

# APEC ENERGY MIX: Can Gas Replace Coal?



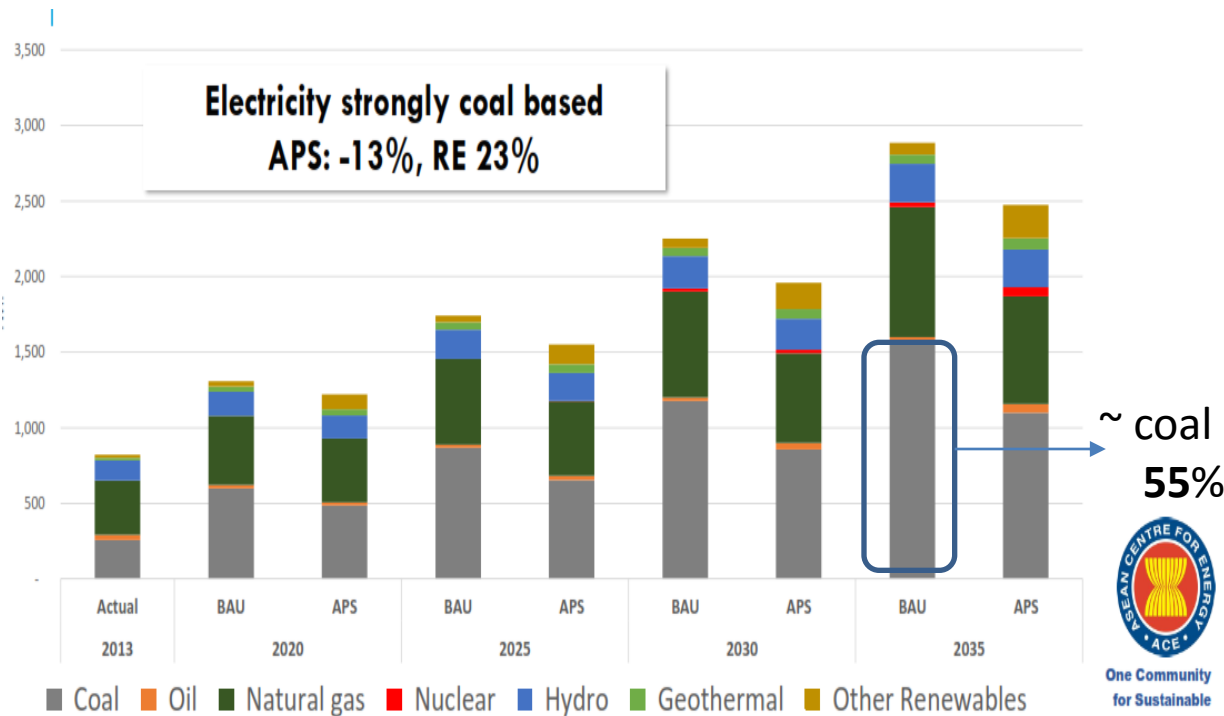
**SATRYNUGRAHA**  
SECRETARY GENERAL OF THE NATIONAL ENERGY COUNCIL,  
INDONESIA

**APERC ANNUAL CONFERENCE**  
TOKYO, 25 MAY 2016

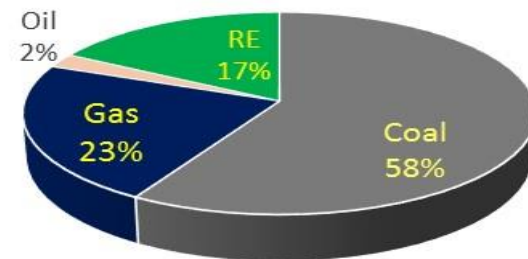


# Could prolonged low gas prices make gas fired generation more attractive than coal in South East Asia?

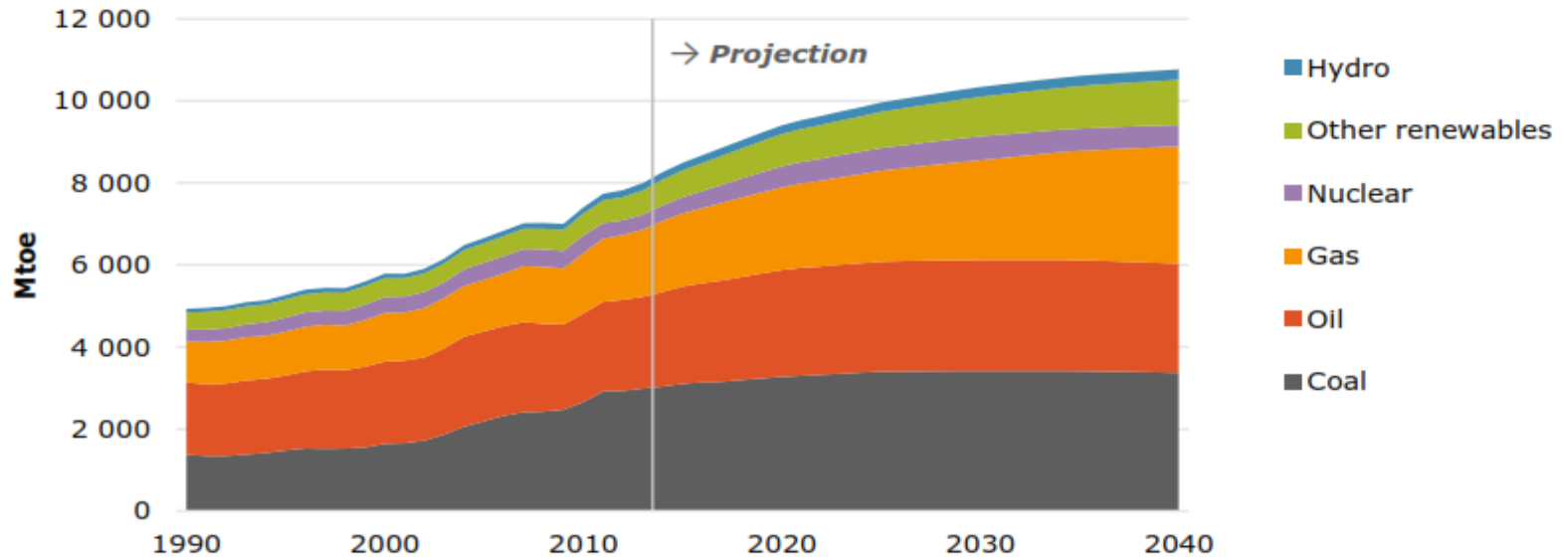
- Coal as backbone of electricity generation in SEA
- Gas for electricity vs feedstock for industry
- Coal vs Climate Change



Outlook Energy Indonesia 2025



# The Momentum of Gas as Transition to RE

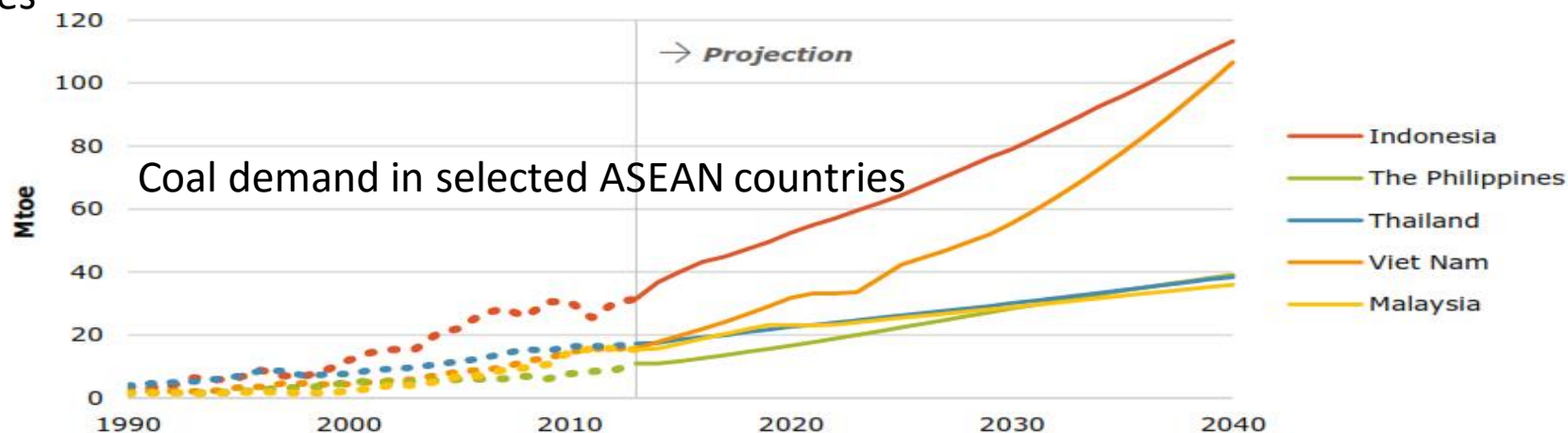


Sources: APERC analysis and IEA (2015).

- Promising APEC outlook: Gas projected to grow by 74%, coal 13% to 2040
- Applicable desirably to rich gas producing countries or countries already have good gas pipelines/LNG connectivity
- Gas price must be maintained at good level to satisfy both producing and consuming countries
- Not to make new dependency on gas

# Promoting Cleaner Coal Technology

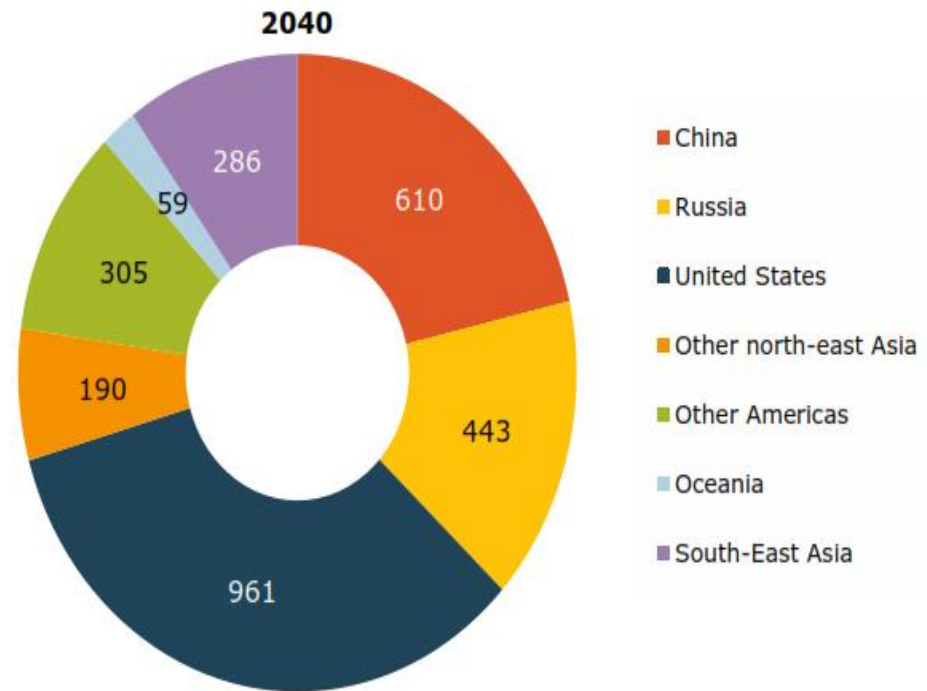
- Mandatory or incentive based approach to use cleaner coal technology for new coal fired power plant (CFPP)
  - In the case of Indonesia 600 MW CFPP “will be prioritized” when use super critical and >1000 MW ultra super critical
- Refurbish or upgrading old CFPP with cleaner technology
- Need support from banking or multilateral funding
- Regional connectivity projects and cooperation should only use cleaner coal technologies
- Carbon capture and storage need international cooperation and support from developed countries



Sources: APERC analysis and IEA (2015).

# Is the gas market in East Asia robust enough to push for higher gas usage?

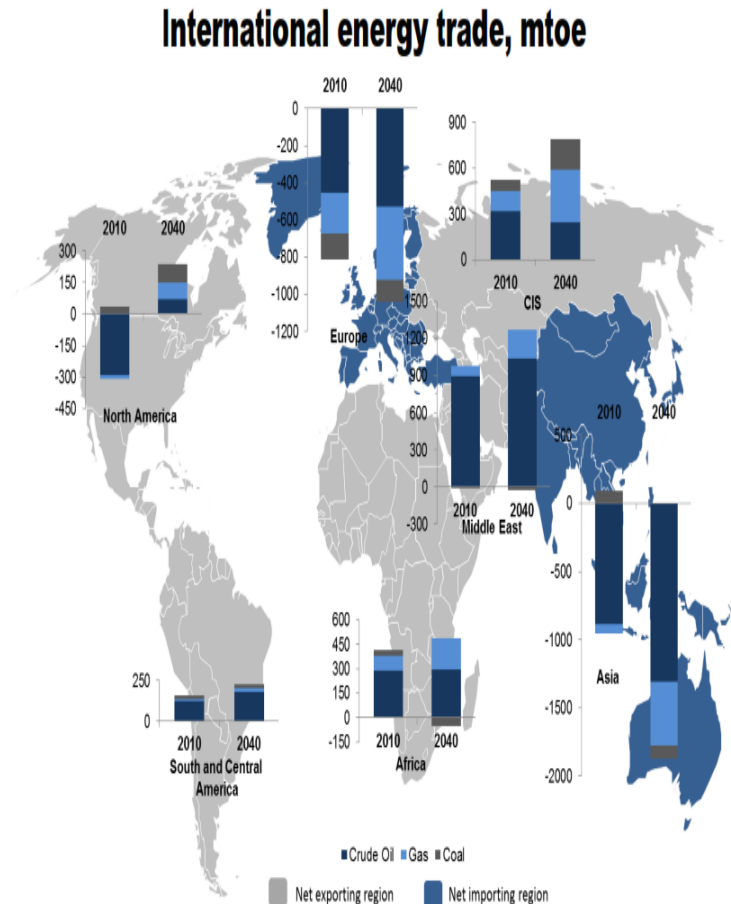
- The region has big gas reserves and in the proximity of major gas exporters
- Supported by more diversified use of gas
- With current and prolonged low price and its less greenhouse gases emission advantages, gas use will continue to increase subject to availability of local and regional pipelines and LNG facilities



Natural Gas Demand (BaU, Mtoe)  
APEC Outlook, 2016

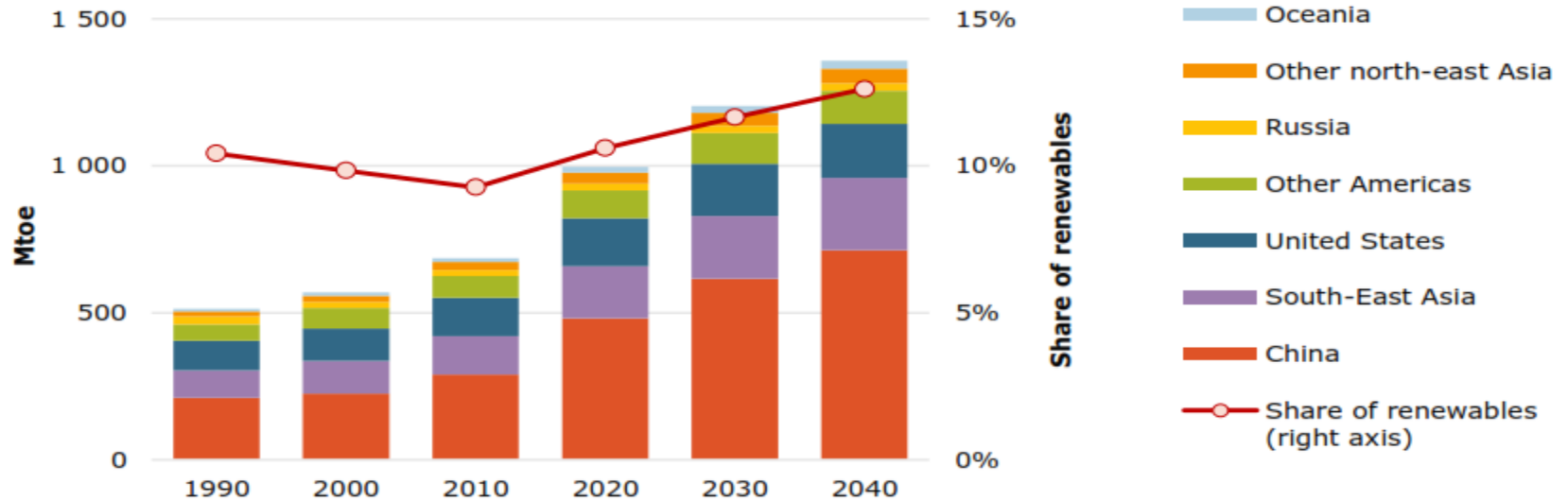
# Should further gas/LNG trade among APEC members be promoted and if so how can this be done?

- In 2014, 80% of global LNG trade in APEC region
- Expanding trade flows will push the price more competitive
- Promoting energy market integration
  - Supported by APEC Leader
  - Need conducive climate for energy investment and trade
- Joint development of cross border gas pipelines and LNG facilities/hub



Source: Global and Russian Energy Outlook up to 2040. ERI RAS-AC. 2013.

# Renewable Energy Development in APEC Region: Main Challenges (APEC to double the share of RE by 2030 from 2010 level)



Sources: APERC analysis and IEA (2015).

- Large hydro and geothermal prospect are located outside demand center
- Technology solution to address the intermittent flows of renewable power
- Role of local manufactures/technology
- Land acquisition especially at forest protected areas
- Consistent policy and fiscal and non fiscal incentives
- Support from multilateral/bilateral funding

**Thank you**

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