



***Southeast Asia
Coal Demand and Imports***

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2016 EIA Conference, Washington, 11-12 July 2016

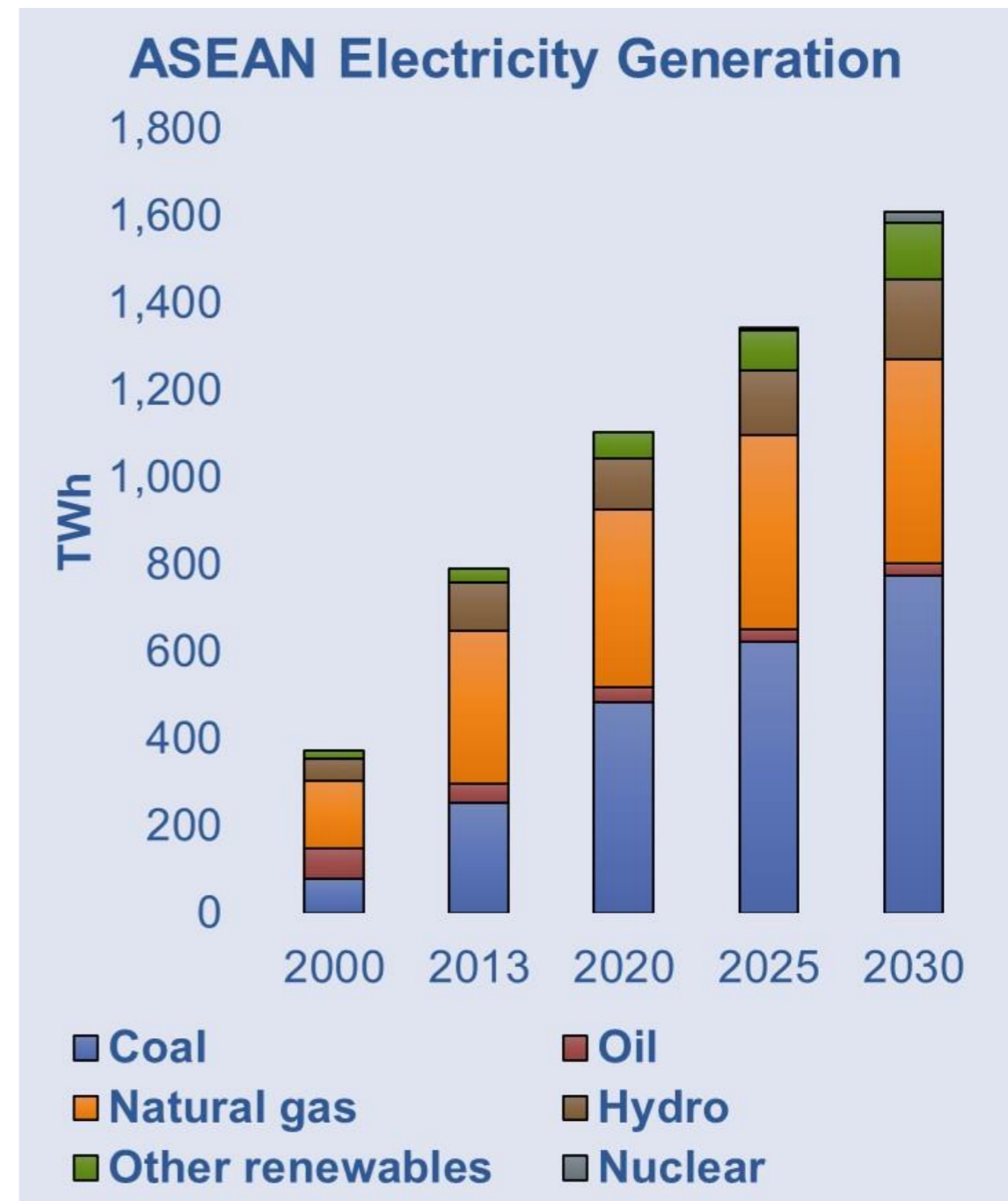
OUTLINE

- 1. Context: Southeast Asia surging power demand**
- 2. Current coal market and drivers for growth**
- 3. Coal demand outlooks and challenges in the coal sector**
- 4. Case-studies: Indonesia and Viet Nam**
- 5. Conclusion**



SOUTHEAST ASIA FAST ECONOMIC GROWTH AND SURGING ELECTRICITY DEMAND

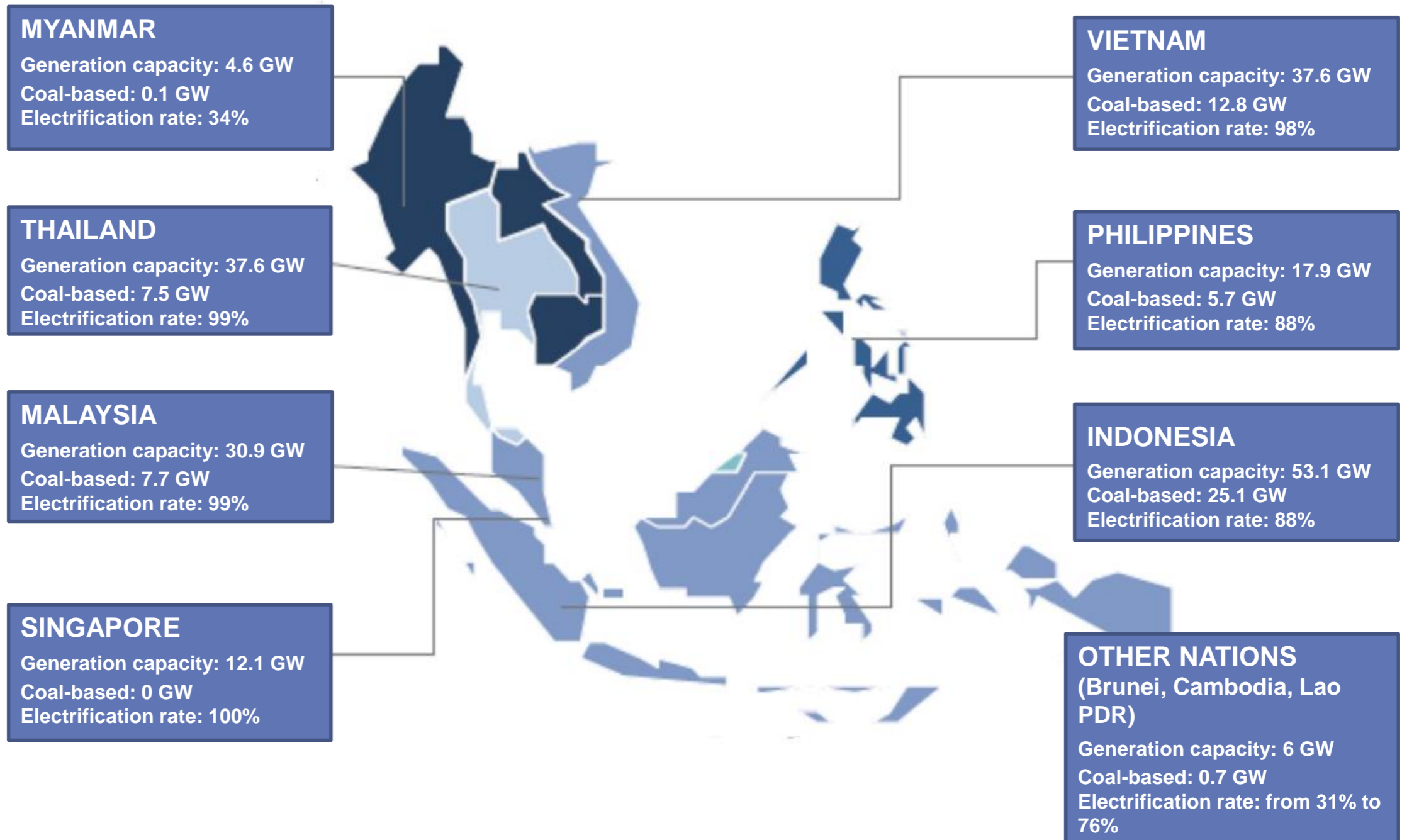
- ❑ The ASEAN Economic Community (AEC), formed in 2015, is one of the largest markets and fastest growing regions in the world
- ❑ A surging electricity demand driven by economic growth, urbanization, electrification, and demographic trends
- ❑ *A doubling of electricity demand by 2030, dominated by coal*



Source: IEA, Southeast Asia Energy Outlook 2015, New Policy Scenario

With dwindling steam coal imports in both China and India, suppliers to the Pacific Basin have begun to shift their focus to emerging Southeast Asia

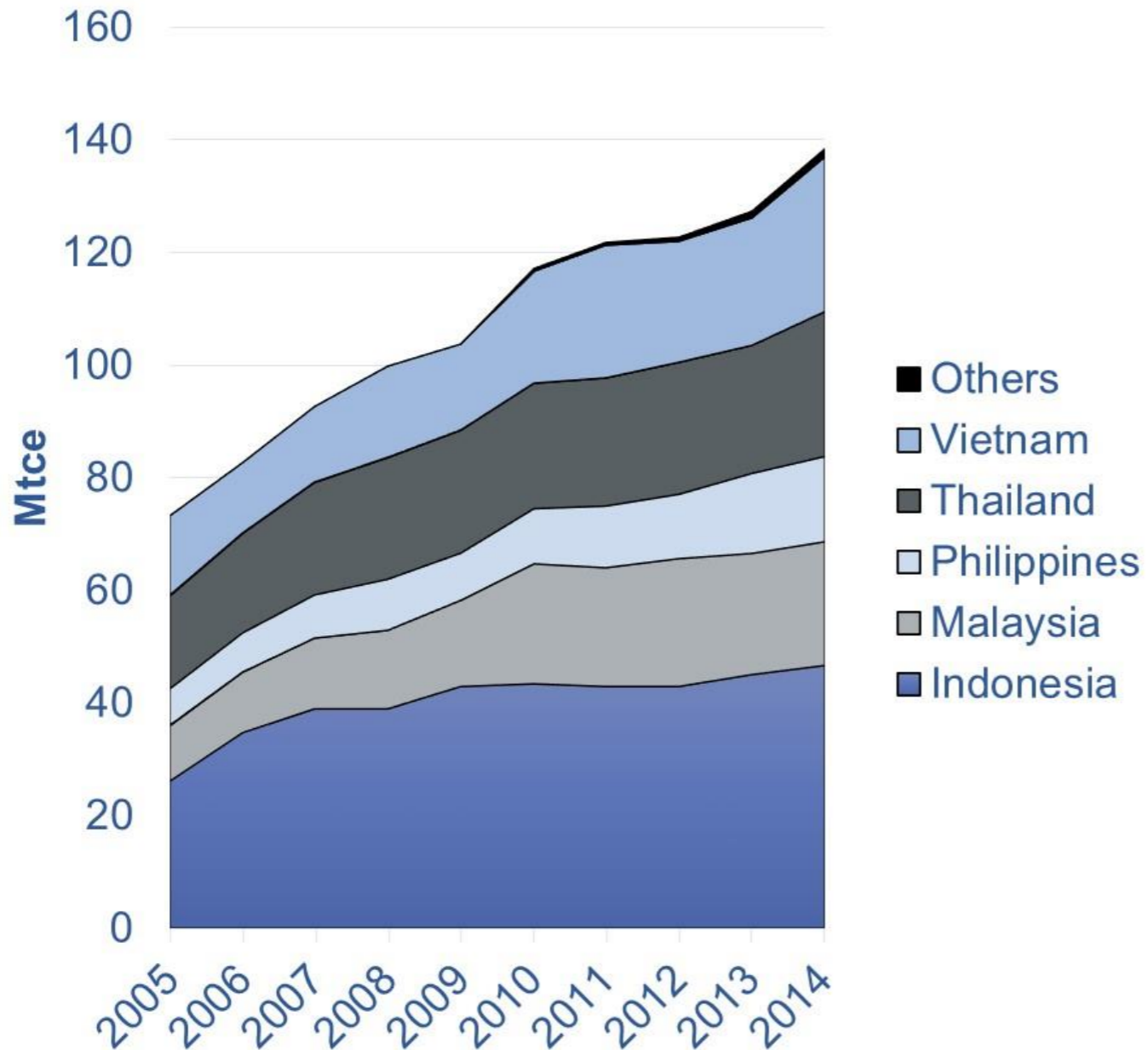
A 200 GW ELECTRICITY MARKET WITH TREMENDOUS GROWTH POTENTIAL



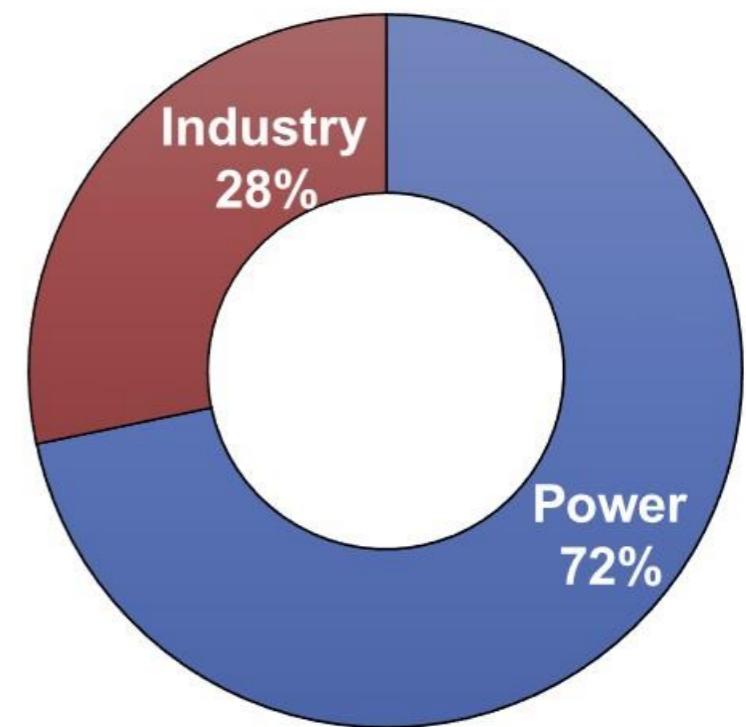
*A mix of countries with disparate electricity and economic backgrounds
Coal-based capacity accounts for 30% of total installed capacity*

SOUTHEAST ASIA GROWING COAL MARKET

ASEAN Coal Demand



Dominated by the Power Sector



Source: IEA, Coal Information

Coal demand has doubled since 2005, driven by coal availability in the region at low cost

NUMEROUS COAL-FIRED POWER PLANTS UNDER CONSTRUCTION AND PLANNED

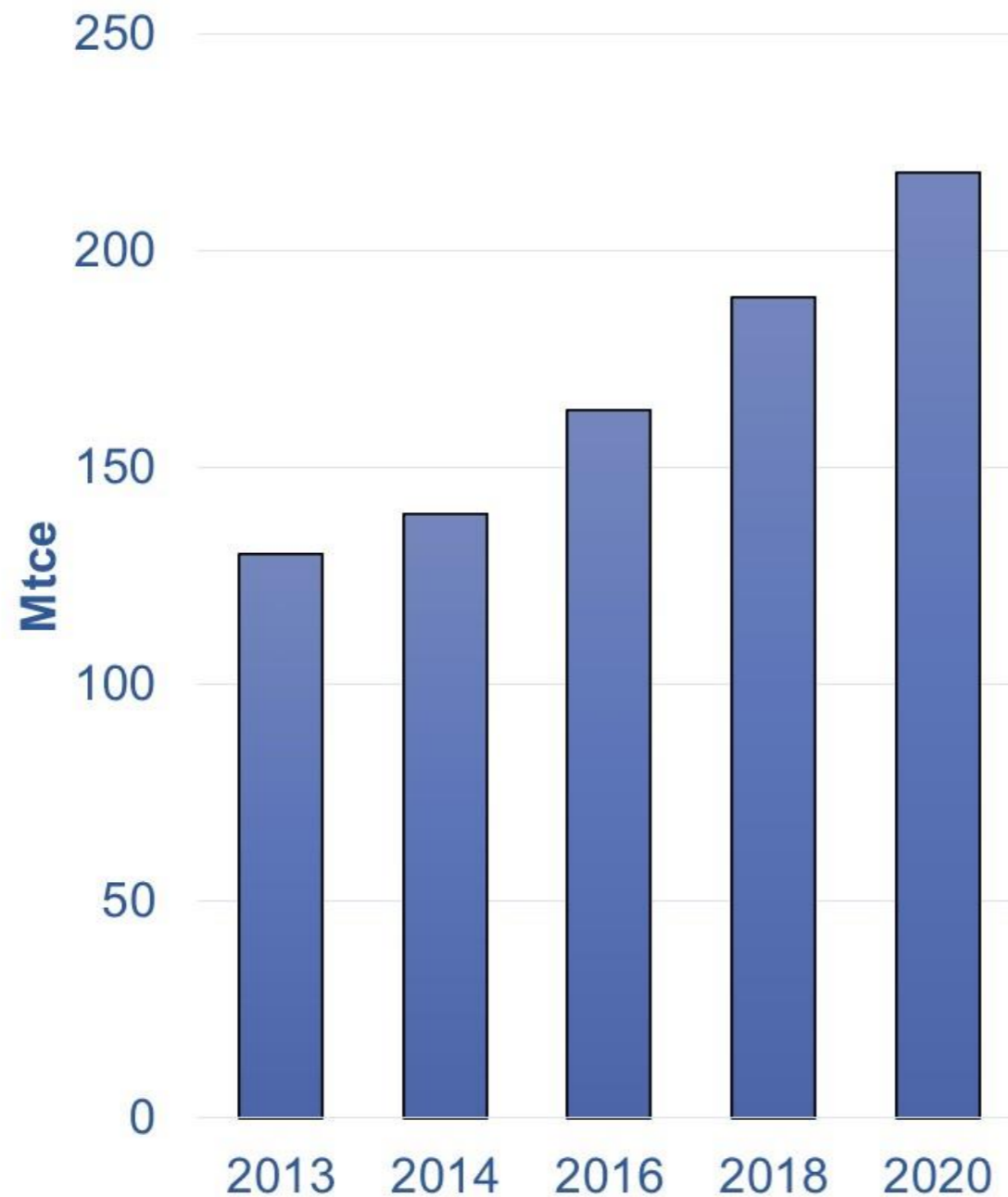
	Current capacity (GW)	Commissioned between 2010 and 2015 (GW)	Under construction (GW)	Permitted (GW)	Pre-permitted (GW)	Announced (GW)
Indonesia	25.1	11.8	5.2	4.4	17.9	17.8
Malaysia	7.7	1.1	2.6	-	2.0	0.0
Myanmar	0.1	-	-	-	0.7	13.8
Philippines	5.7	1.1	4.4	0.8	5.0	1.9
Thailand	7.5	0.7	-	-	3.9	3.4
Vietnam	12.8	8.2	12.1	14.8	10.4	15.6
Cambodia	0.1	0.1	0.4	0.5	0.0	1.2
Laos	0.6	0.6	1.3	-	0.0	1.2
TOTAL	59.6	23.6	26.0	20.5	39.9	54.9

Source: Global Coal Plant Tracker

26 GW under construction to be completed by 2020
An additional demand of around 80 Mtce/year (+/- 100 Mt)

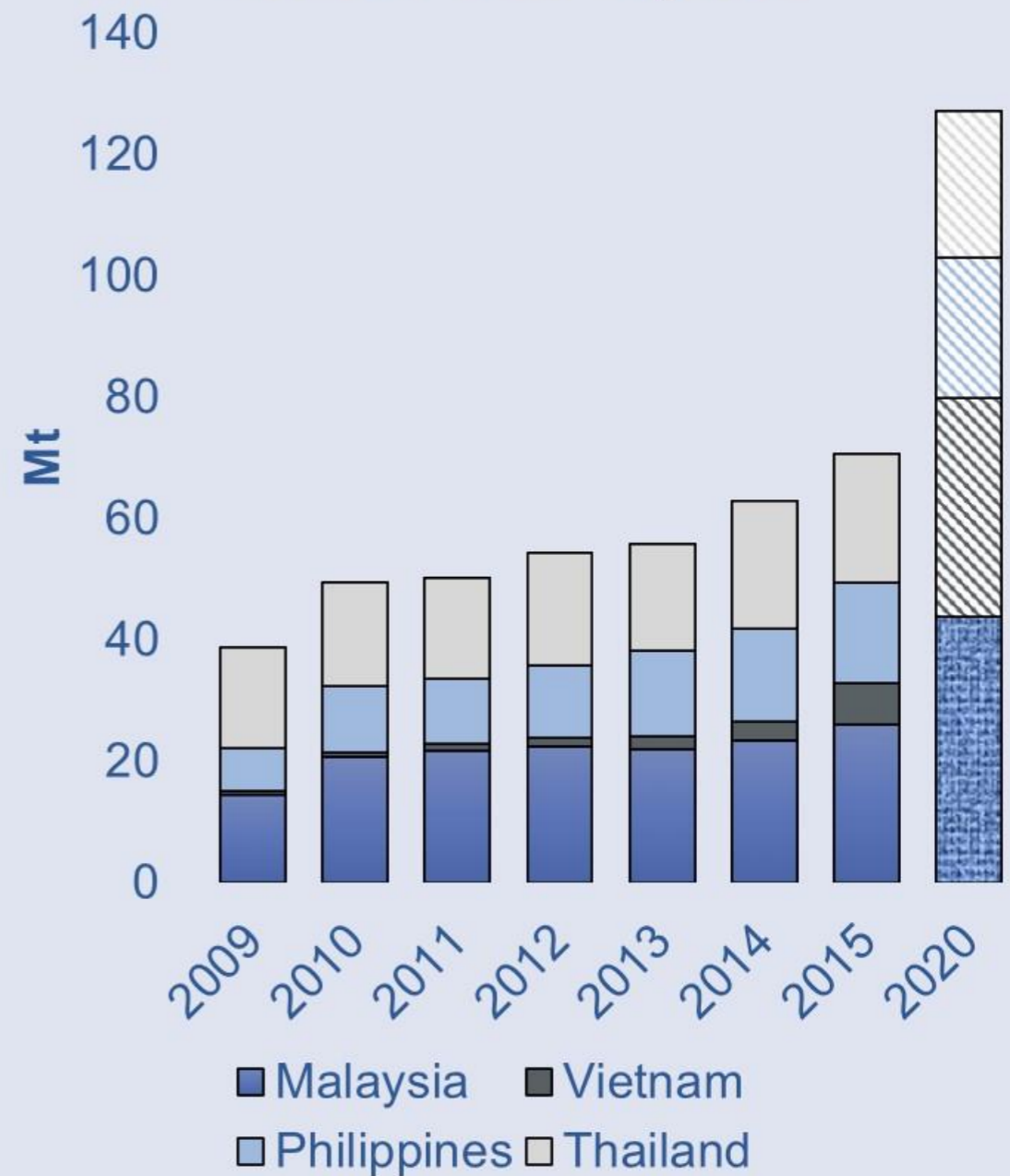
COAL DEMAND: A STRONG GROWTH IN THE NEAR TERM

ASEAN Coal Demand to 2020



Source: IEA, Medium-Term Coal Market Report, 2015

ASEAN Coal Imports



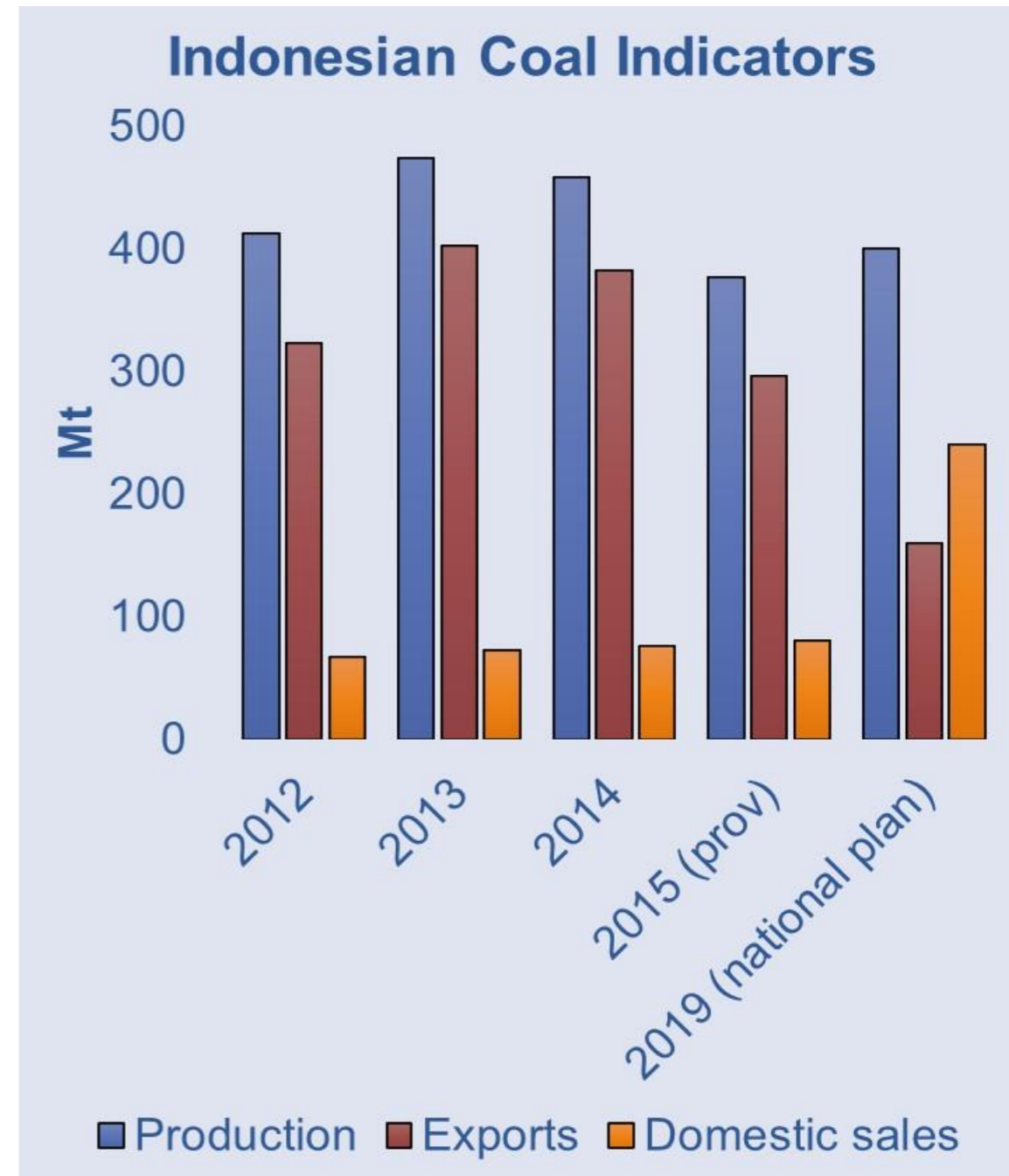
Leading to a surge in coal imports by 2020: +80% over 2015 imports

CHALLENGES IN THE ASEAN COAL SECTOR



INDONESIA IS ONE OF THE WORLD'S MAJOR COAL PRODUCERS AND EXPORTERS

- ❑ Huge coal resources at low production costs
- ❑ But production and exports collapsed in 2015 as global market contracted
- ❑ Rebalance of domestic production towards domestic consumption (DMO)
- ❑ National Mid-Term Development Plan (2015-2019)
 - Cap on coal production
 - Domestic consumption to increase to 60% of national production
 - Sharp decline in foreseen coal exports

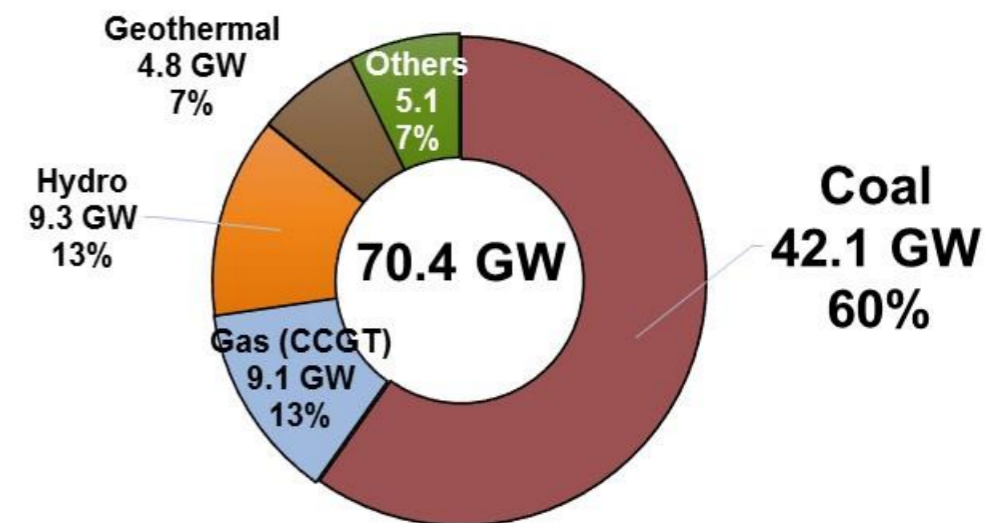


Source: Ministry of Energy & Mineral Resources, 2015

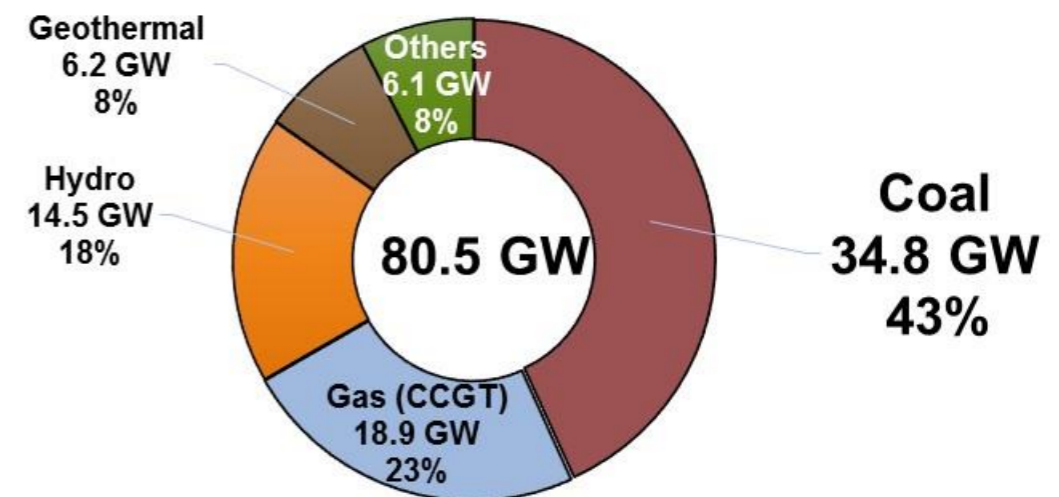
COAL TO DOMINATE FUTURE INDONESIAN POWER MIX, BUT RENEWABLES SECTOR TO SURGE

- ❑ A 35,000 MW additional capacity by 2019
 - To fulfill electricity growth and electrification rate in 2019
 - 20 GW of coal-based power plants, almost all under construction/committed
- ❑ But delays/local opposition to coal projects
- ❑ New targets for renewables and energy efficiency
- ❑ After the current wave of new coal-fired power plants, a slowdown in coal-based buildup
- ❑ Introduction of SC and USC technology

Projection of additional capacity to 2024 (based on 2015 Plan)



Projection of additional capacity to 2025 (based on 2016 Plan)

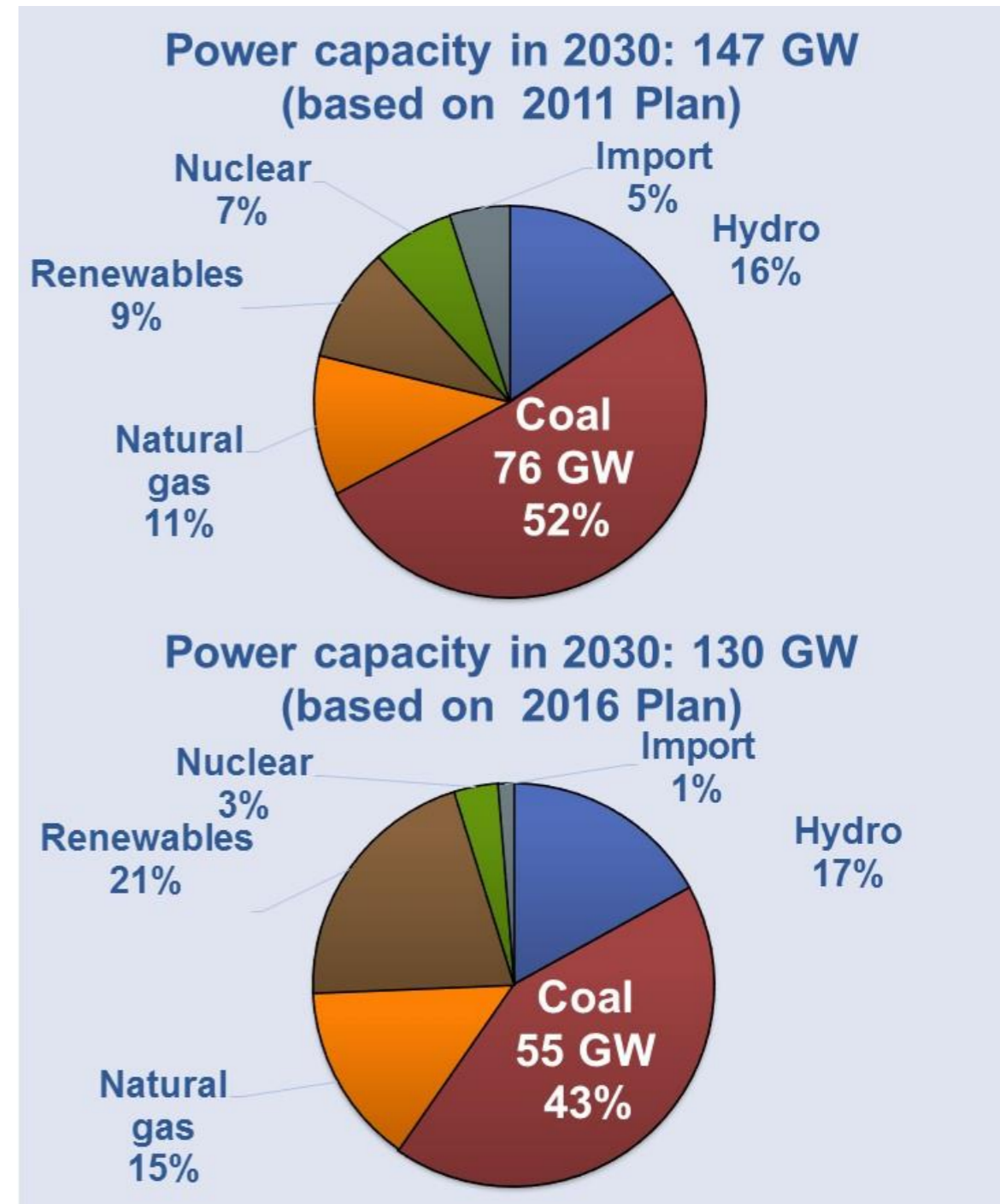


Source: PLN, RUTPL 2015-2024 and RUTPL 2016-2025

Coal demand will increase, but less than previously projected

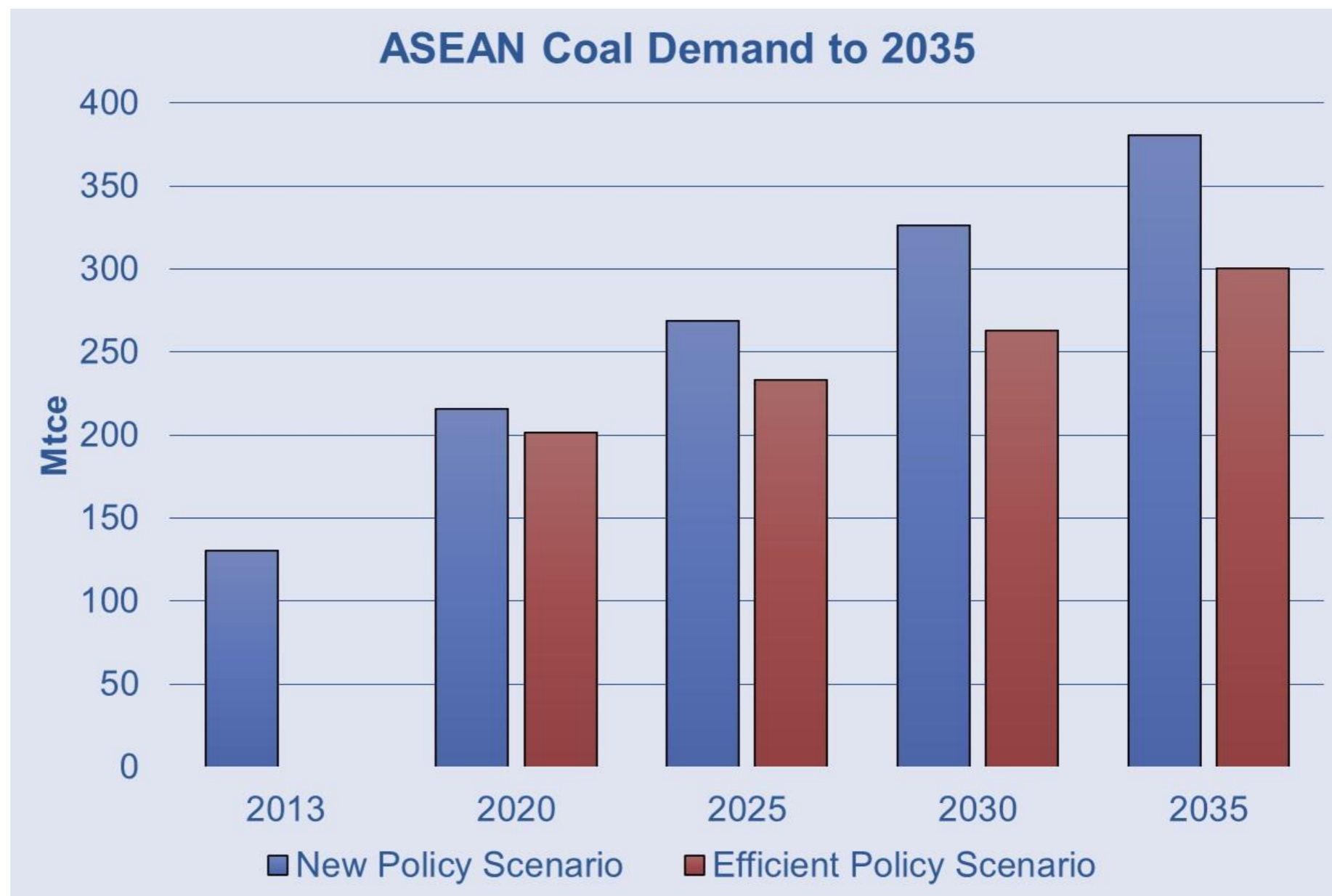
VIET NAM IS REVISING ITS POWER DEVELOPMENT PLAN

- ❑ Under the new plan, 42 GW of coal capacity to be added between 2016 and 2030, against 70 GW between 2012 and 2030 previously foreseen
- ❑ The government has announced its intention to review all coal power plants
- ❑ Lower increase in coal demand (and imports) by 2030



Source: 7th Power Development Plan, 2011 and Adjusted 7th Power Development Plan, 2016

SOUTHEAST ASIA LONG-TERM COAL DEMAND



Source: IEA, Southeast Asia Energy Outlook, 2015 and 2013

The role of coal will increase, but there are major uncertainties about the rate of increase after 2020

CONCLUSION

- ❑ **Southeast Asian Governments are progressively updating their power development targets and policies to incorporate more renewables and energy-efficient technologies**
 - **Southeast Asian coal demand and imports will grow strongly by 2020/2025**
 - **Outside Indonesia, the surge in coal demand is likely to slow down by 2020/2025, when the current wave of new power plants is commissioned**
- ❑ **Adoption of Clean Coal Technologies remains key to reduce the power sector GHG emissions intensity**
- ❑ **The region will have a major impact on global coal trade and prices**
- ❑ **Role of Indonesia is key**



An aerial photograph of a large cargo ship docked at a port. The ship has a red hull and a white superstructure. It is loaded with numerous green and red containers. Another similar ship is docked nearby. The port area includes various structures and cranes.

Thank you for your attention

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