

1<sup>st</sup> East Asia Energy Forum - 9 August 2017, Bohol Island, Philippines  
Associated Forum of Asia Cooperation Dialogue – 7-8 August

# EAS Energy Outlook

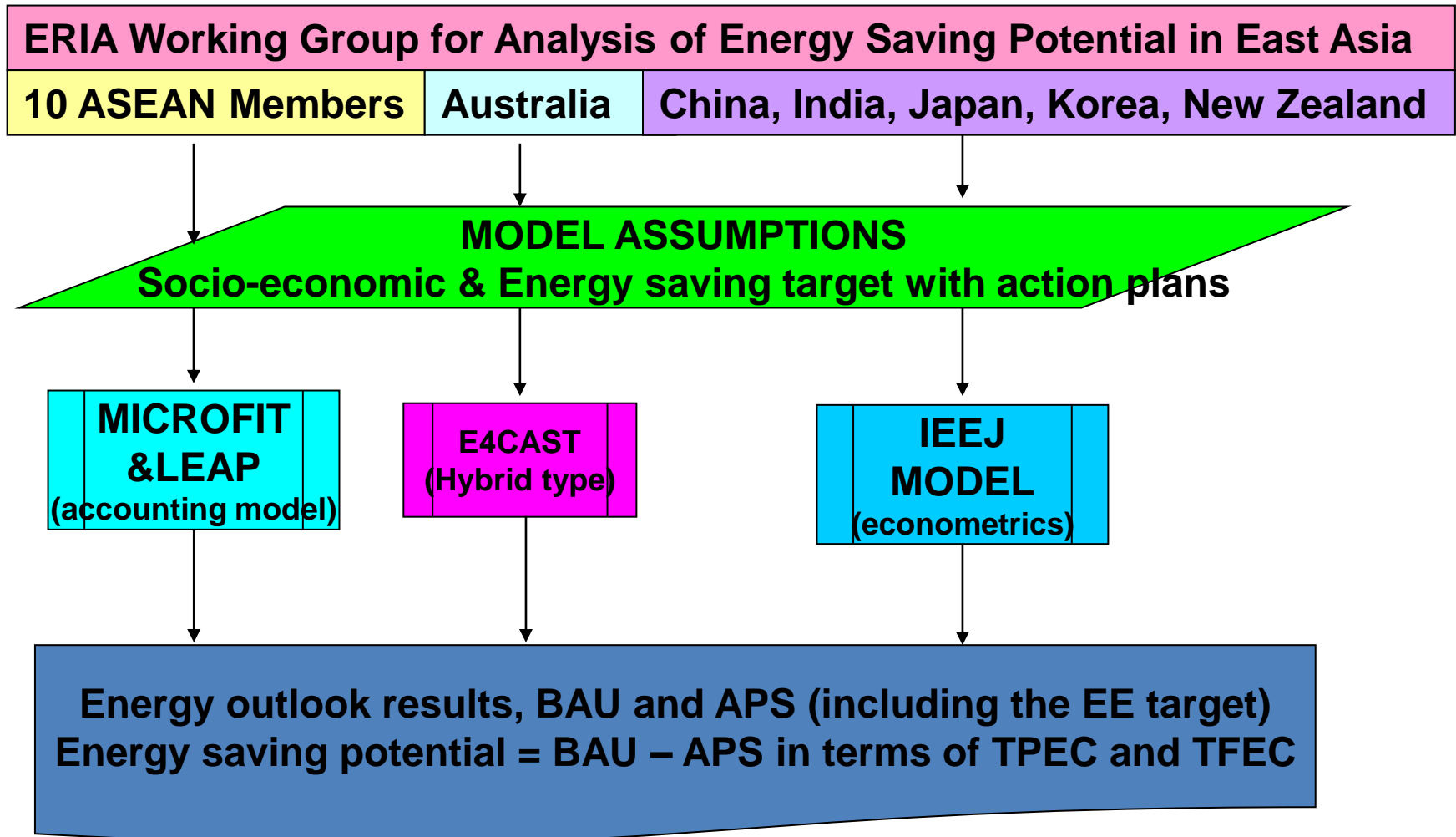
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# Energy Outlook Framework



# Macro Assumptions

## Economic Growth

**4.0** % P.A. from 2013 to 2040

## Population Growth

**0.6** % P.A. from 2013 to 2040

**3.43** billion persons in 2013  
to increase to **4.01** billion  
in 2040

## Crude Oil Price (nominal price)

Increase to about **208** US\$/bbl  
in 2040 due to tight balance  
between demand and  
supply

## GDP per capita

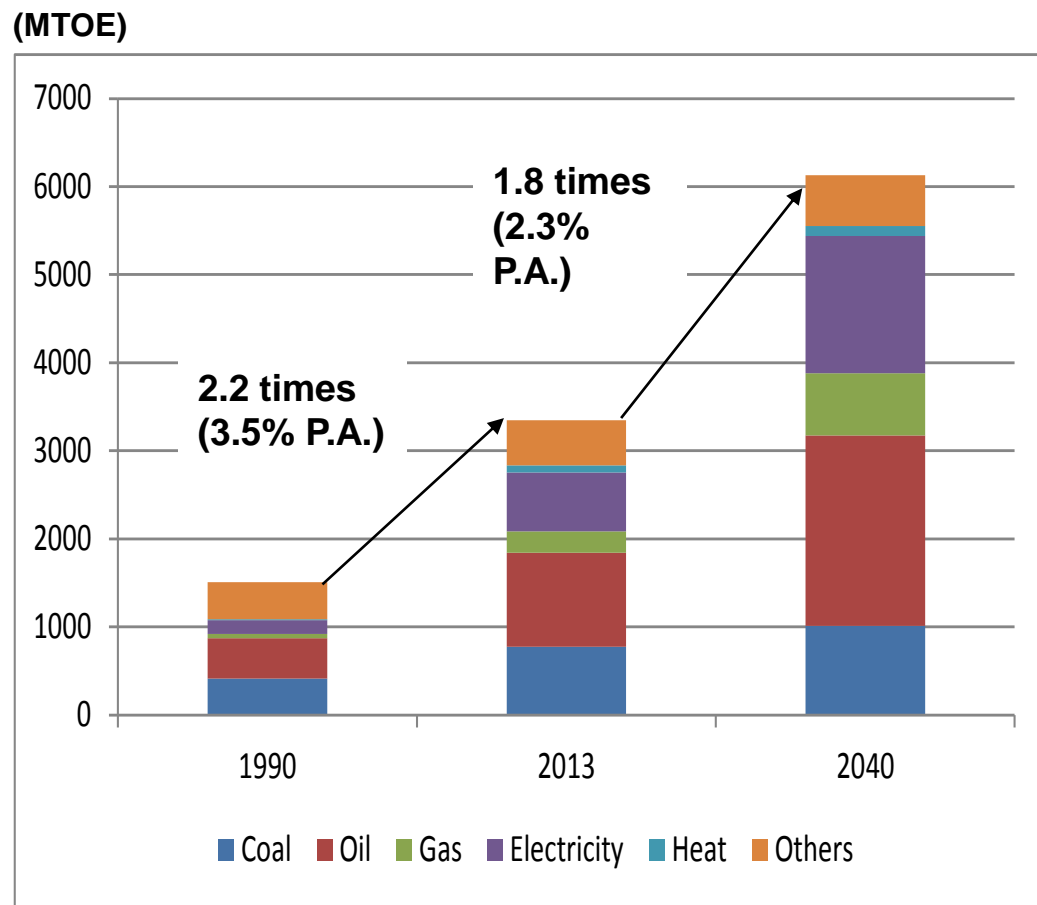
**4,270** US\$/person (constant  
2005 price and US\$) in  
2013 increases to **10,500**  
US\$/person in 2040

## Car Ownership

**0.081** vehicles/person in  
2013, increases to **0.202**  
vehicles/person using  
vehicle data of 14  
countries

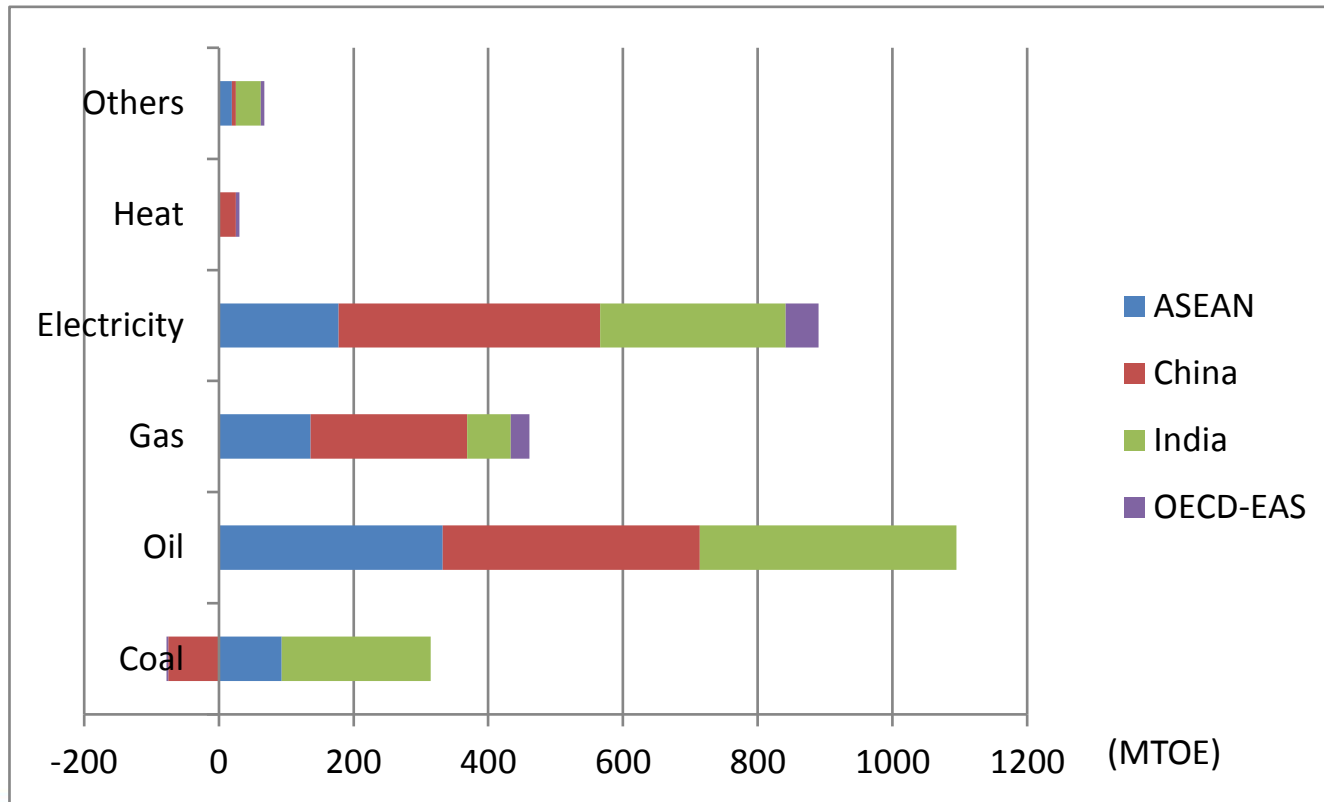
# Energy Outlook Result (BAU)

- Final Energy Consumption



# Energy Outlook Result (BAU)

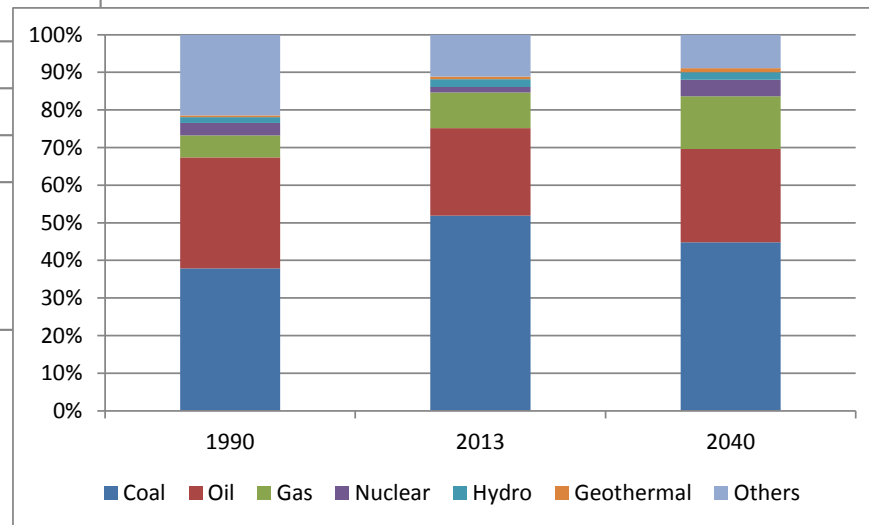
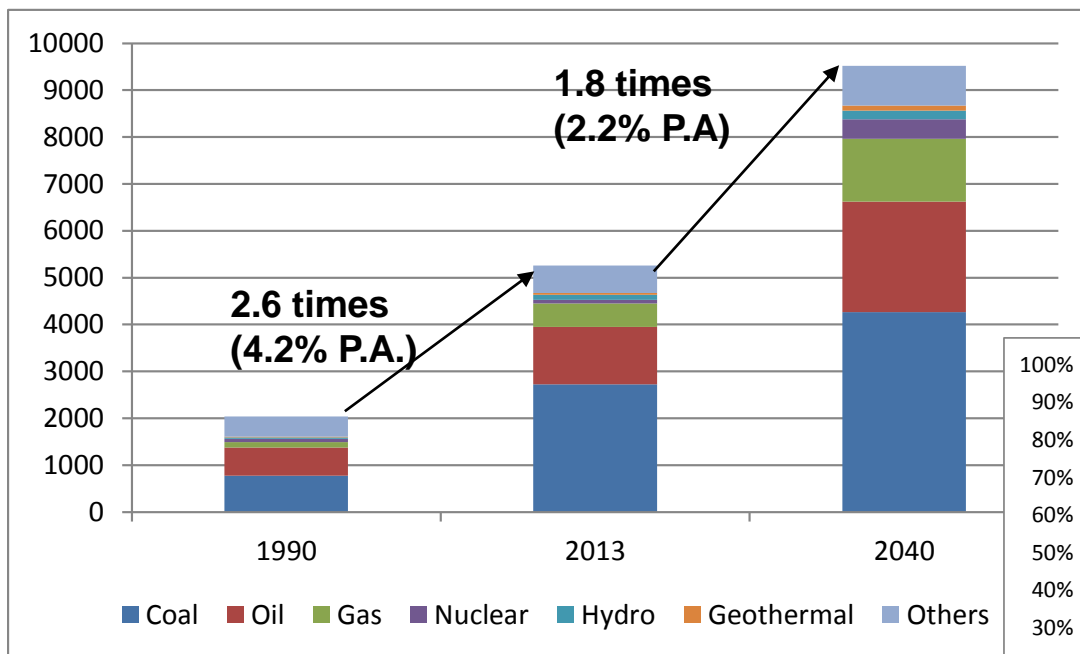
- Final Energy Consumption
  - Increment from 2013 to 2040 by energy



# Energy Outlook Result (BAU)

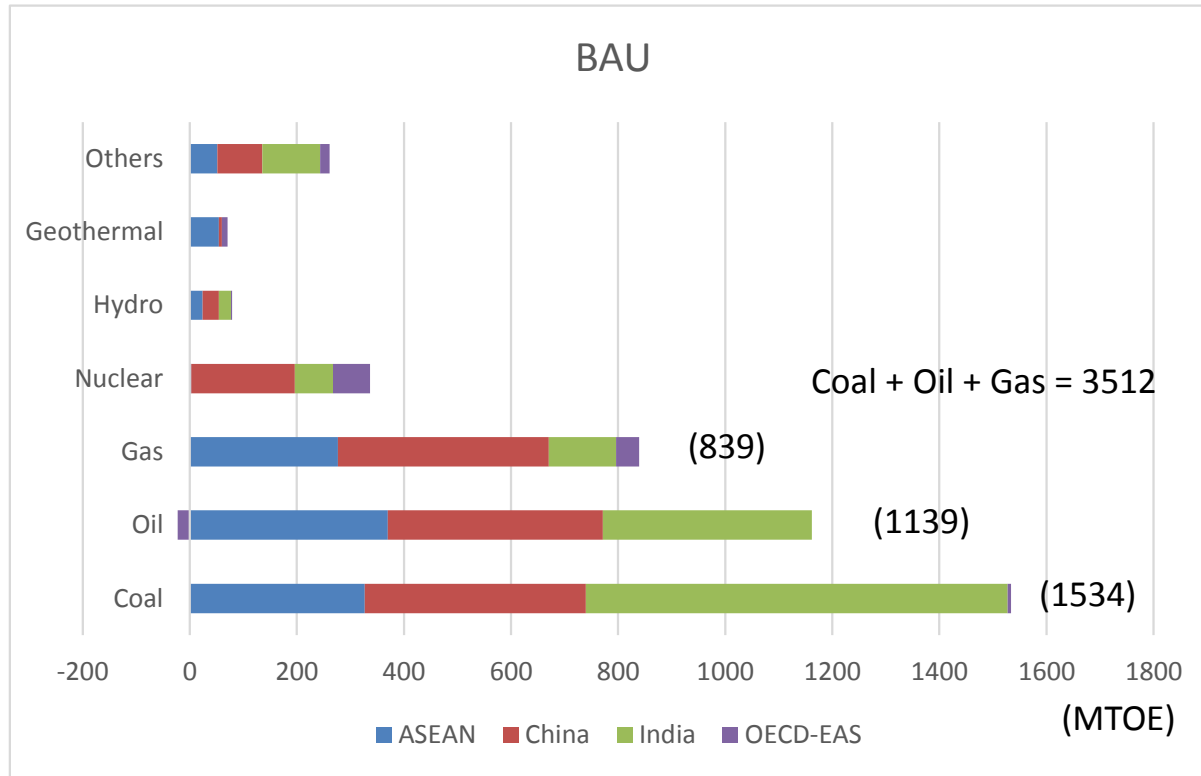
- Primary Energy Supply

(MTOE)



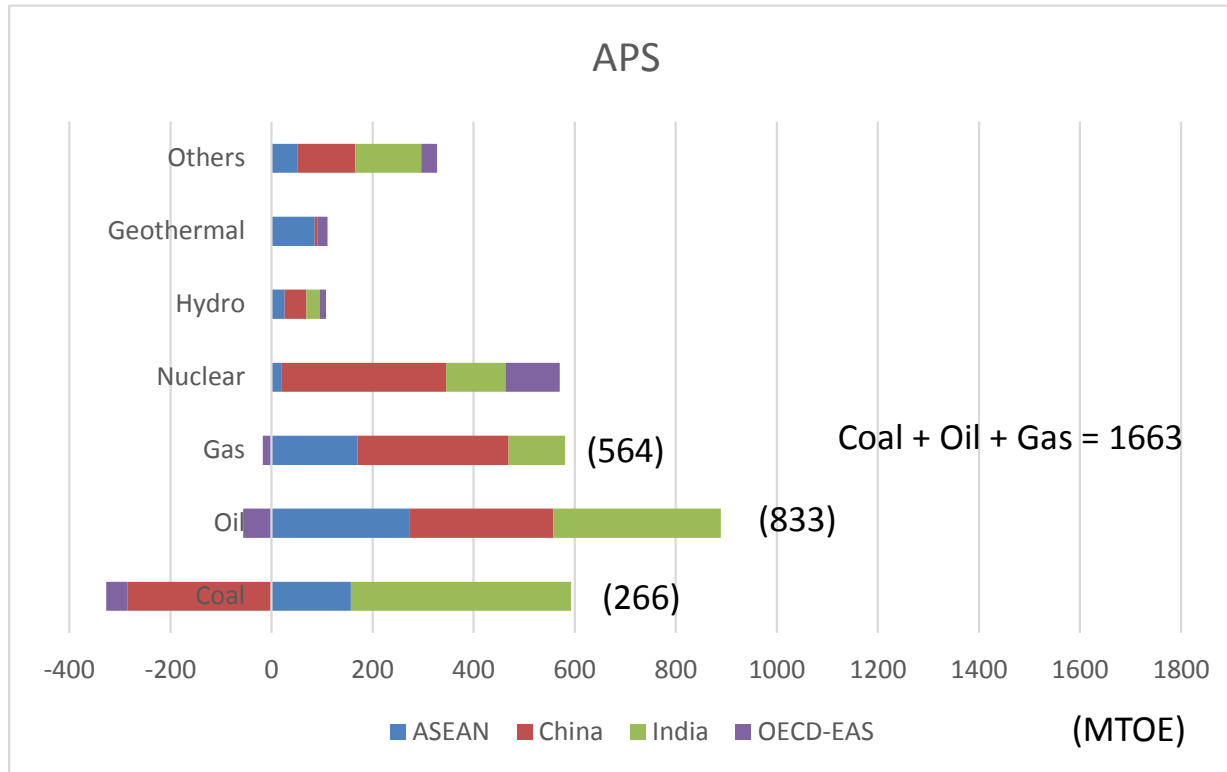
# Energy Outlook Result (BAU)

- Primary Energy Supply
  - Increment from 2013 to 2040 by Energy



# Energy Outlook Result (APS)

- Primary Energy Supply
  - Increment from 2013 to 2040 by Energy





# Points of Discussion

- Coal
  - Coal will be still important for especially one of power generation sources due to affordability, stability and sustainability
  - But cleaner use of coal should be indispensable applying clean coal technologies (CCT) under high emission standard for coal power plant
  - Carbon capture utility and storage will be a key technology in future
- Oil
  - Oil will be still base energy in future due to convenient fuel in terms of wide usage, easy transport and possibility to procure from market
  - Oil supply resilience will be strengthened to avoid oil supply disruption due to natural disaster, accident, regional conflict and terror attack like pirates
  - Stockpiling, emergency preparedness & response and market transparency are crucial
- Gas
  - Gas demand marks highest growth up to 2040 among fossil fuels
  - Huge investment and gas price are issue in EAS region
  - Appropriate gas (LNG) market (hub) is indispensable in Asia region
  - Dialogue between producers and consumers pushes cooperation between them for seeking win-win solutions