

5<sup>th</sup> Oil and Gas Security Network Forum  
Sendai, Japan

2019 OGSS proposal

Changing LNG market dynamics – impacts on supply security  
in the APEC region

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# 2019 APERC-IEEJ OGSS research outline proposal

## **Key question to answer**

How to enhance LNG supply security in the APEC region?

## **Policy importance of the question**

Help APEC economy governments understand the current challenges.

## **Background**

In 7th edition Outlook, natural gas supply is projected to grow most rapidly among the fuels in the APEC region, rising from 1 700 Mtoe in 2016 to 2 663 Mtoe in 2050 with 1.3% CAGR (compound annual growth rate) (coal -0.47% CAGR, oil 0.44% CAGR, nuclear 1.1% CAGR, renewables 1.7% CAGR). The rising demand of natural gas shows its growing importance in the fuel mix as the APEC economies tackle climate change, hence ensuring the supply security of LNG has become an essential topic in energy security studies.

## **This project will**

- (1) Examine current challenges and dynamics that current and potential LNG importing economies are facing
- (2) Quantify the LNG supply security using APEC Energy Demand and Supply Outlook 7<sup>th</sup> Edition.

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## **Chapter 1 Defining supply security**

- The fundamental elements of LNG supply security.  
Stability, diversity, accessibility (infrastructure completeness), affordability (price)

## **Chapter 2 Identify the dynamics/current challenges of LNG supply security**

- emergence of portfolio players and potential dominance
- enhancing flexibility of LNG supply, such as destination restrictions removal
- inability to attract sufficient investment in LNG facilities
- labour constraints for infrastructure build-out
- choke points: binding constraints on canal capacity might increase LNG costs (Reroute, swap, finding a new source)
- demand-side: lack of infrastructure could lead to high costs

## **Chapter 3 LNG supply security quantification**

- Dependency of choke points (Malacca choke point etc.)
- Infrastructure completeness
- Gas demand diversification and dependency on single source

## **Chapter 4 Policy implications**

- Help APEC economy governments understand the current challenges.



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