BỘ CÔNG THƯƠNG
CỤC ĐIỀU TIẾT ĐIỆN LỰC

OPERATING THE POWER SYSTEM IN VIET NAM

The legal aspect

Presenter: Power System Department – Electricity Regulatory Authority of Viet Nam – Ministry of Industry and Trade

June 2022

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CONTENT

- Overview of the Power System in Viet Nam
- Regulating/Operating the Power System
- Green energy transition

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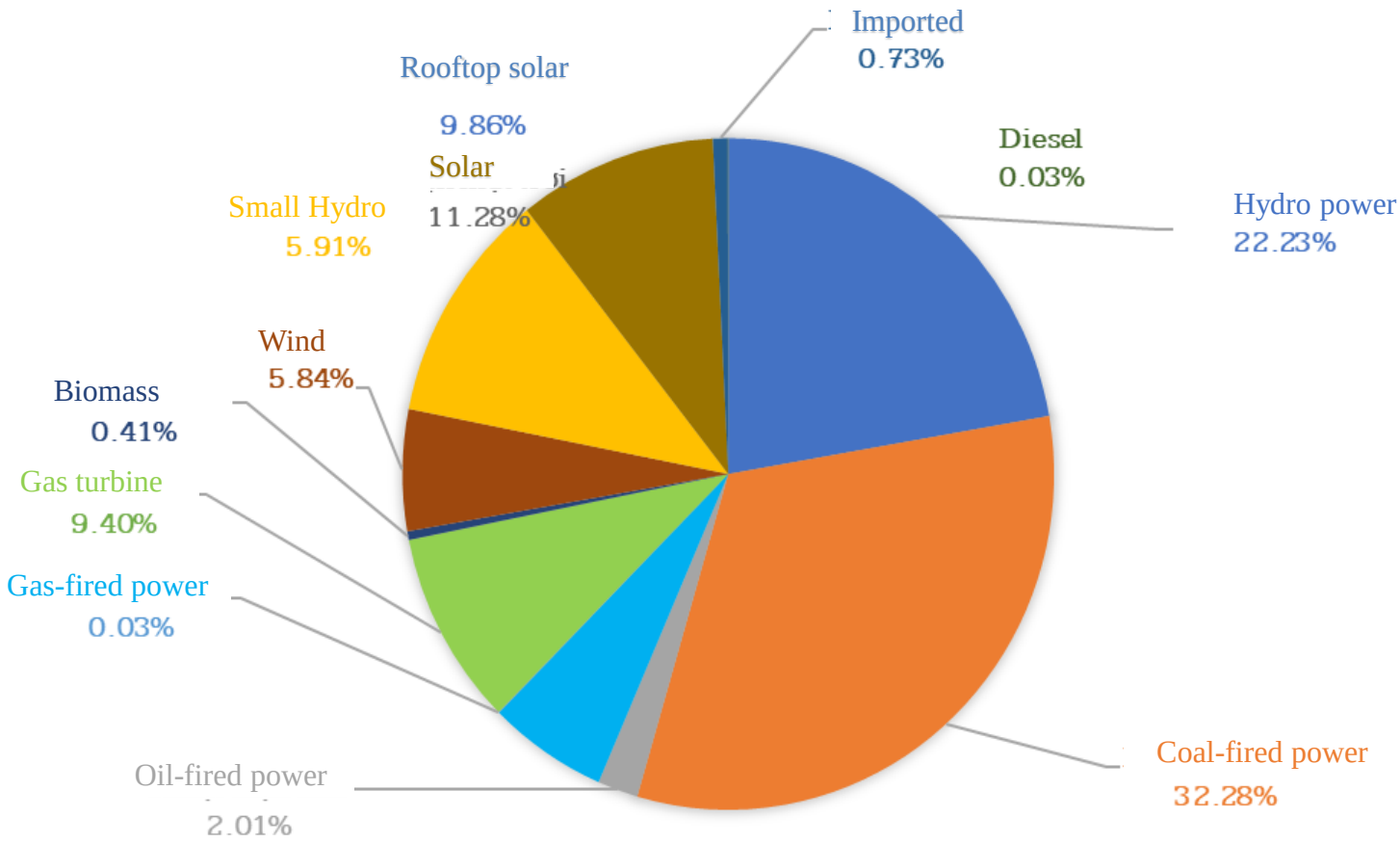
Overview of the Power System of Viet Nam




Total installed capacity of the Viet Nam Power System is 78,682 MW



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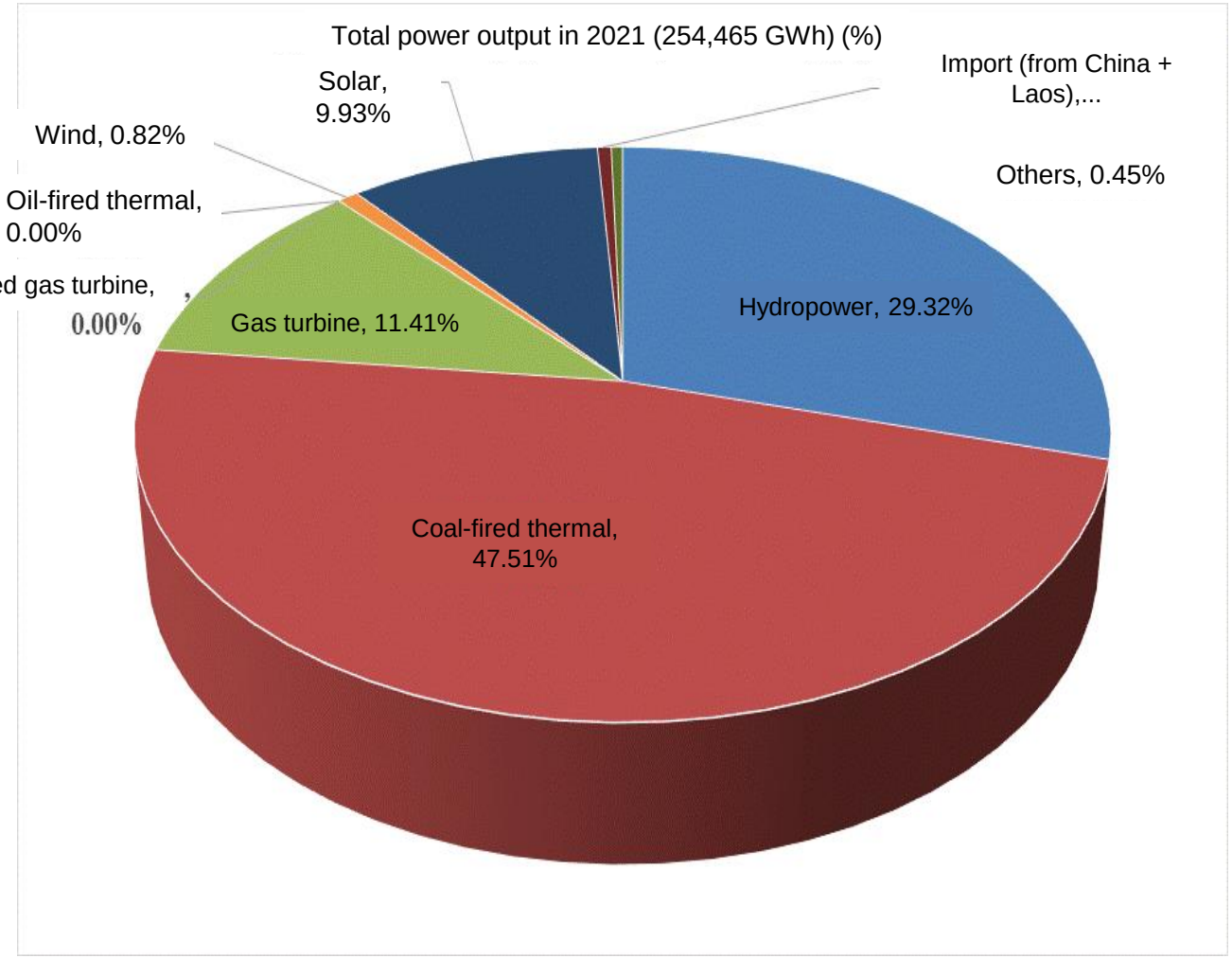
Overview of the Power System in Viet Nam




Total power output in 2021 reached 254.5 billion kWh



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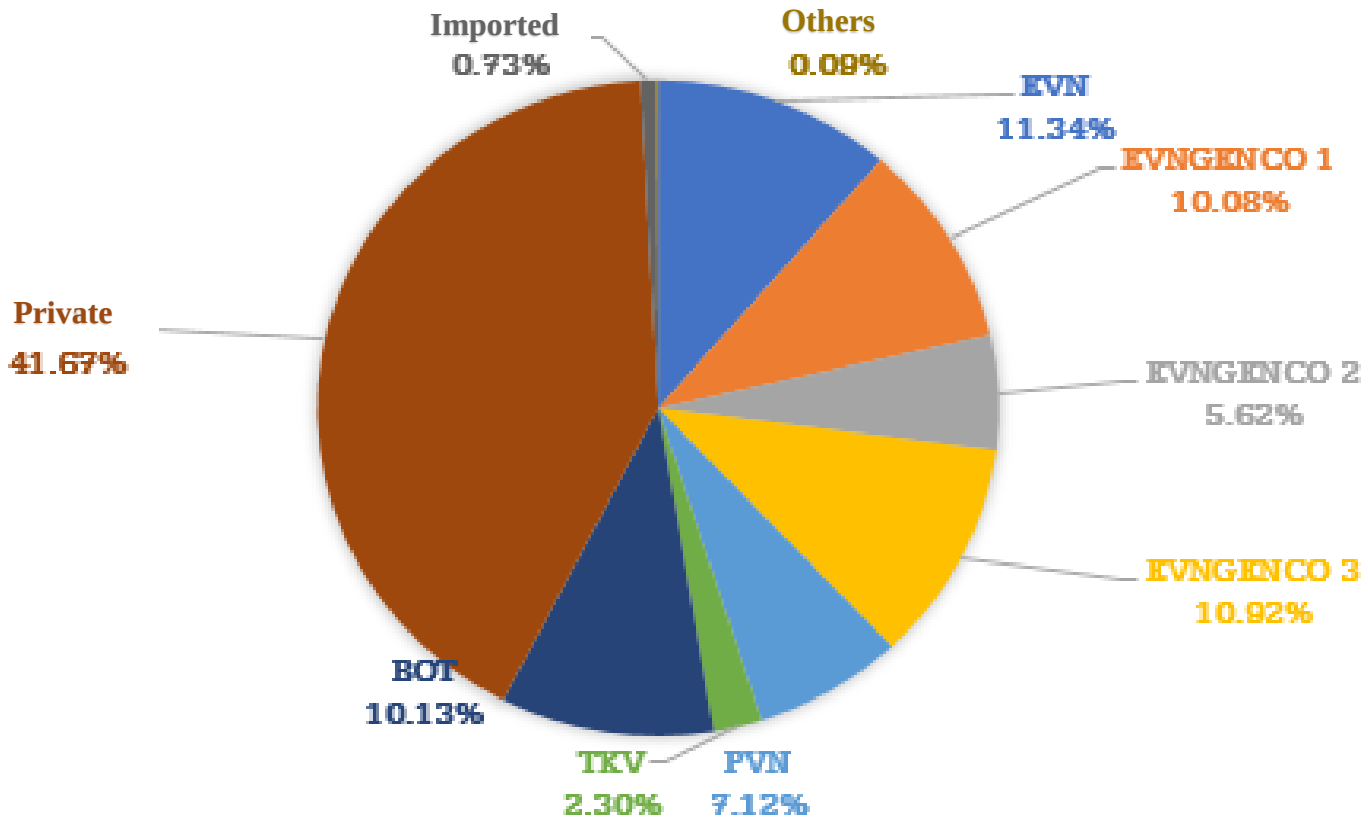
Overview of the Power System in Viet Nam




Power generation mix by owners



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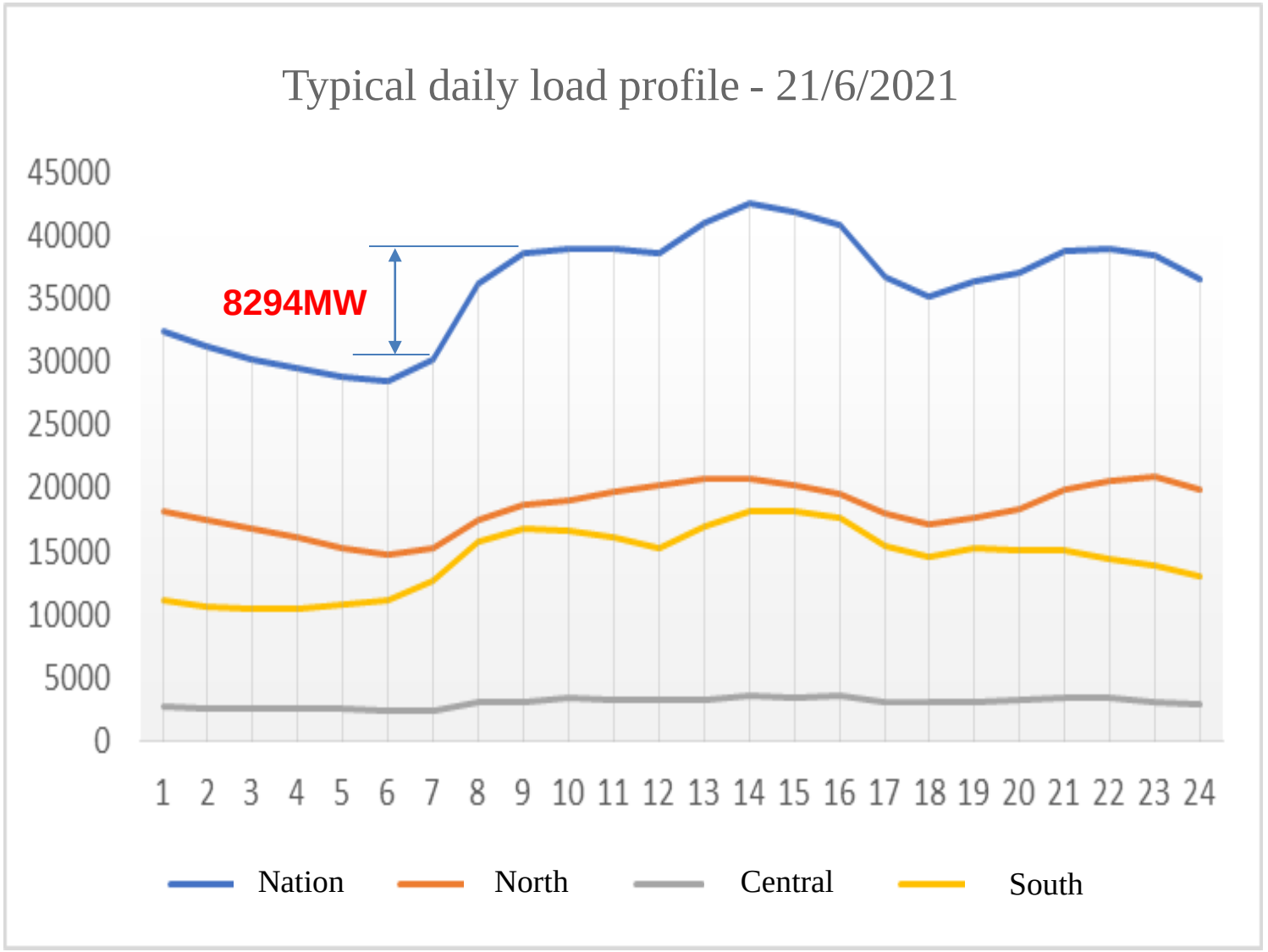
Overview of the Power System in Viet Nam



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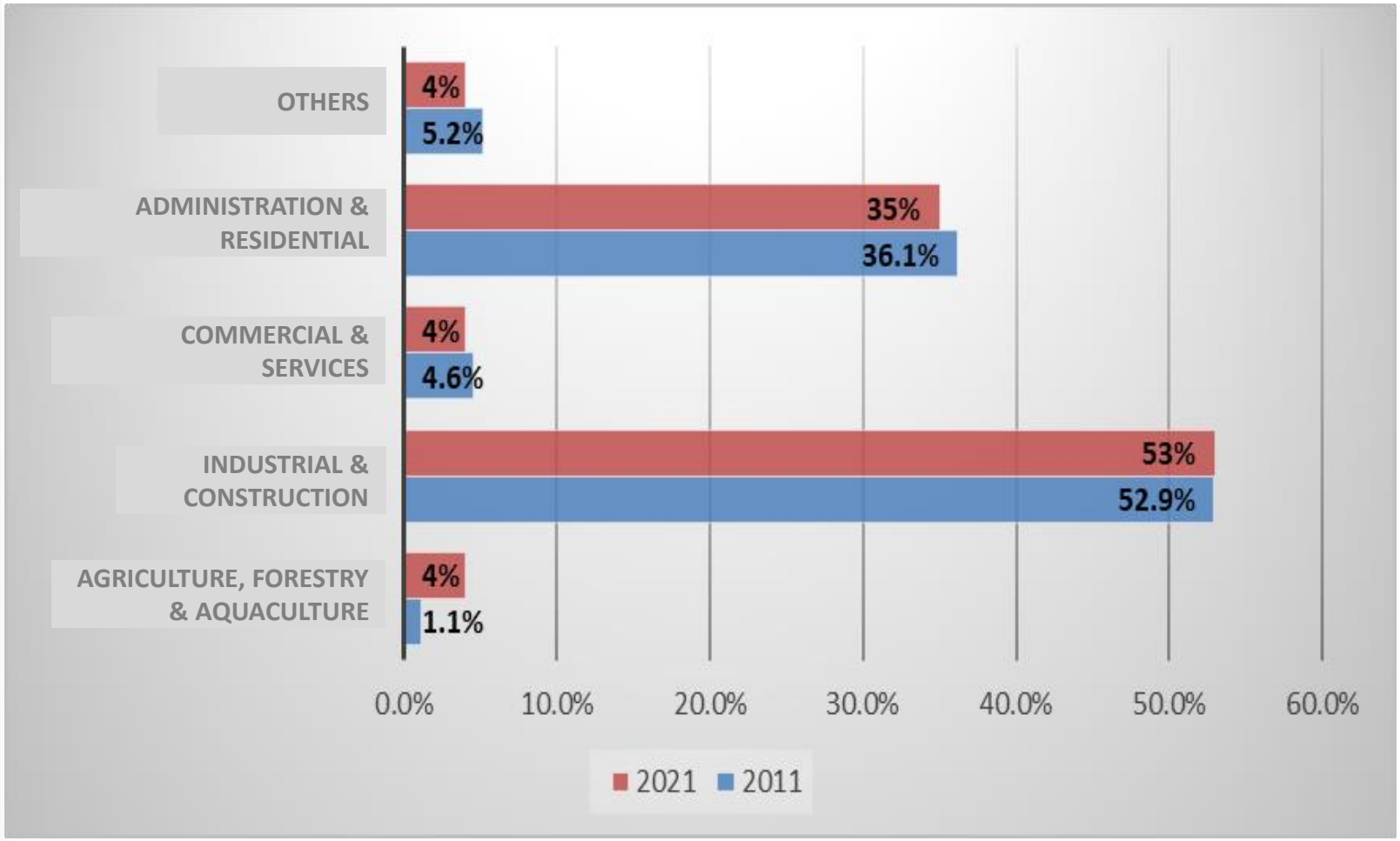
Overview of the Power System in Viet Nam

Power consumption structure by customer group in 2011-2021



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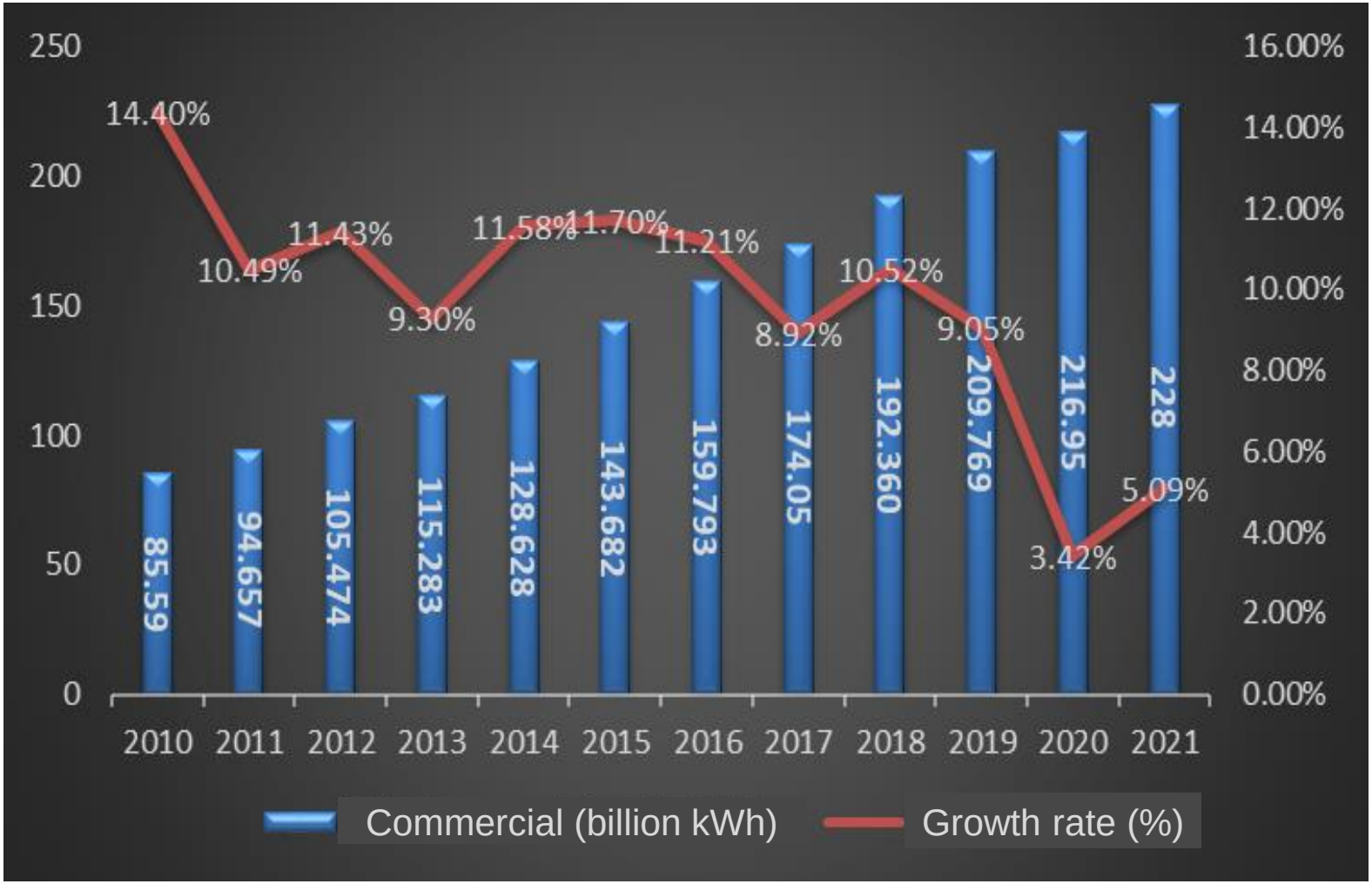
Overview of the Power System in Viet Nam

Power consumption in 2010-2021



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REGULATING/OPERATING THE POWER SYSTEM

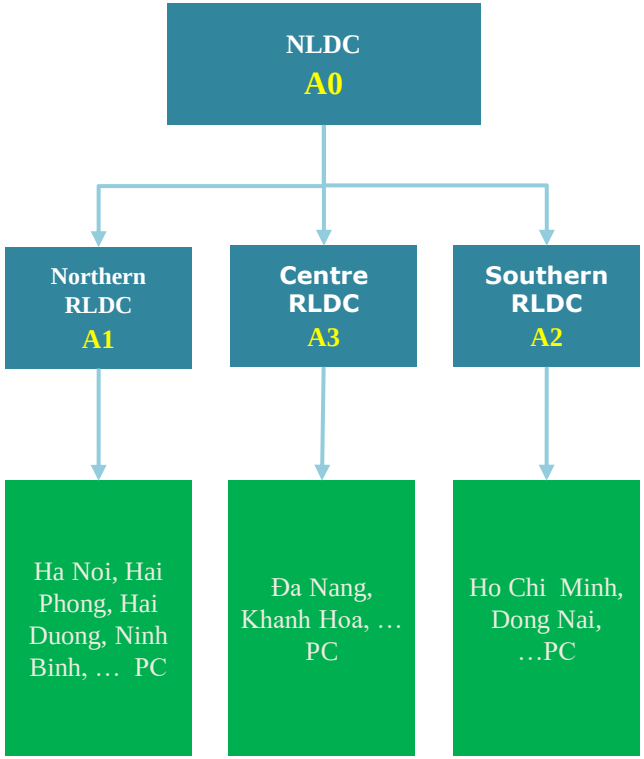


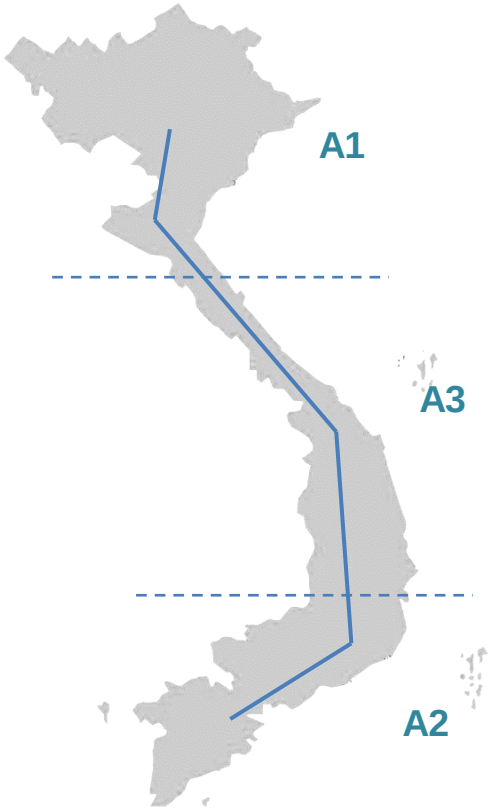

DISPATCHING LEVELS IN THE POWER SYSTEM

National level

Regional level

Distribution level





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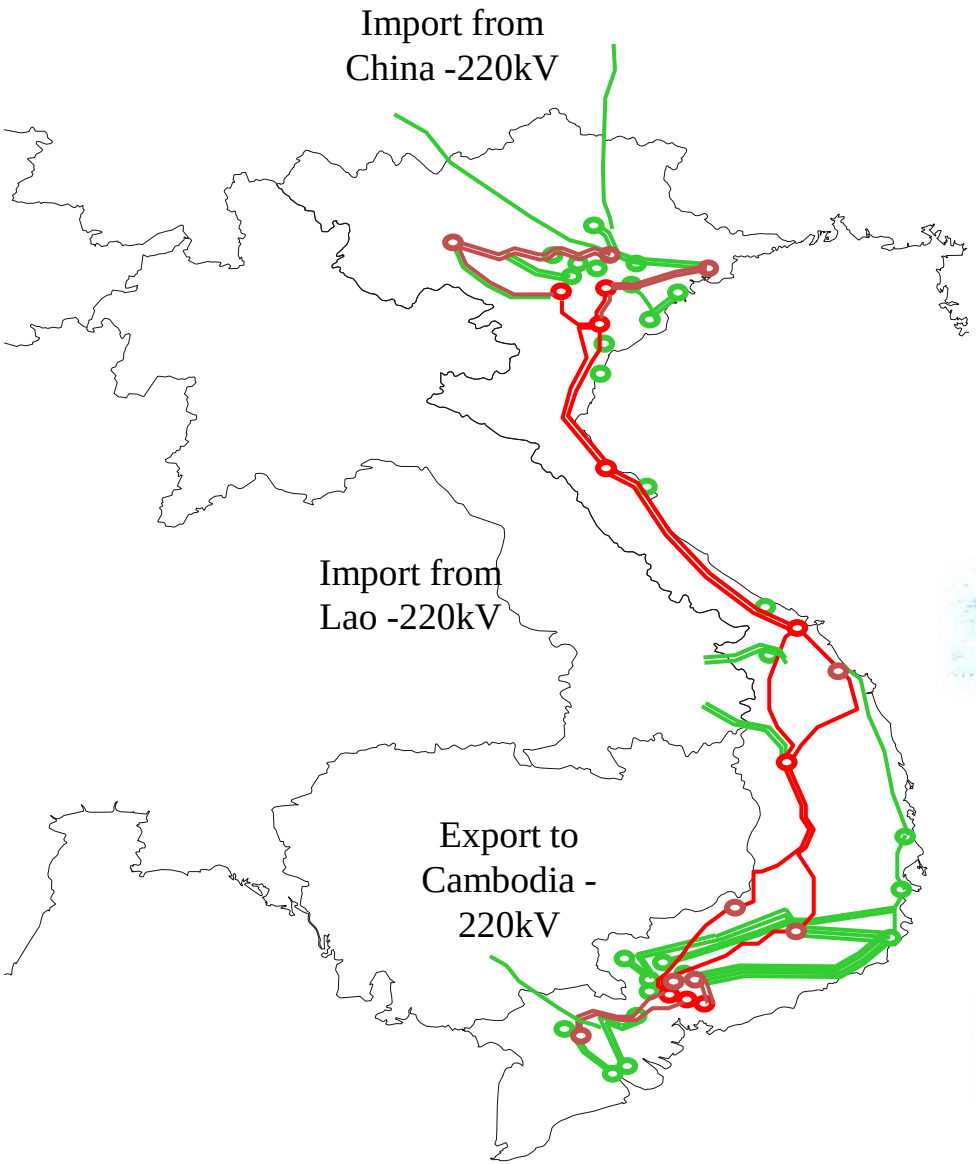
REGULATING/OPERATING THE POWER SYSTEM



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REGULATING/OPERATING THE POWER SYSTEM




Controlling authority

	National	Regional	Provincial	District
Grid	500kV Grid	66kV-110kV-220kV grid (except for authorized 110kV grid)	Medium voltage grid (1kV-35kV) Authorized 110kV grid	Decentralized ≤ 35kV grid
Large-scale plants	Connected to ≥ 110kV grid	Connected to 110kV-220kV grid when operating or authorized) Connected to ≥ 110kV grid		
Small plants		Connected to 110kV, 220kV grid	Connected to medium voltage grid	Connected to decentralized ≤ 35kV grid
				Diesel customer Connected to decentralized ≤ 35kV grid

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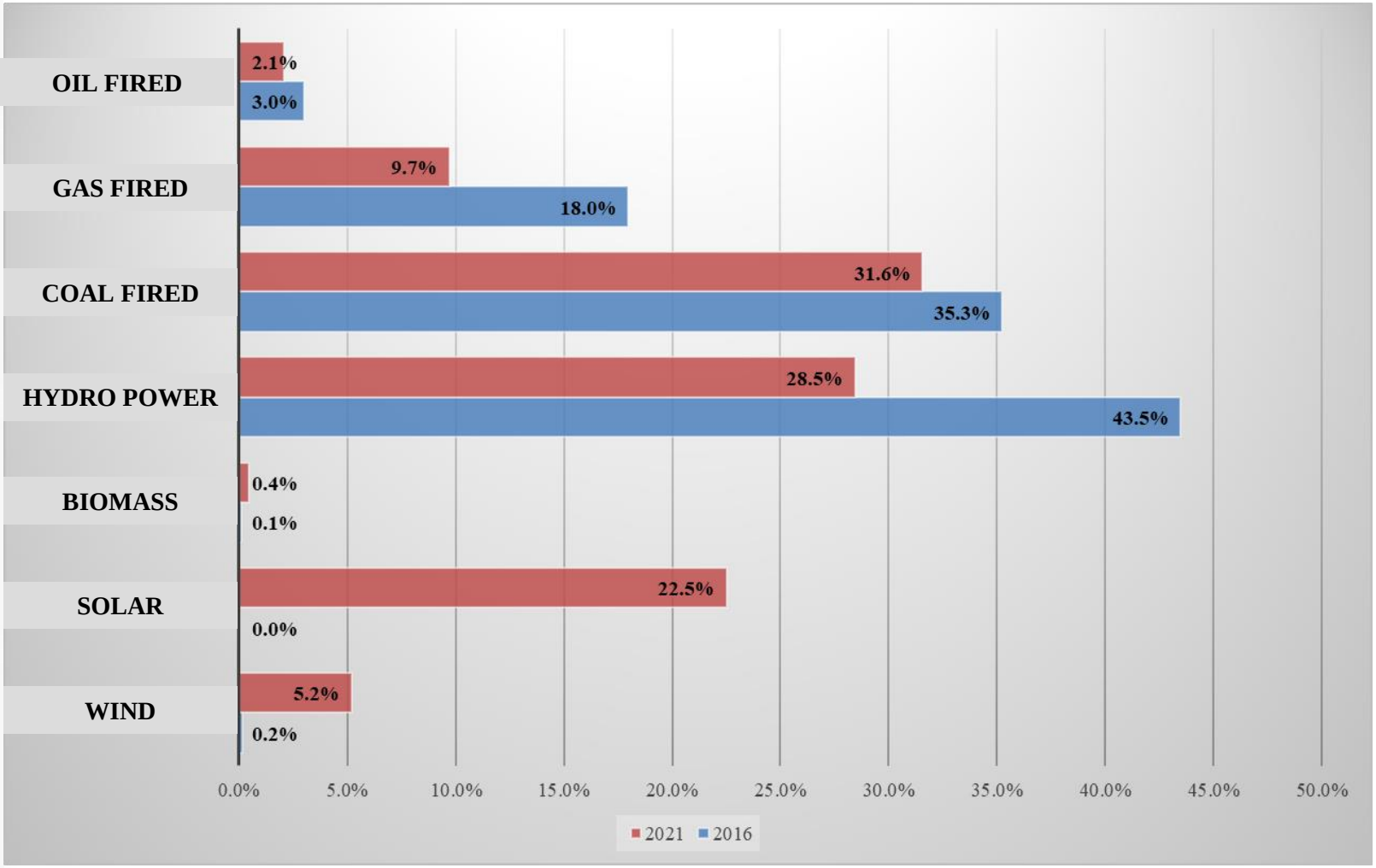
GREEN ENERGY TRANSITION

Power mix in 2016-2021 period



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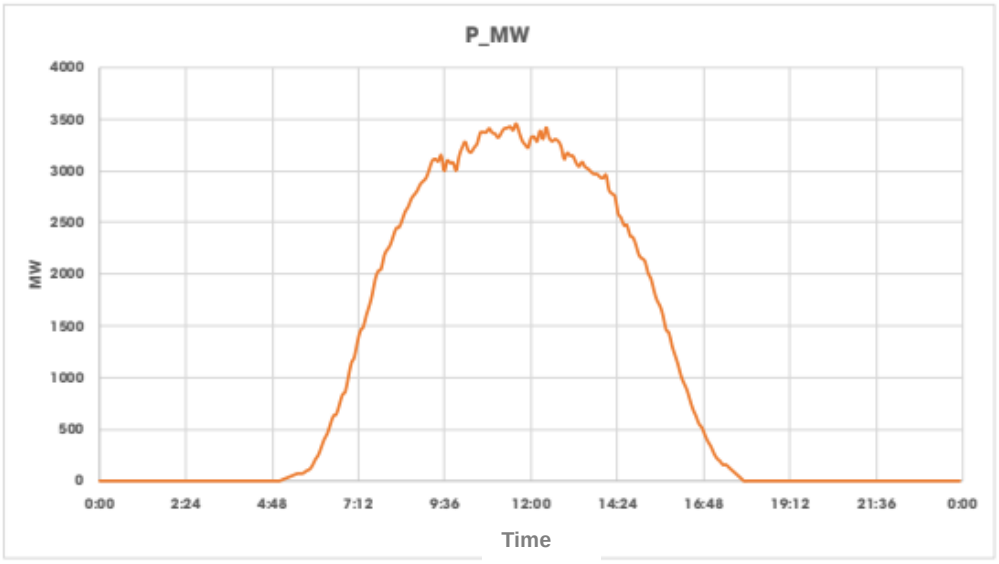
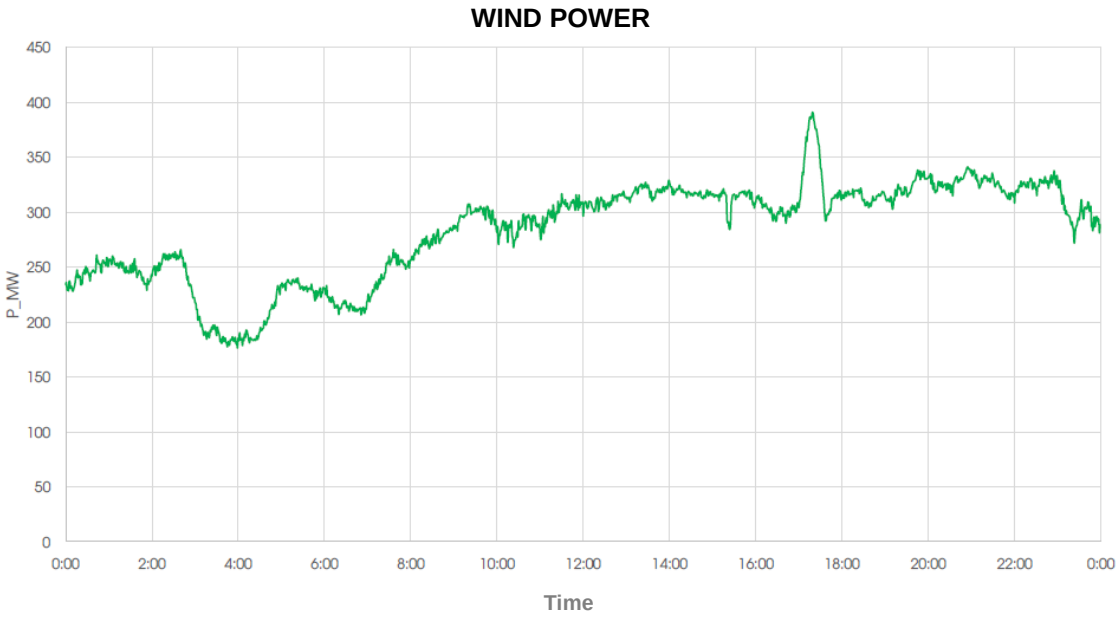
GREEN ENERGY TRANSITION



Solar

Wind



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On-going issues on RE integration study




1. Grid overload, backfeeding and power loss
2. Power quality, voltage and harmonics control.
3. System inertia, power oscillation
4. RE forecast, wind and solar power stability
5. Ancillary services and mechanisms for facilitating them in the context of high RE penetration
6. A mechanism for BESS development to support RE integration
7. A mechanism for implementing DSM/DR services

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