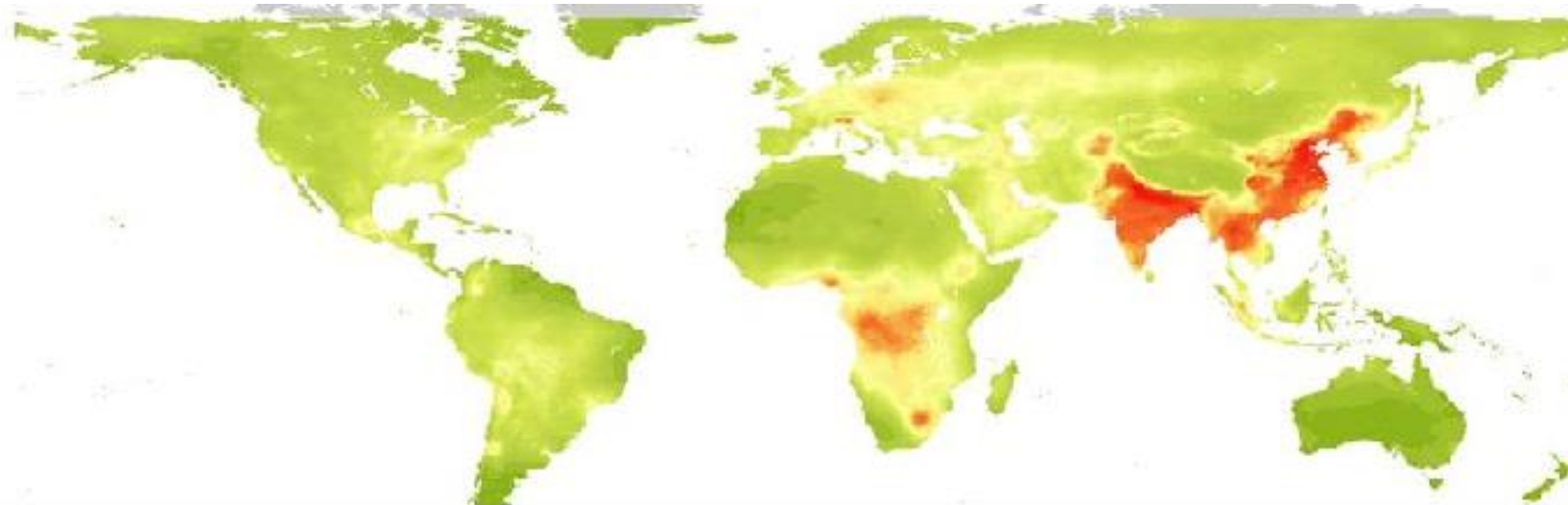
Source: Wood Mackenzie

Competition among Asian ports: a Chinese gas hub?

Coal to gas policy

- In order to improve air quality, China is shifting from coal to gas

Verisk Maplecroft's Air Quality Index Map

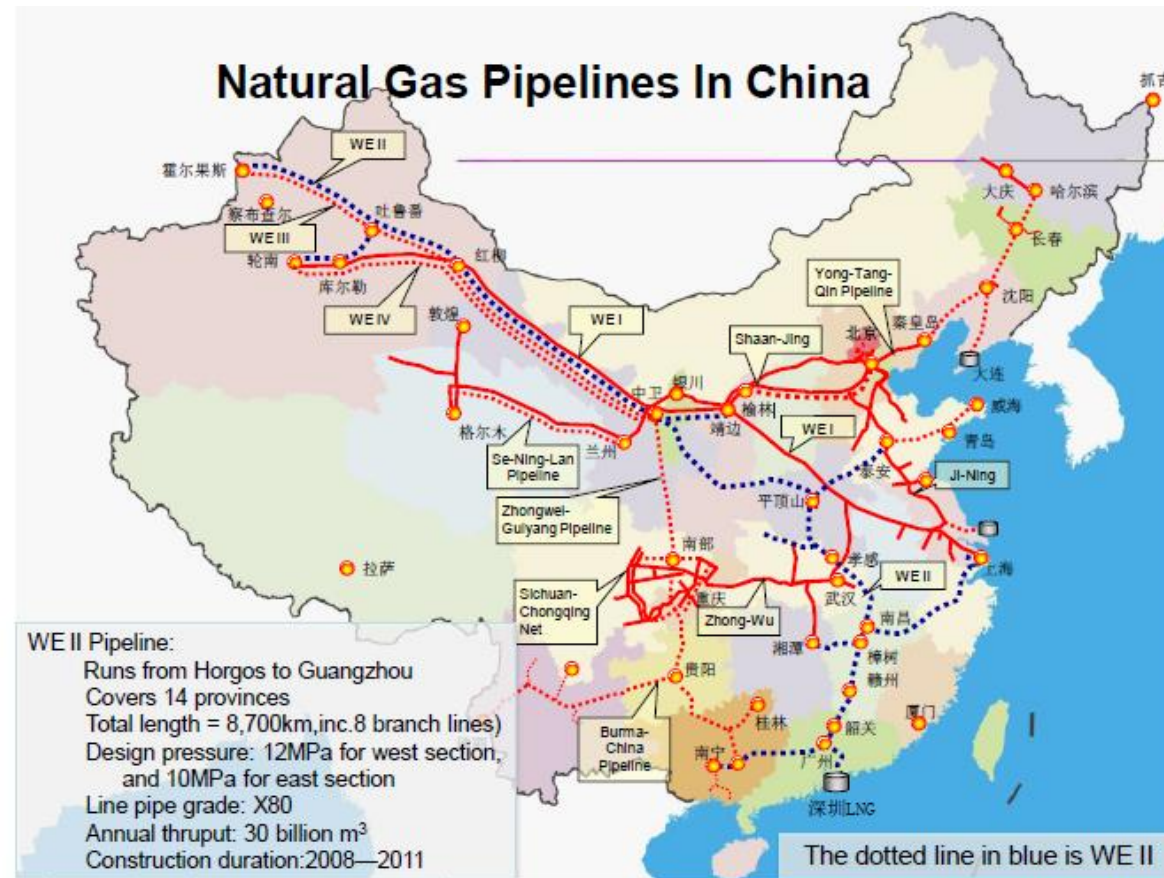


The index score is presented on a scale of 0-10, where 0 represents highest risk and 10 represents lowest risk. The risk category is based on the index score as follows:

● Extreme 0-2.5 ● High > 2.5-5 ● Medium > 5-7.5 ● Low > 7.5-10

Competition among Asian ports: a Chinese gas hub?

Robust infrastructures: Pipeline network and LNG terminals



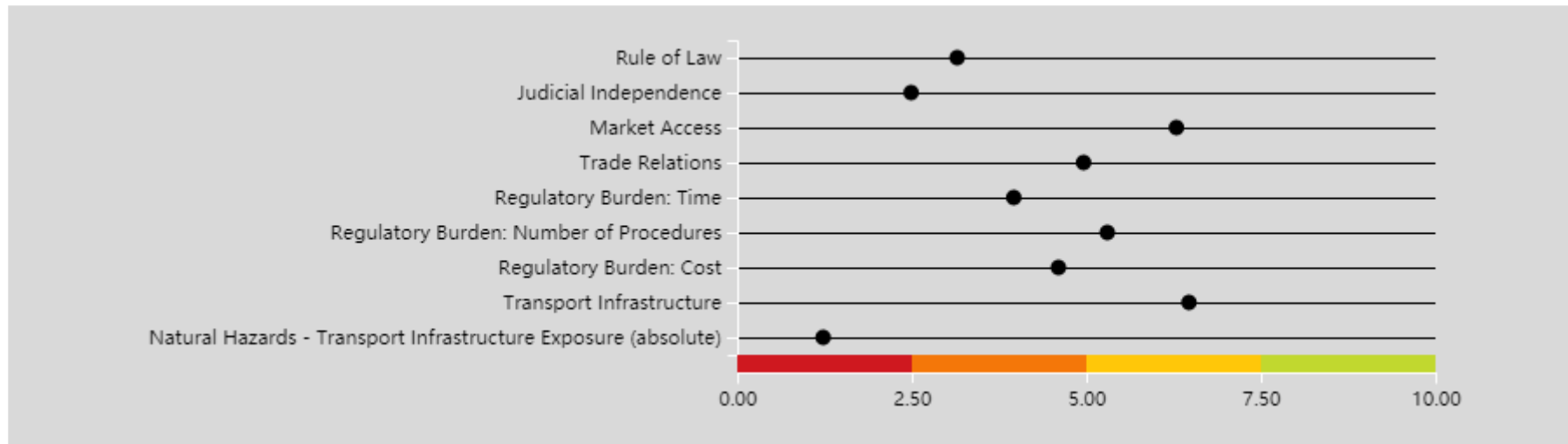
Note: For the actual WEP II and III route, see Keun-Wook Paik, *Sino-Russian Oil and Gas Cooperation*, p. 239 (map).

Source: CNPC (2011). Paik Keun-wook (2015) *Sino-Russian Gas and Oil Cooperation*, OIES

Competition among Asian ports: a Chinese gas hub?

A good distribution center but far from a hub

Risk Scorecard for China's Gas Hub



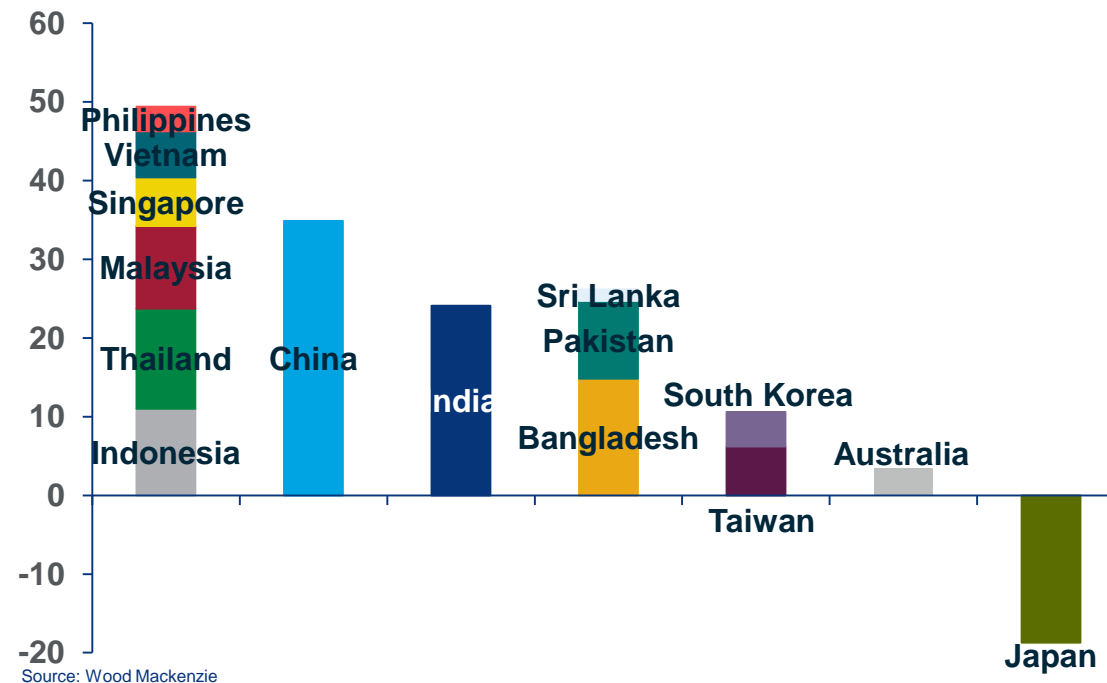


Role of Singapore

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Southeast Asia gas market

- LNG demand grows across Asia despite China's dominance
- Southeast Asia vs China: LNG demand growth 2017-2030

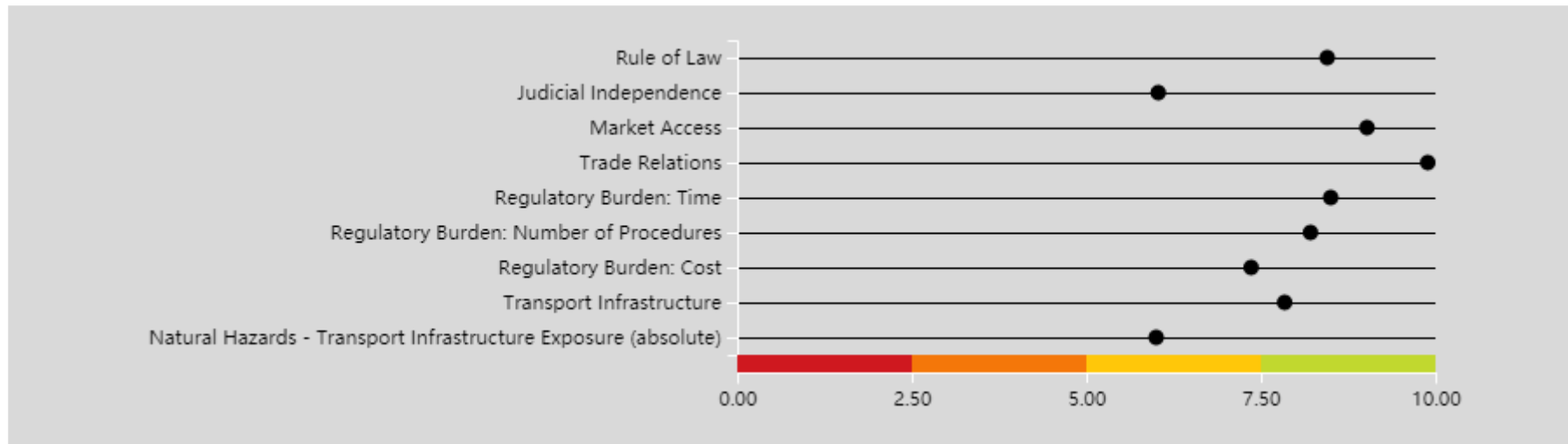


Source: Wood Mackenzie

Role of Singapore

Hub and arbitration center for Southeast Asia LNG market?

Risk Scorecard for Singapore's Gas Hub





Thank you!

Q&A

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