

VIETNAM PROGRESS OF ENERGY EFFICIENCY AND CONSERVATION

Hong Kong– March 18-23, 2019

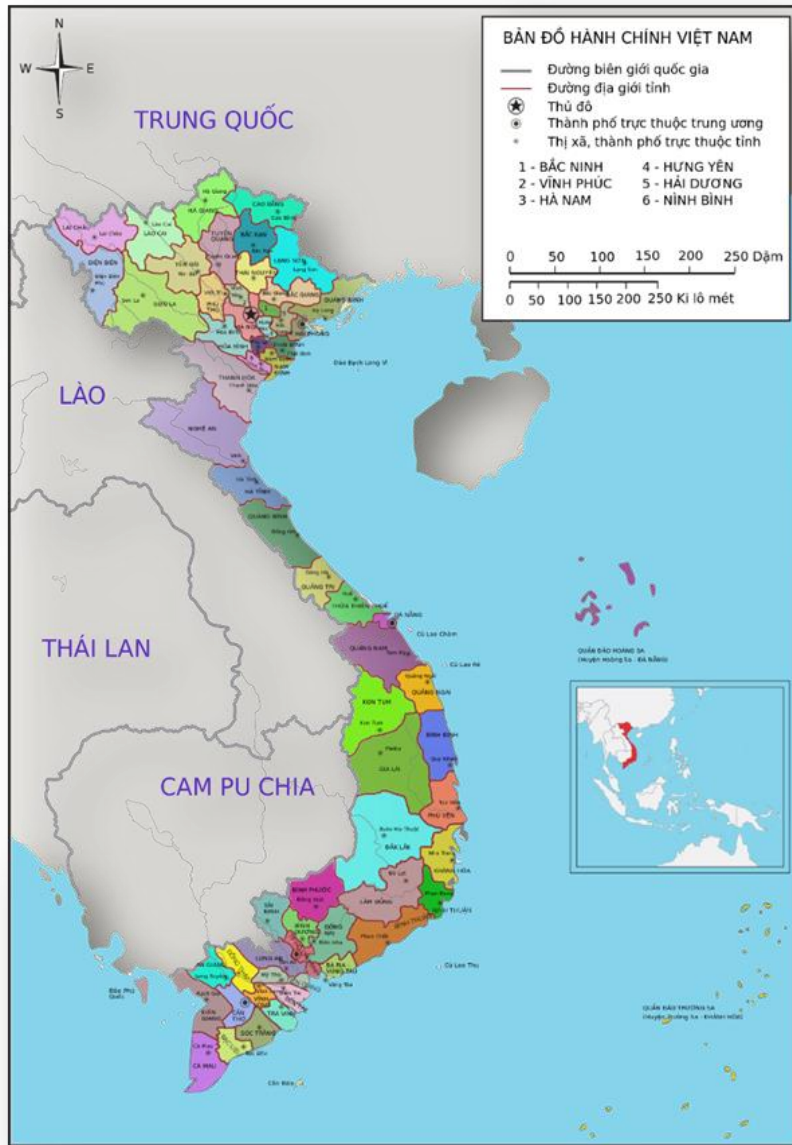
OUTLINES

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- **VIETNAM ENERGY OUTLOOK- UPDATED**

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- **ENERGY EFFICIENCY AND CONSERVATION
FOR DEVELOPMENT IN VIETNAM**

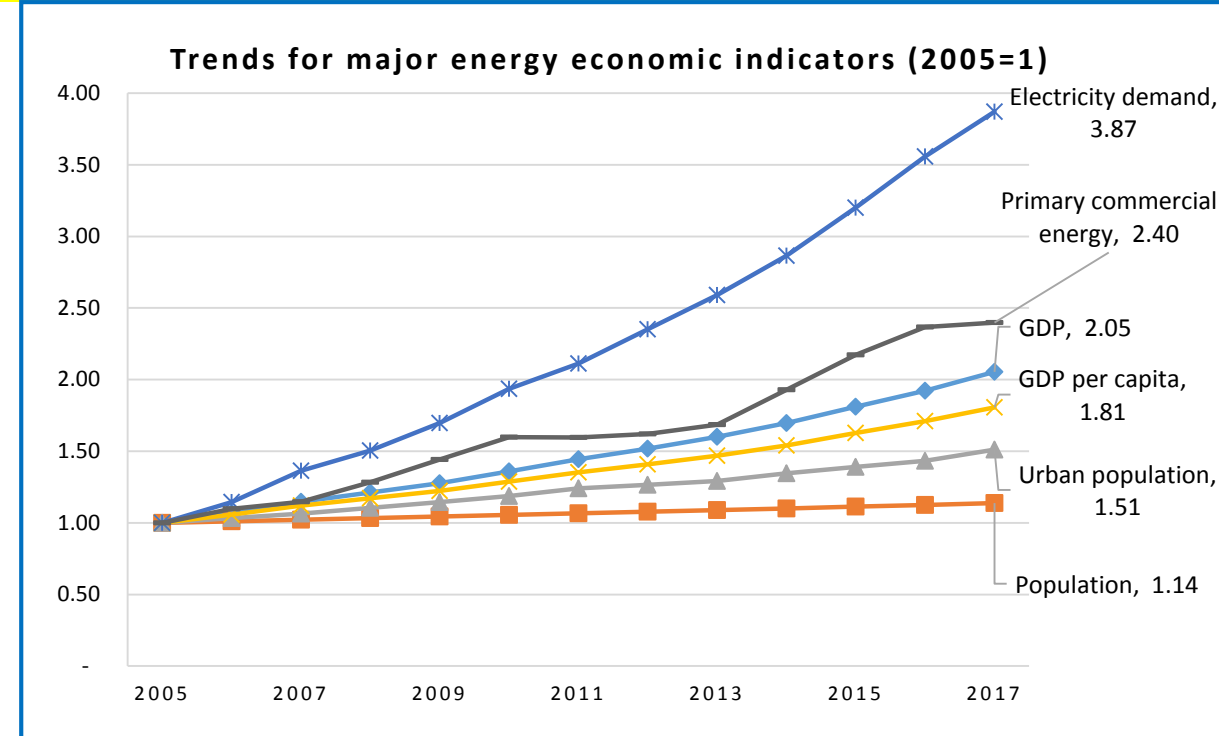
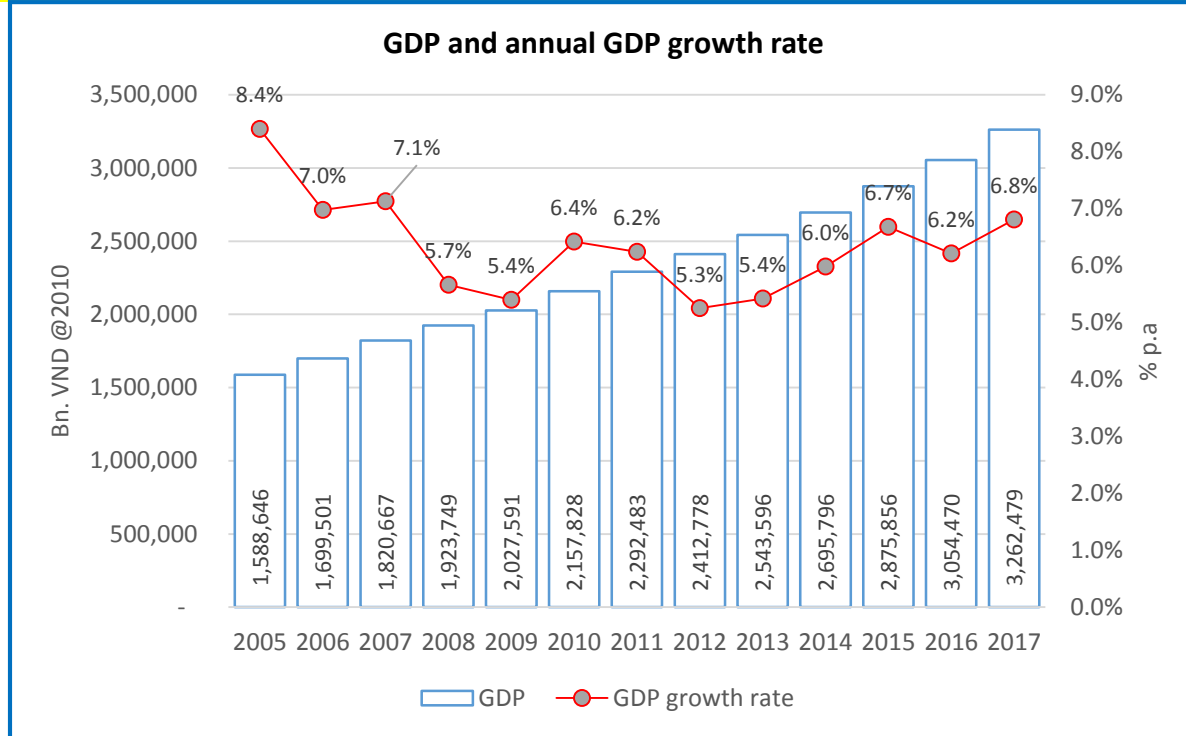
UPDATE ENERGY INFORMATION

UPDATED ENERGY INFORMATION



- Population: 96.5 million persons;
- Area: 331,698 km²;
- Urban population: 32.9 million persons (35.1%);
- GDP (nominal): US\$240.5 billion → 2,580 US\$ per capita;
- GDP growth rate in 2018: 6.7%;
- Primary energy consumption: ~78.3 MTOE (→ 835.7 kgoe per capita);
- Total electricity consumption: 192.93 TWh → 2,031.74 kWh per capita;
- Electrification rate: 99.37% of rural households (end of 2018);

SOCIO-ECONOMIC TRENDS



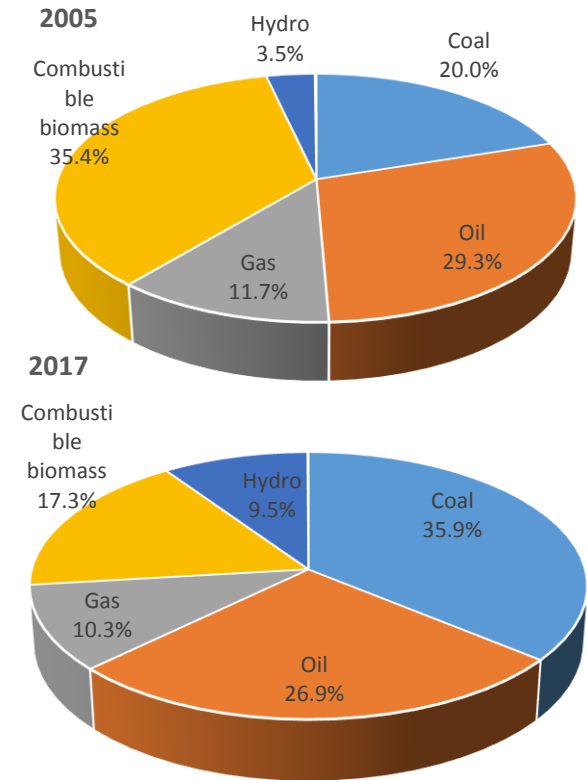
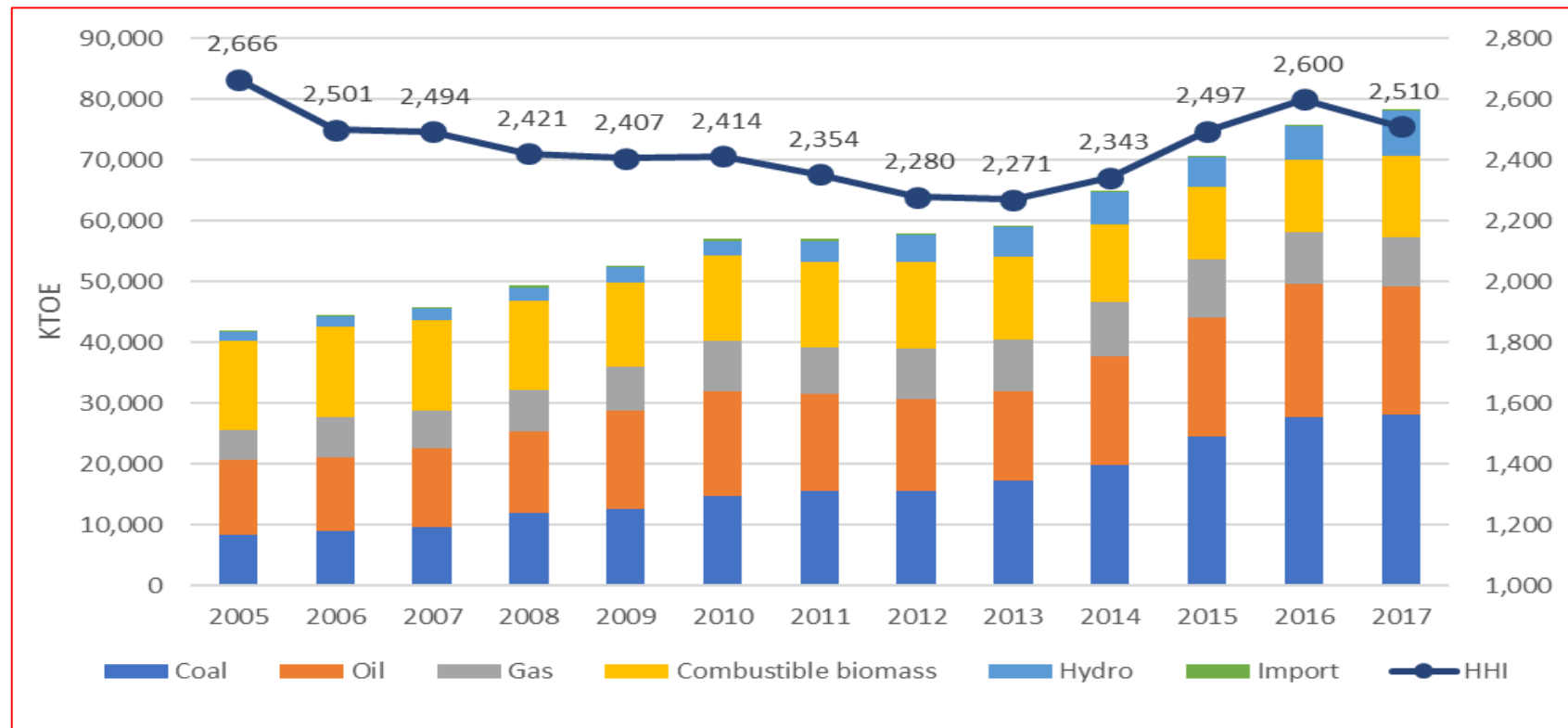
1. GDP growth rate for 2005-2017: 6.2% p.a;

2. In 2005-2017:

✓ Electricity intensity with respect to GDP: 0.53 → 1.00 kWh/USD 2010

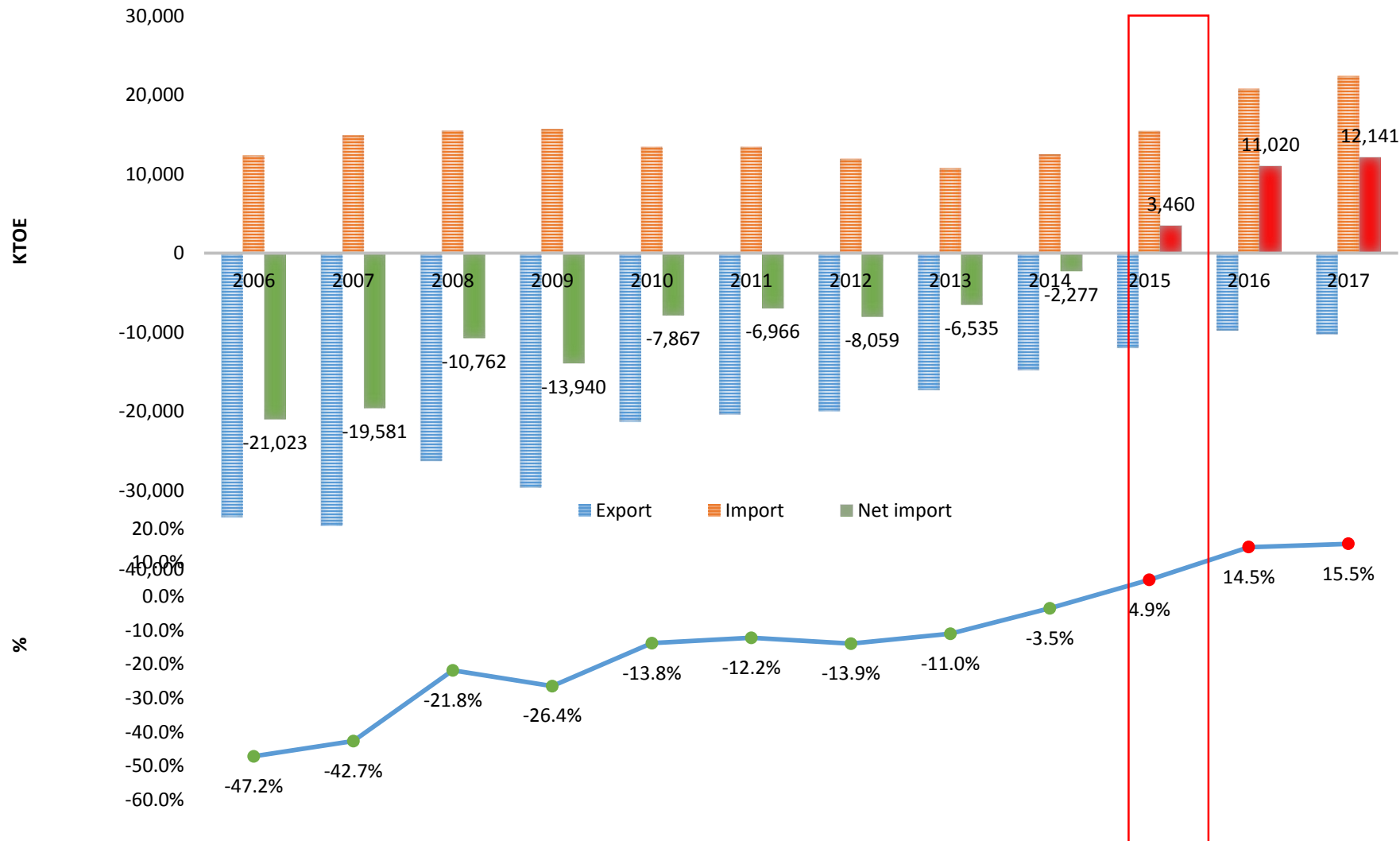
✓ Electricity elasticity with respect to GDP: 1.94 times

ENERGY DEVELOPMENT TRENDS



- Drivers for energy consumption: economic activities, recent industrial developments; increased urbanization; enhanced energy access; improved living standard.
- *HHI (Herfindahl-Hirschman Index) represents diversification of fuel mix (HHI 0~10,000)*
- *Data on primary energy supply are estimated for 2016 & 2017*

IMPORTED ENERGY DEPENDENCY



- The country turned to a net energy importer by 2015 after being net energy exporter for a long period;
- Significant increase in coal import in recent years;
- Limit on coal export;
- **Increased reliance on imported fuels for power generation and industries.**

VIETNAM: ENERGY TRANSMISSION SYSTEM



Vietnam Transmission System (Sep. 2016)

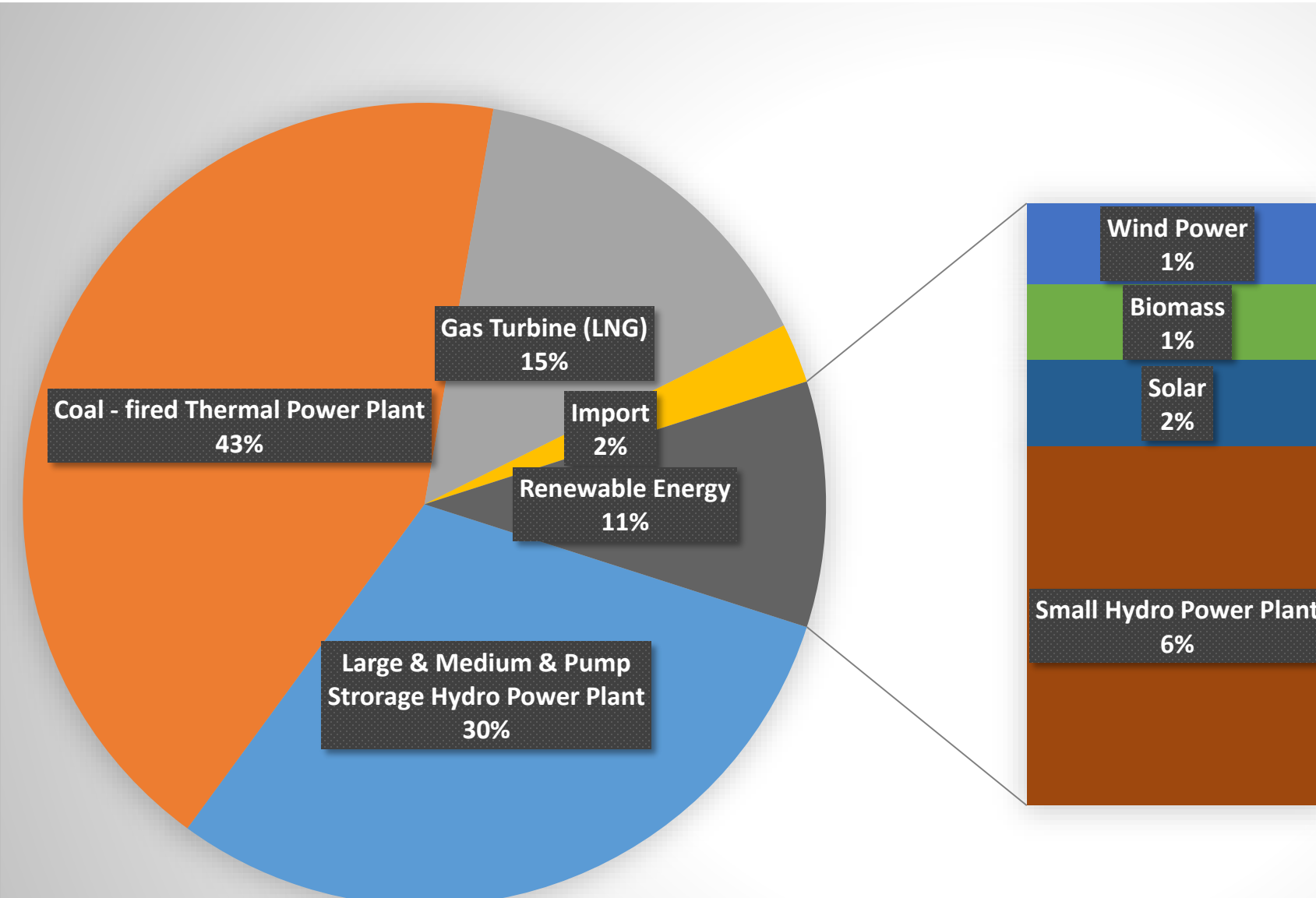
- ✓ 03 interconnected regions
- ✓ 500-220kV transmission grid
- ✓ 500 kV: 26 substations – 25800 MVA;
- ✓ 500 kV line: ~ 7360 km of line

	Unit	Quantity
500kV substation	MVA	25800
500kV line	km	7360
220kV substation	MVA	42040
220kV line	km	15800

Transmission capacity

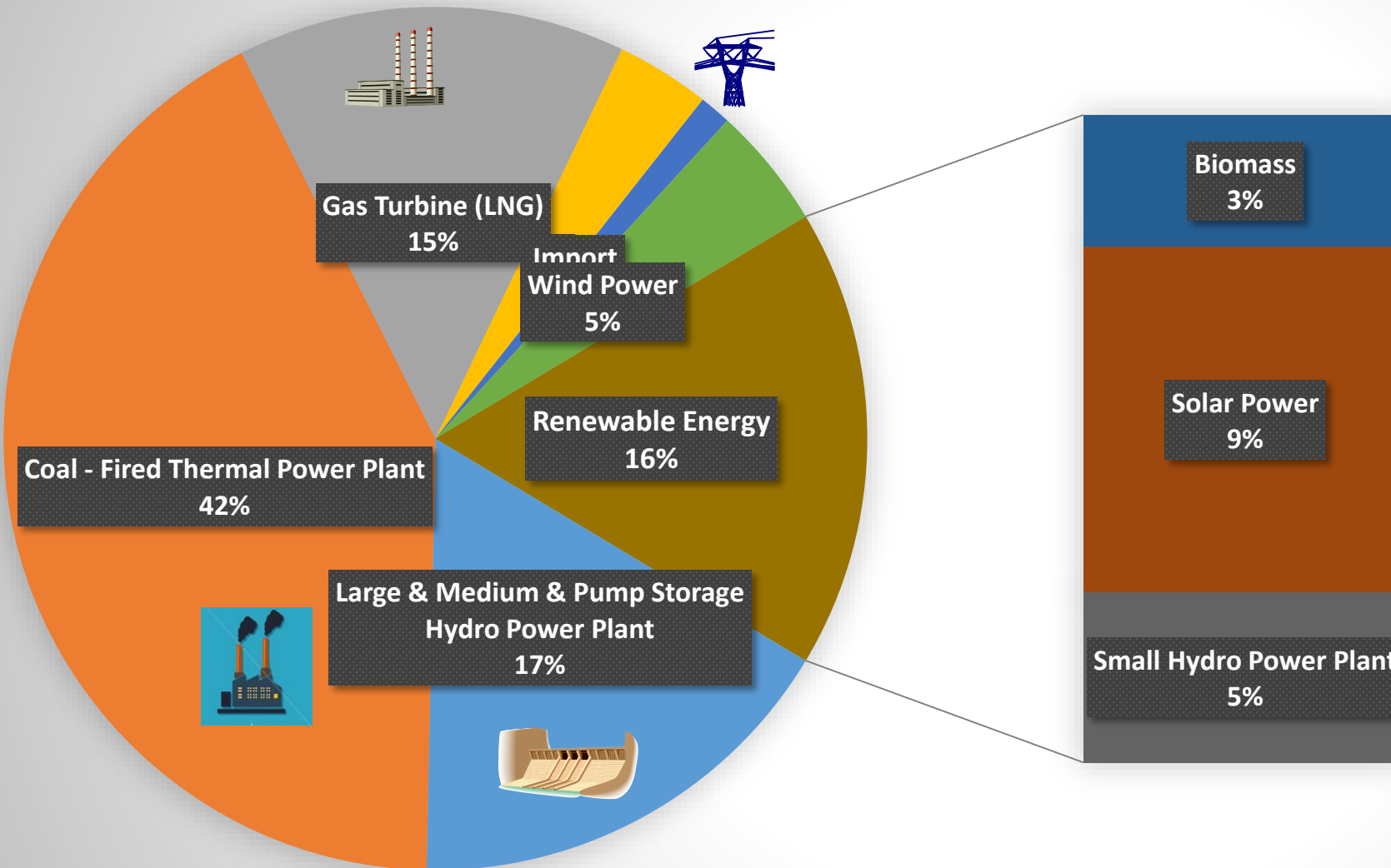
Year	North - Central	Central - South
2015	1800	3500
2016	2000	4000
2017-2020	2400	4000

SYSTEM'S TOTAL INSTALLED CAPACITY IN 2020



P installed = 60GW

SYSTEM'S TOTAL INSTALLED CAPACITY IN 2030



- Large & Medium & Pump Storage Hydro Power Plant
- Coal - Fired Thermal Power Plant
- Gas Turbine (LNG)
- Nuclear Power Plant
- Import
- Wind Power
- Biomass
- Solar Power
- Small Hydro Power Plant

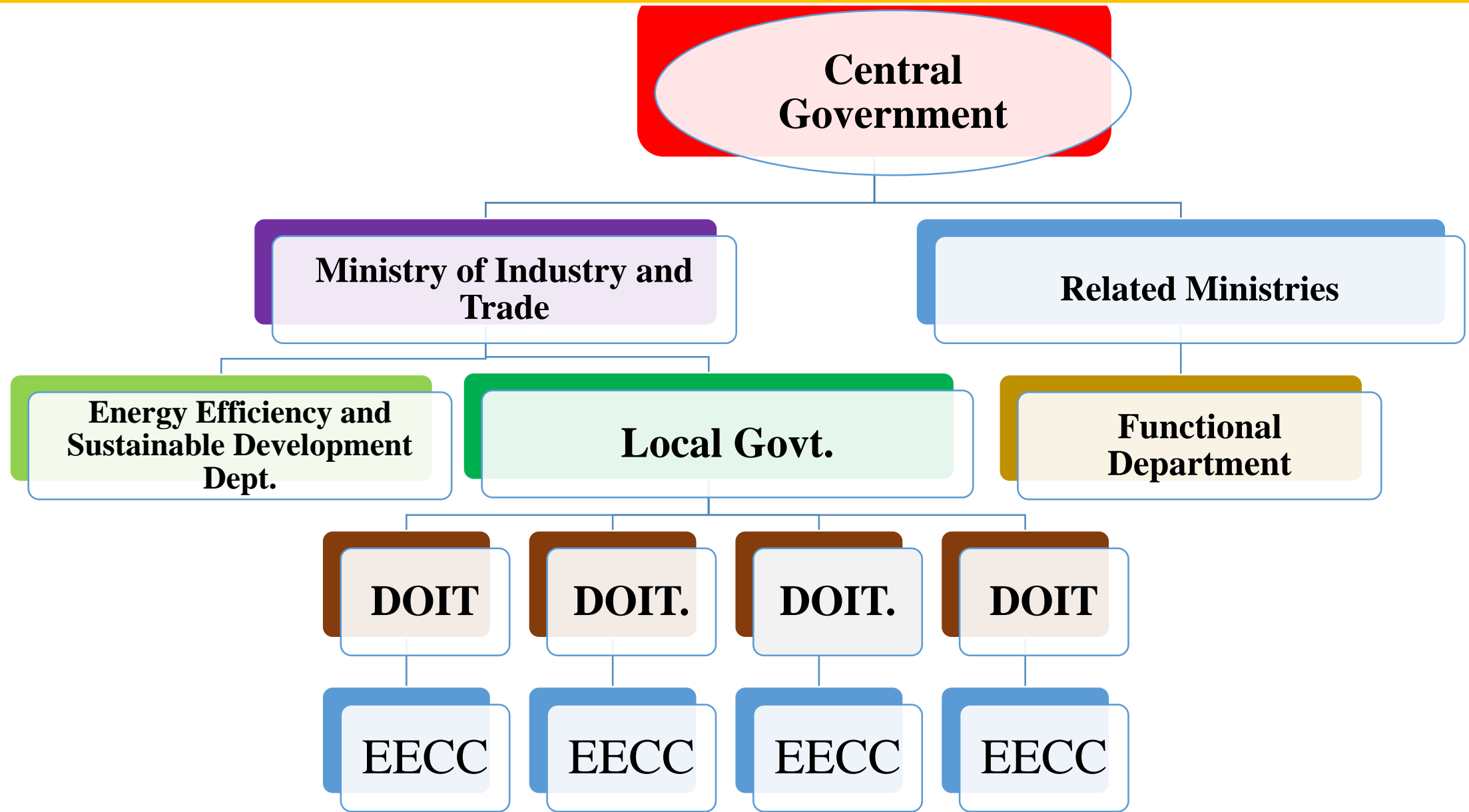
Pinstalled = 130GW

ENERGY EFFICIENCY AND CONSERVATION FOR DEVELOPMENT IN VIETNAM

ENERGY-ECONOMIC INDICATORS IN VIETNAM, 2011-2015				
Content	Unit	2015	2016	2017
Total primary energy supplies	KTOE	70.588	77.402	80.38
Total energy end-users	KTOE	59.47	62.35	65.67
Energy intensity	kgOE/ 1.000USD	307.80	303.68	293.31

LEGAL FRAM IN ENEGY EFFICIENCY

THE INSTITUTIONAL



ACTIONS IN ENERGY EFFICIENCY



Vietnam National Energy Efficiency Program - VNEEP

VNEEP-I, 2006 – 2015:

Energy saving achieved is 3.4%; total energy saving achieved 4.9 million TOE

VNEEP - II, 2012 – 2015:

Energy saving achieved is 5.65%; total energy saving achieved 11.2 million TOE

VNEEP - III, 2019 – 2030 (March 13 2019):

Energy saving target is 8.0 – 10.0%; total energy saving: 60.0 million TOE

SPECIFICS OBJECTIVES IN VNEEP-3

1. Achieving the energy saving from 8 to 10% of total national energy consumption for the 2019 – 2030 period;
2. Reducing the power loss to below 6.0%;
3. Reducing the average energy consumption in industrial sectors/sub-sectors compared to the 2015 – 2018 period
 - (i) For the steel industry: from 5.00 to 16.50% depending on product type and production technology;
 - (ii) For the chemical industry: minimum 10.00%;
 - (iii) For the plastics production industry: from 21.55 to 24.81%;
 - (iv) For the cement industry: minimum 10.89%;
 - (v) For the textile industry: minimum 6.80%;
 - (vi) For the alcohol, beer and soft drink industry: from 4.6 to 8.44% depending on product type and production scale;
 - (vii) For the paper industry: from 9.90 to 18.48% depending on product type and production scale;
4. Reducing 5% of gasoline, oil consumption in transportation compared to the fuel consumption demand forecast of the sector until 2030; developing the regulation on fuel consumption level for 2-wheel motorbikes and cars of 9 seats and below which are newly manufactured, assembled and imported
5. Achieving the target of 90% of industrial parks and 70% of industrial clusters accessing, applying EE&C solutions
6. Implementing energy labelling for 50% of building material products which require thermal insulation in buildings
7. Achieving the target of 100% of cities, provinces under the central government developing and approving local plans/programs on EE&C

THANK YOU