# LNG Producer-Consumer Conference 2016: Natural Gas Market Development in ASEAN

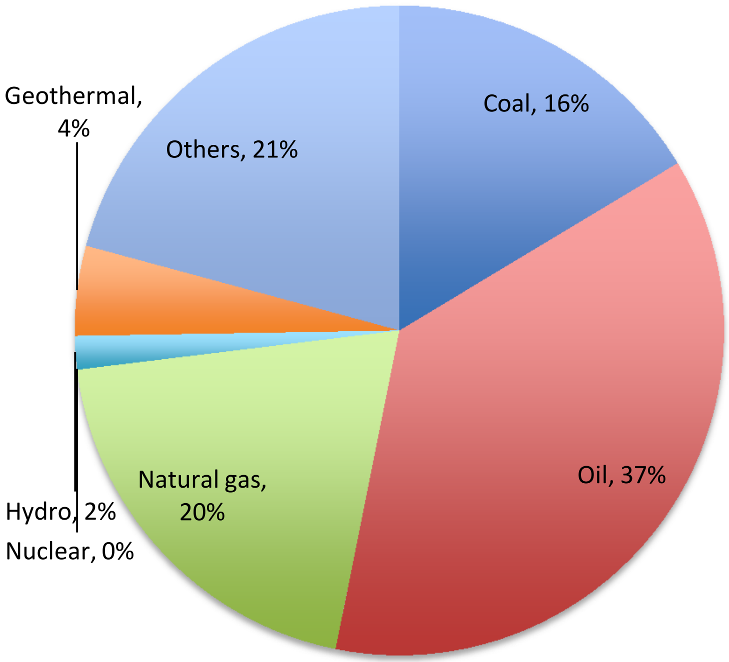
Hidetoshi Nishimura
Tokyo, Japan
24-Nov-2016

www.eria.org

Economic Research Institute for ASEAN and East Asia

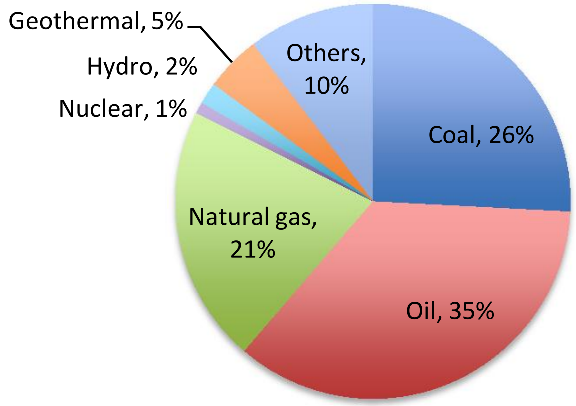
# Energy Mix in the ASEAN Region

### ASEAN Energy Mix in 2012

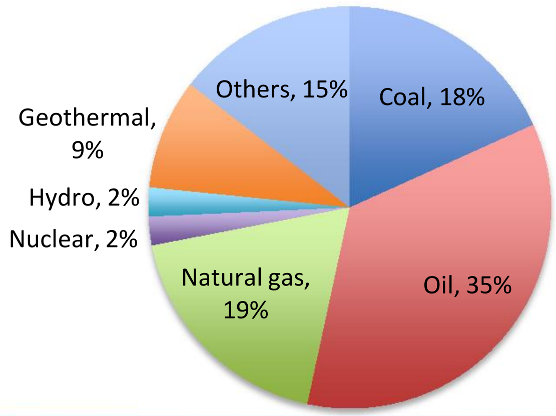



Source: ERIA (2016)

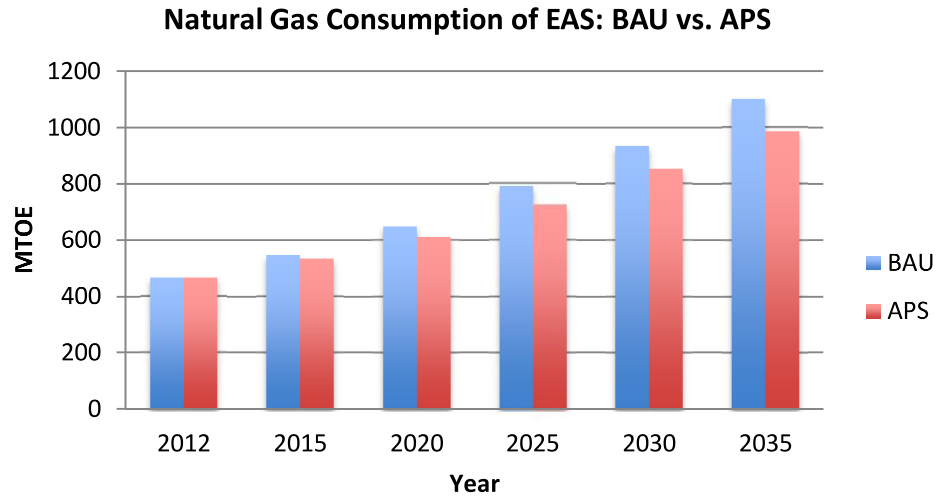
### ASEAN Energy Mix in 2035: BAU

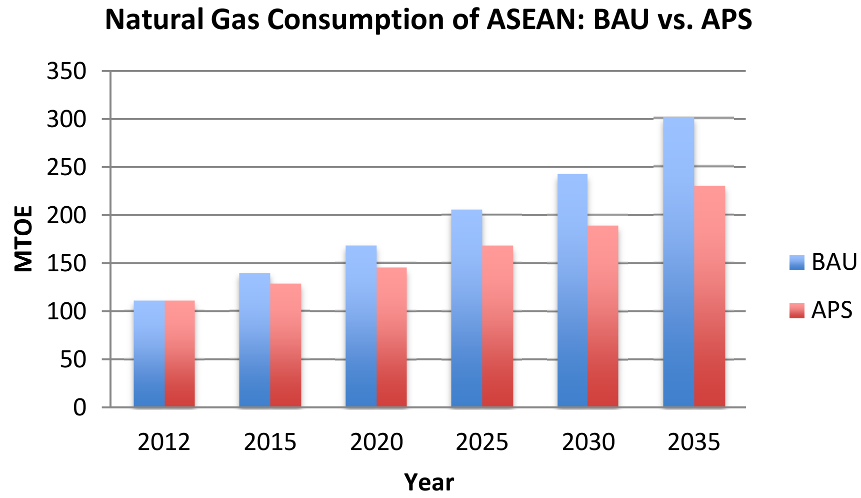


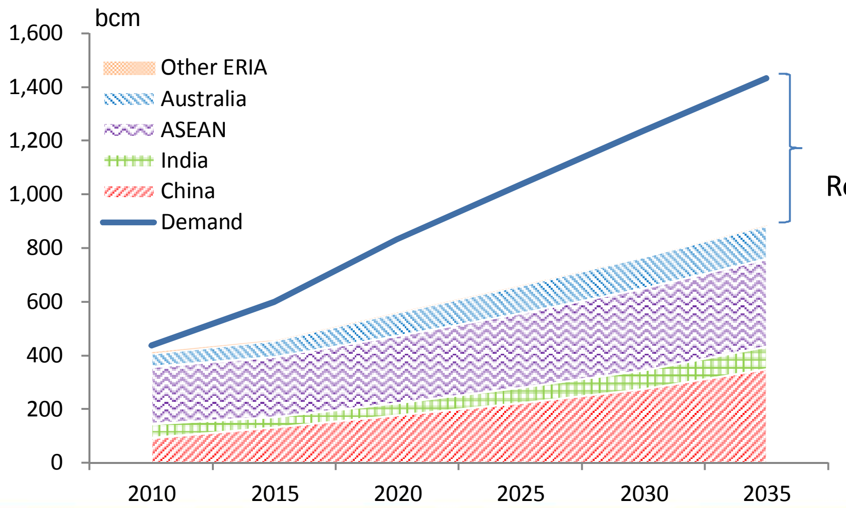

### ASEAN Energy Mix in 2035: APS



# Natural Gas Demand Outlook in EAS and ASEAN



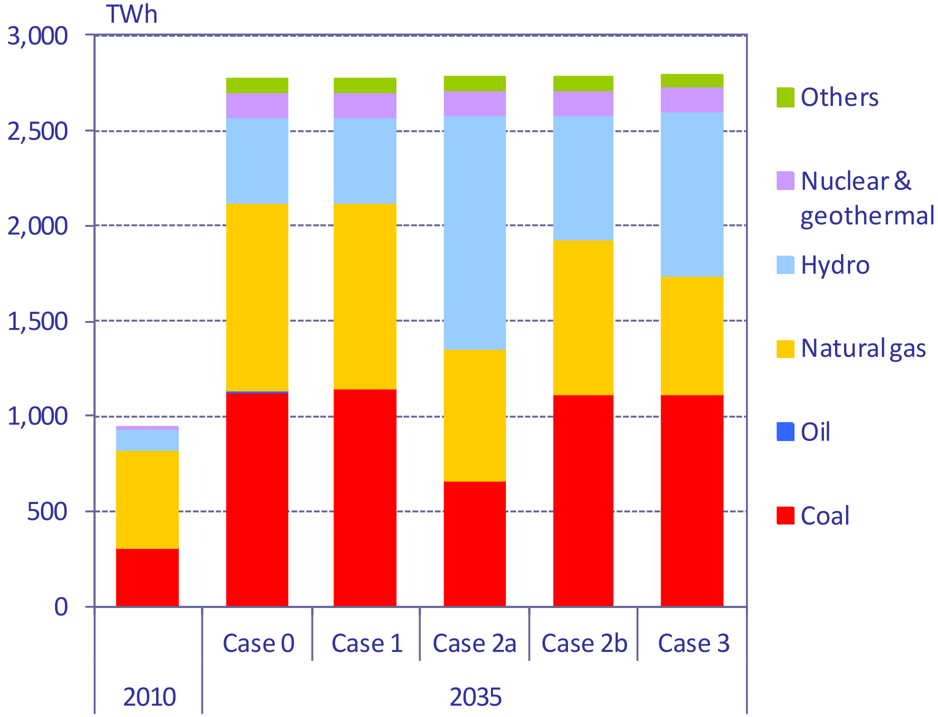




The Gap between Projected Demand vs. Supply from within the Region will Reach 546 bcm per year by 2035

Source: ERIA (2016)

# ASEAN Power Grid and the Future Fuel Mix for Power Generation




| | Resource availability | Stability electricity output | Generating cost | Environmental friendliness | Necessary action |
|---|---|---|---|---|---|
| **Coal** | good | good | good | bad | **Improve efficiency** |
| **Natural gas** | good | good | medium | medium | **Reduce price** |
| **Hydro** | medium | good | good | good | **Develop potential capacity** |
| **Biomass Geothermal** | medium | good | medium | good | **Financial support** |
| **Wind Solar** | **good** | **bad** | **bad** | **good** | **R&D for smart grid Financial support** |

Case 0: Reference case (no grid connection)
Case 1: Grid connection, no additional hydro-potential
Case 2a: Grid connection, additional hydro-potential
Case 2b: Grid connection, additional hydro-potential (only utilized for export)
Case 3: Same as Case 2b, with no upper limit for the grid connection capacity

Source: ERIA (2016)

# ASEAN Policies on Regional Natural Gas Market

| | |
|---|---|
| **Outcome-based Strategy 1: Enhance gas & LNG connectivity via pipeline and regasification terminals.** | |
| Action Plans | a. Develop at least one (1) new LNG regasification terminal or a cross border gas pipeline by 2020.<br>b. Implement open access system by at least one (1) AMS by 2020.<br>c. Develop consolidated information (Technical Database) on ASEAN Gas Infrastructure. |
| **Outcome-based Strategy 2: Enhance gas & LNG accessibility via pipeline and regasification terminals.** | |
| Action Plans | a. Establish a standard clause for LNG cargo diversion and destination flexibility for ASEAN LNG Contracts.<br>b. Establish a manual and procedures for the operationalisation of APSA/CERM. |
| **Outcome-based Strategy 3: Minimise environmental impact of $CO_2$ and other environmental contaminants on gas field development and utilisation.** | |
| | a. Establish research and development in the areas of $CO_2$ and other environmental contaminants management.<br>b. Establish a regional guideline for emissions. |

*1. Considering the challenges in global gas developments, including in the East Natuna Gas Field, the strategic focus of TAGP will expand from piped gas to LNG as the option for gas supply in the region – the virtual pipeline in ASEAN.*

*2. Securing supply through infrastructure development and the carbon emissions reduction due to use of natural gas have been emphasized in the latest policies in ASEAN.*

Source: APAEC 2016-2025

# Multilateral Joint Study for LNG Market

- To develop a sustainable LNG market in East Asia, LNG market players and policy makers are recommended to enhance the flexibility and transparency of this market.
- In the meantime, proper development of LNG infrastructure is equally important regarding security

### Flexibility

- Destination restrictions need to be;
  - ✓ Eliminated in FOB contract
  - ✓ Relaxed in DES contract
- Policy makers are recommended to;
  - ✓ Enhance domestic market liberalization
  - ✓ Promote TPA to infrastructures

### Price formation

- Price formation at Asian gas/LNG hub(s) shall be pursued.
- Useful to diversify price formation of LNG in Asia by linking with;
  - ✓ N. America & European hub price
  - ✓ Spot LNG price

### Gas supply security

- Improve by both supply & demand side measures.
- Contemporary way (e.g. flexible trade and appropriate price signal) need to be combined with traditional way (e.g. long term contract)

### Securing necessary investment

- Transparent and consistent policy for upstream investment.
- More flexible take or pay arrangement (e.g. bigger allowance)
- Equity participation of importer and public support

# Conclusions

- ASEAN will gradually shift from net exporter of natural gas and LNG toward net importer
  - This does not automatically imply a bigger role/share for natural gas in the region's future energy mix
- Thus, ASEAN countries need to:
  - Actively developing adequate infrastructure including pipeline network and LNG terminals
  - Collaborating in building regional institutions, such as destination flexibility to ensure security of supply in the future
- A key question which links up all the above issues, as ERIA studies imply, is:
  - What "price discovery mechanism" could deliver proper price signals to incentivize investment while also ensure affordable supply to this region?