



**SOCIALIST REPUBLIC OF VIETNAM**

# **COUNTRY UPDATE**



Bangkok, March 2019



# Contents






01. Update on power projects and rural electrification in Vietnam
02. Update on policy development on Renewable Energy in Vietnam
03. Update on Competitive Power Market Development and Electricity Tariff

# Update on power projects and rural electrification in Vietnam



# Update on Power capacity



Hydro		20170 MW (40%)
Coal		18945 MW (37.6%)
Oil & Gas		9070 MW (18.1%)
Import		1400 MW (2.8%)
Renewable Energy		754 MW (1.5%)

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**Total**  **50339 MW** Data:02/2019

(New generation in 2018: 2150MW)

# Energy production 2018



Hydro



83081 GWh (37.7%)

Coal



91654 GWh (41.6%)

Oil & Gas



41452 GWh (18.8%)

Import



3125 GWh (1.4%)

Renewable  
Energy



997 GWh (0.5%)

Total



220310 GWh

Data: 2019

# Expected new RES sources in 2019

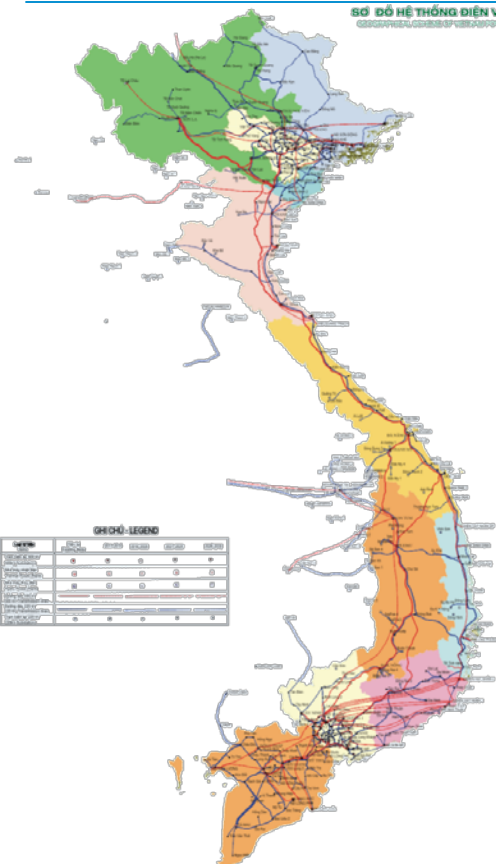
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- Expected RES project will operate before 30 June 2019

No	Month	Number of RES project	Installed capacity (MWp)
1	02/2019	02	52
2	03/2019	03	136
3	04/2019	05	213
4	05/2019	24	1570
5	06/2019	44	3099
		<b>Total</b>	<b>5070</b>

# Update on transmission and distribution system

**SƠ ĐỒ HỆ THỐNG ĐIỆN VIỆT NAM**  
GENERAL MAP OF VIETNAM POWER SYSTEM



Voltage level (kV)	Transmission line length (km)	
	2017	2018
500 kV	7414	7994
220 kV	16633	17059
110 kV	18772	20041

Voltage level (kV)		Substation	
		2017	2018
500 kV	Number of substation	27	30
	Capacity	29400	33300
220 kV	Number of substation	117	128
	Capacity	48053	57441
110 kV	Number of substation	712	772
	Capacity	59487	65725.1

# Update on rural electrification

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- ❑ Electrification:
  - ❑ 100% of the communes
  - ❑ 99.37% of the households
  - ❑ 99.05% of the rural households
  - having access to electricity
- ❑ 20/63 (31.74%) cities have reached 100% of the households having access to electricity



# 02

## Policy development on Renewable Energy in Vietnam



# Status of waste, solar, wind energy industry

## Solar farm:

- Total capacity registered 26,000 MW (22.100 MW)period 2019- 2025.
- Total capacity included into master plan 8,100 MW.
- Around 98 solar farm projects were signed PPA with EVN with installed capacity of 6,100,000 MW.
- 02 projects with installed capacity of 86 MW were put into operation (Phong Dien and Krong Pa).



## Solar roof-top:

- 748 projects with installed capacity of 12 MW (update to July, 2018)



# Status of waste, solar, wind energy industry

## Waste:

- 12 projects with installed capacity of 360 MW were put into operation which fired sugar cane.
- 02 fired waste projects with installed capacity of 10 MW which are in progress of construction.



- Some off-grid projects

# Status of waste, solar, wind energy industry

## Wind:

- 7 projects with installed capacity of 306 MW were put into operation
- Total capacity included into master plan 4,100 MW.
- Total capacity registered 6,500 MW period 2019- 2025



- Some off-grid projects:

Phú Quý 6 MW



# Status of waste, solar, wind energy industry

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## Incentive mechanism for RE projects

- ✓ EVN has obligation to buy electricity from RE projects
- ✓ Duration of PPA is 20 years
- ✓ Electricity tariff is adjusted following the rate of USD/VND
- ✓ Incentive income tax: 0% in first 4 years, reduce 50% in next 9 years, reduce 10% from the year 10-15.
- ✓ Exemption of imported tax, reduce tax of environment, land usage etc.

# Status of waste, solar, wind energy industry

RE type	Status		FIT Level	Note
	Existing	Proposing		
Wind power	FIT		8,5 UScents/kWh for on-shore projects 9,8 UScent/kWh for off-shore projects	COD before 31 Oct 2021
Biomass	FIT (CHP)	revised	- CHP: 5.8 UScent/kWh - Generation Cost from imported coal power plant (~ 7.6 UScent/kWh for 2016)	
Power plant from solid waste	FIT		- Land fill gas: 7.28 UScent/kWh - Incineration: 10.05 UScent/kWh	
Solar (PV)	FIT		- Solar Farm: FIT 9.35 UScent/kWh - Rooftop: net-metering, FIT 9.35 UScent/kWh	COD before 30 Jun 2019

# Future Policy for RE Development

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- ✓ Review the Decision 11/QD-TTg, recalculating the FIT for PV power.
- ✓ Continue study electricity tariff for Solar and Wind power.
- ✓ Building technical standards for Solar power and Wind power.
- ✓ Policy for Grid expansion to intergrate large portion of RE.

# Challenge for RE Development

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- ✓ Transmission Grid expansion did not design for large amount of Solar and Wind farm.
- ✓ Building time of new transmission lines and substations is much longer than building Solar and Wind farm.
- ✓ Power system dispatching has no experience operating the PV and Wind farm with high penetration.
- ✓ No policy on RE tariff in long term.



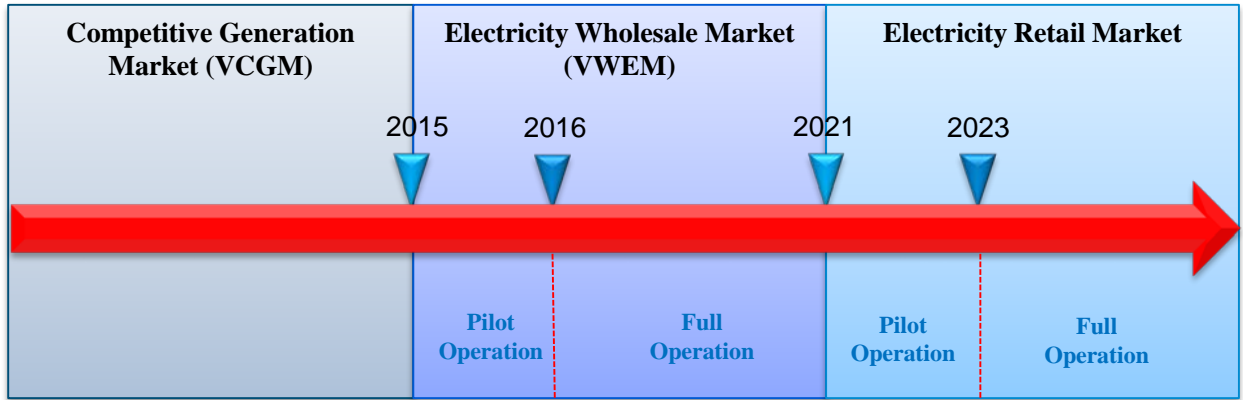
# 03

## Update on Competitive Power Market Development and Electricity Tariff



# Competitive Power Market Development

## Roadmap (Decision 63/2013/QD-TTg):

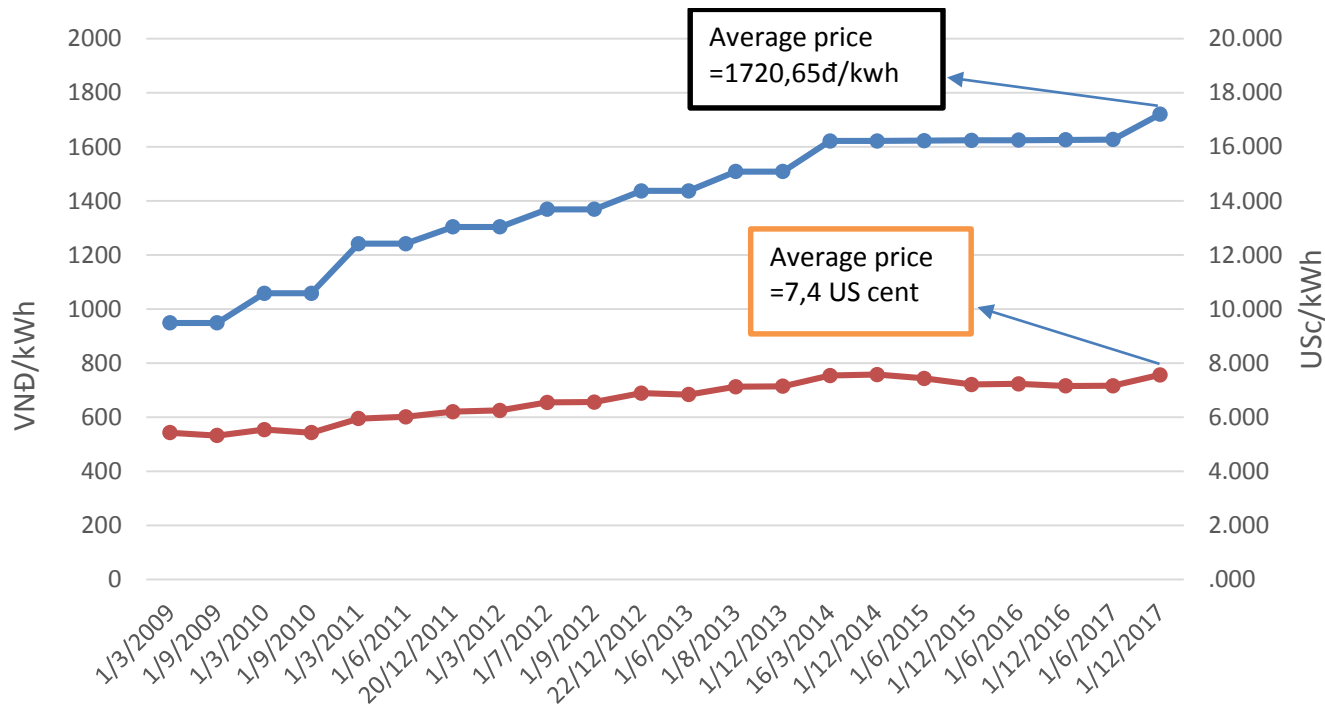


## Stages of VWEM implementation:

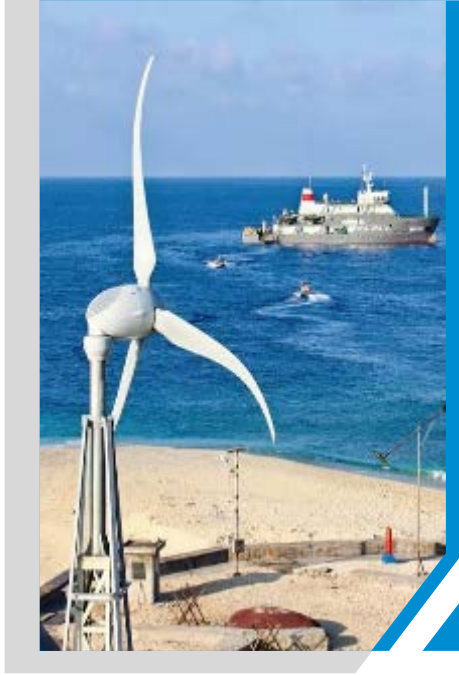
- 2019: Full VWEM (MOIT Decision No. 8266)
- 2019 onwards: Long Term VWEM



# Averaged Electricity Retail Tariff



- Increased 8,36% in March 2019, to 1.864 VNĐ/kWh (around 8 US cents/kWh)



THANK YOU FOR  
YOUR LISTENING