



COUNTRY UPDATES

VIETNAMESE POWER SYSTEM



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02. CURRENT STATE AND FUTURE DEVELOPMENT OF RENEWABLE ENERGY






01

OVERVIEW OF VIETNAMESE POWER SYSTEM



TOTAL INSTALLED CAPACITY








Hydro		20411 MW (37.2%)
Coal		19258 MW (35.1%)
Oil & Gas		8696 MW (15.9%)
Import		1400 MW (2.5%)
Renewable Energy		5200 MW (9.3%)

Total  54965 MW

Data:12/2019

ENERGY PRODUCTION 2019



Hydro		66210 Gwh (27.6%)
Coal		119495 Gwh (49.8%)
Oil & Gas		44331 Gwh (18.5%)
Import & Other		4192 Gwh (1.7%)
Renewable Energy		5784 Gwh (2.4%)

Total  240012 Gwh

Data:12/2019

LOAD DEMAND GROWTH

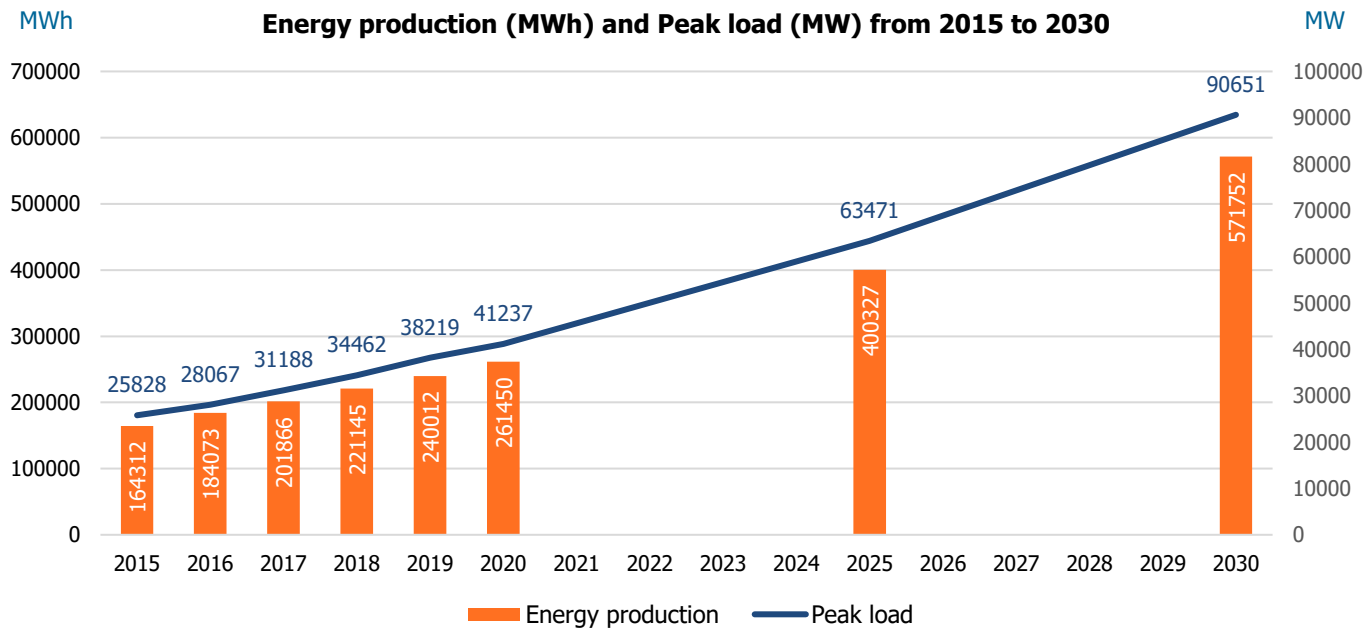


Year	Pmax (MW)	Growth rate (%)
2010	15416	11.2%
2011	16490	7.0%
2012	18603	12.8%
2013	20010	7.6%
2014	22210	11.0%
2015	25809	16.2%
2016	28067	8.7%
2017	30931	10.2%
2018	35110	13.5%
2019	38249	8.9%
2020	38617	1.0%



Year	Production (Million. kWh)	Growth rate (%)
2010	99106	14.4%
2011	107587	8.6%
2012	119033	10.6%
2013	128849	8.2%
2014	144646	12.3%
2015	163501	13.0%
2016	182166	11.4%
2017	197610	8.5%
2018	219976	11.3%
2019	240101	9.1%
2020 (expected)	250052	4.14%

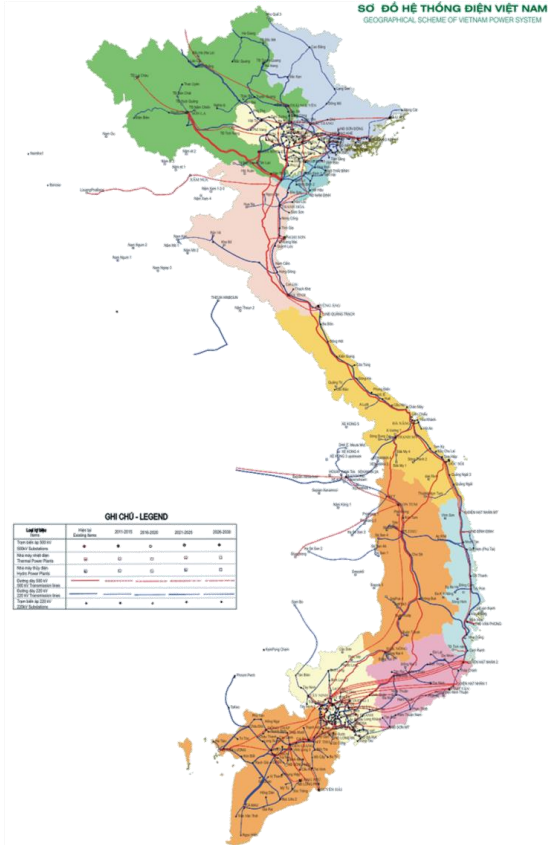
FUTURE DEVELOPMENT



Average growth rate (%)

	2016-2020	2021-2025	2026-2030
E. Production	10.07	8.57	7.39

TRANSMISSION SYSTEM



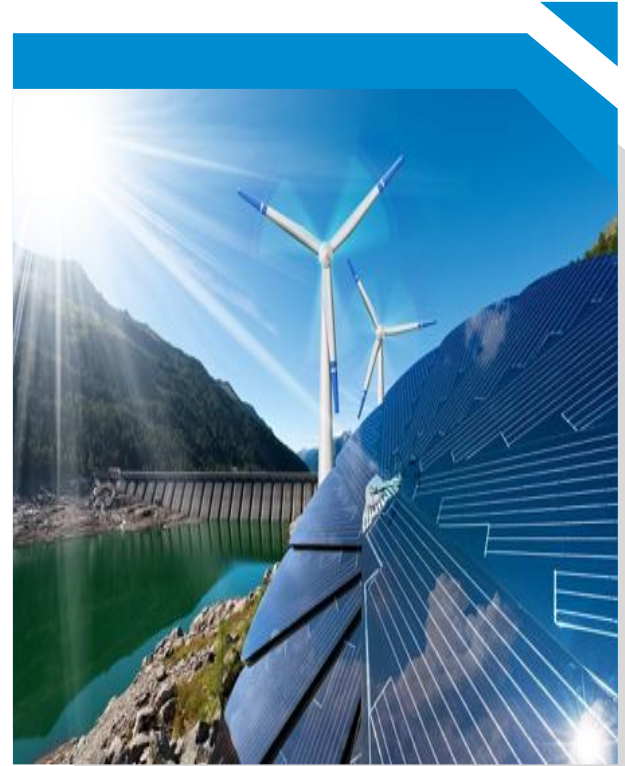
Vietnam Transmission System (2019)

□ 03 interconnected regions

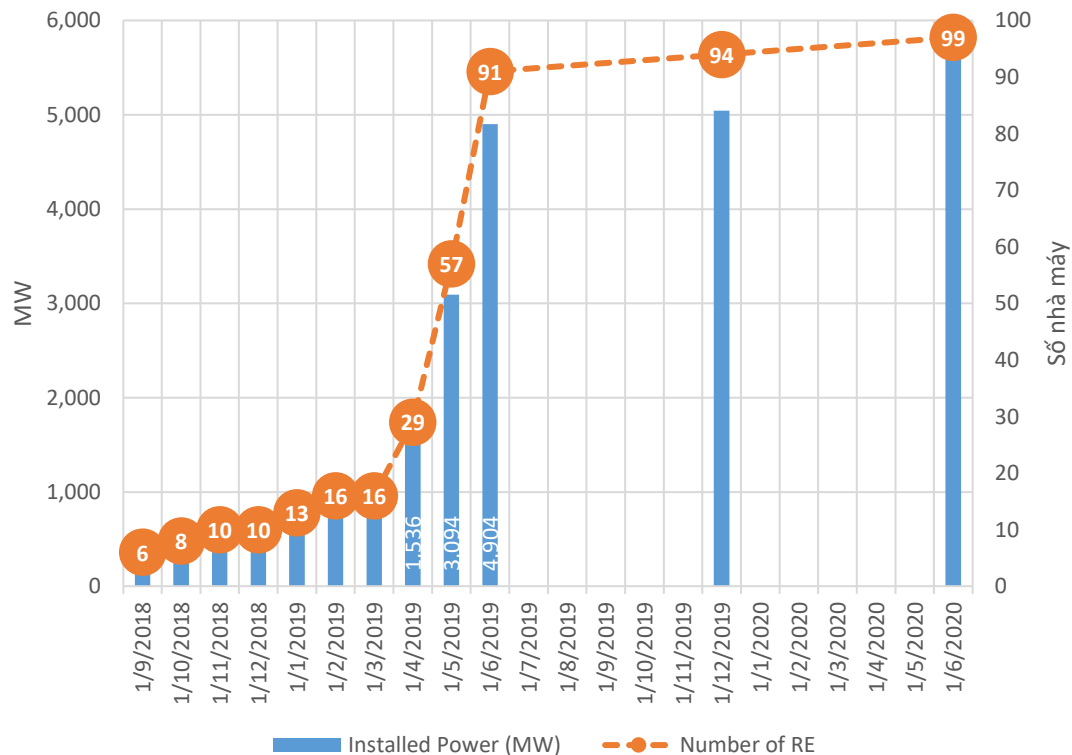
	Quantity	No of Subs/Lines
500kV substation	35100 MVA	33
500kV line	8000 km	85
220kV substation	57441 MVA	128
220kV line	17861 km	413

02

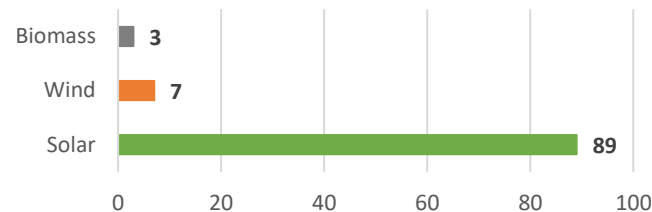
CURRENT STATE AND FUTURE DEVELOPMENT OF RENEWABLE ENERGY IN VIETNAM



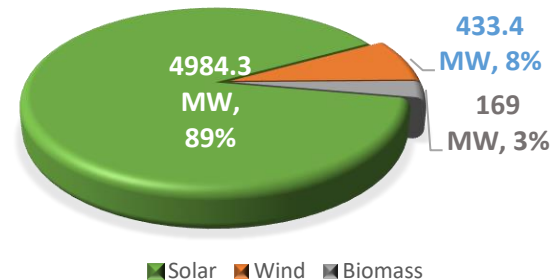
EXISTING RENEWABLE PROJECTS



Number of project



INSTALLED CAPACITY



RENEWABLE ENERGY DEVELOPMENT 2021

	2021 PPA projects	2021 PPA projects + Approved projects
Solar (MW)	8660	8660
Wind (MW)	2831	11538
Sum (MW)	11491	20198

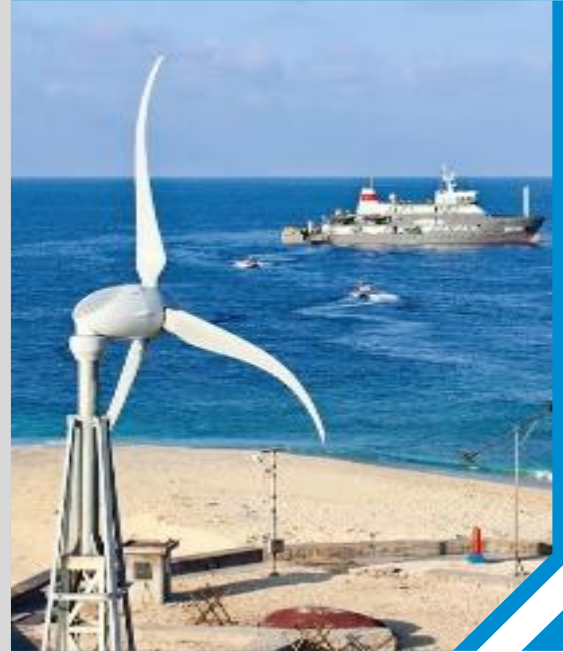
PDP 7 revised	2020	2025	2030
	Capacity (MW)	Capacity (MW)	Capacity (MW)
Wind	800	2000	6000
Solar	850	4000	12000

	Feed in Tariff (UScents/kWh)	COD
On shore wind	8.5	01/11/2021
Off shore wind	9.8	01/11/2021
Floating solar	7.69	30/12/2020
Solar	7.09	30/12/2020
Rooftop solar	8.38	30/12/2020

Data:09/2019

MASTER PLAN VIII

- ❑ Detail planning for Power system development period 2021 – 2030 and vision to 2045.
- ❑ Execution time: 10/2019 – 10/2020.
- ❑ No more approved project until Master Plan VIII is published.



THANK YOU FOR
YOUR LISTENING