CIRED
Centre International de Recherche sur l'Environnement et le Développement

VIET
Vietnam Initiative for Energy Transition

PDP8: Genesis and exegesis and four questions to modelers

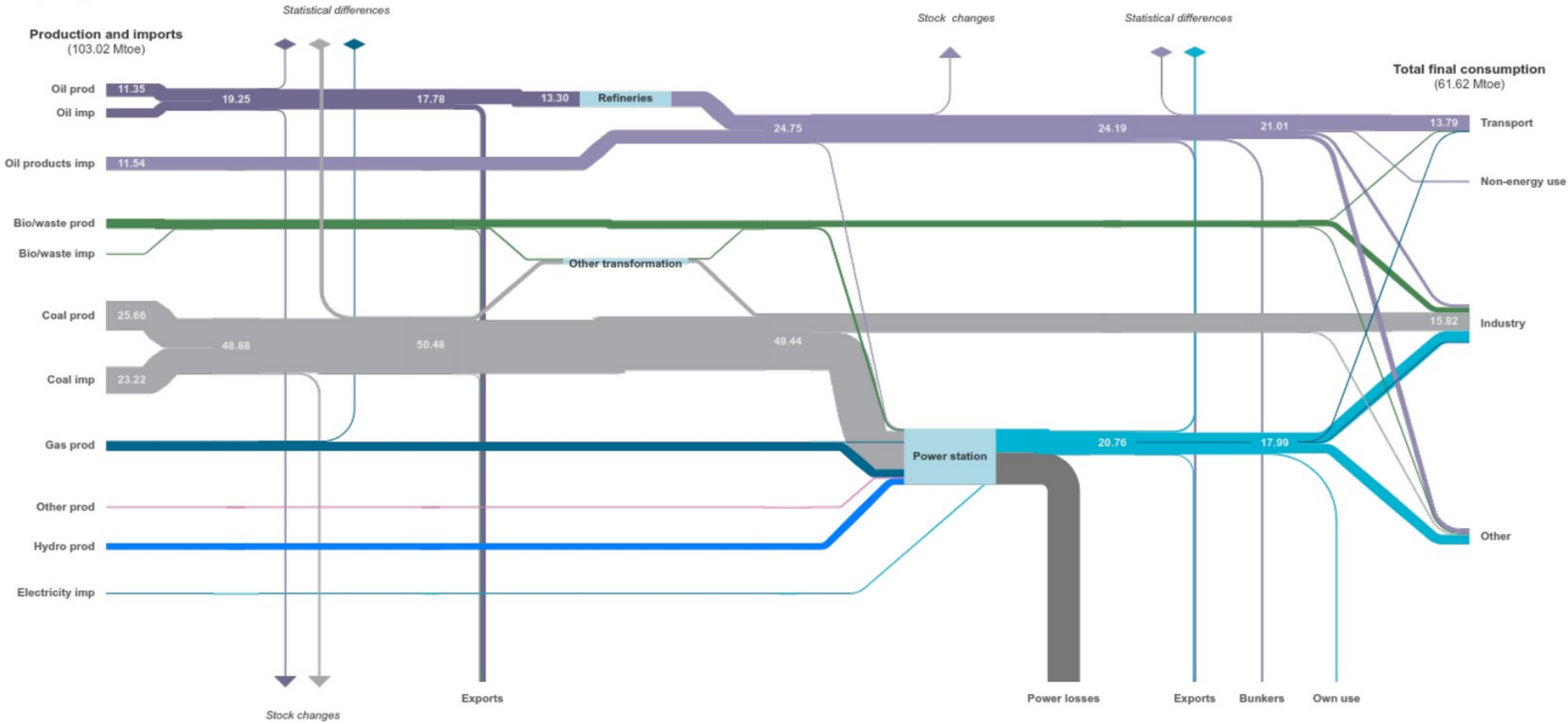
Minh Ha-Duong, DR CNRS

June 24, 2022

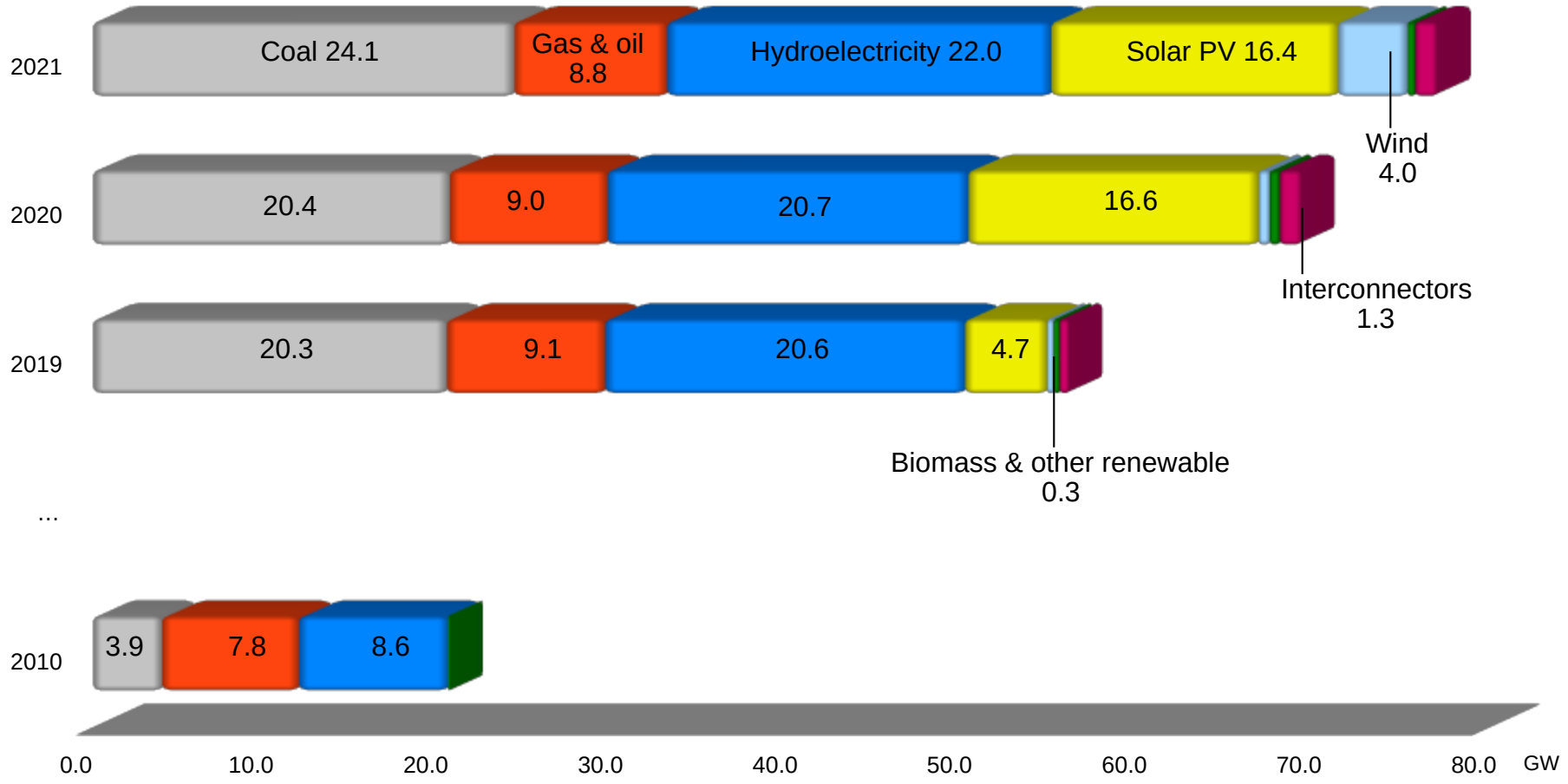
Viet Nam

BALANCE (2019)

Millions of tonnes of oil equivalent

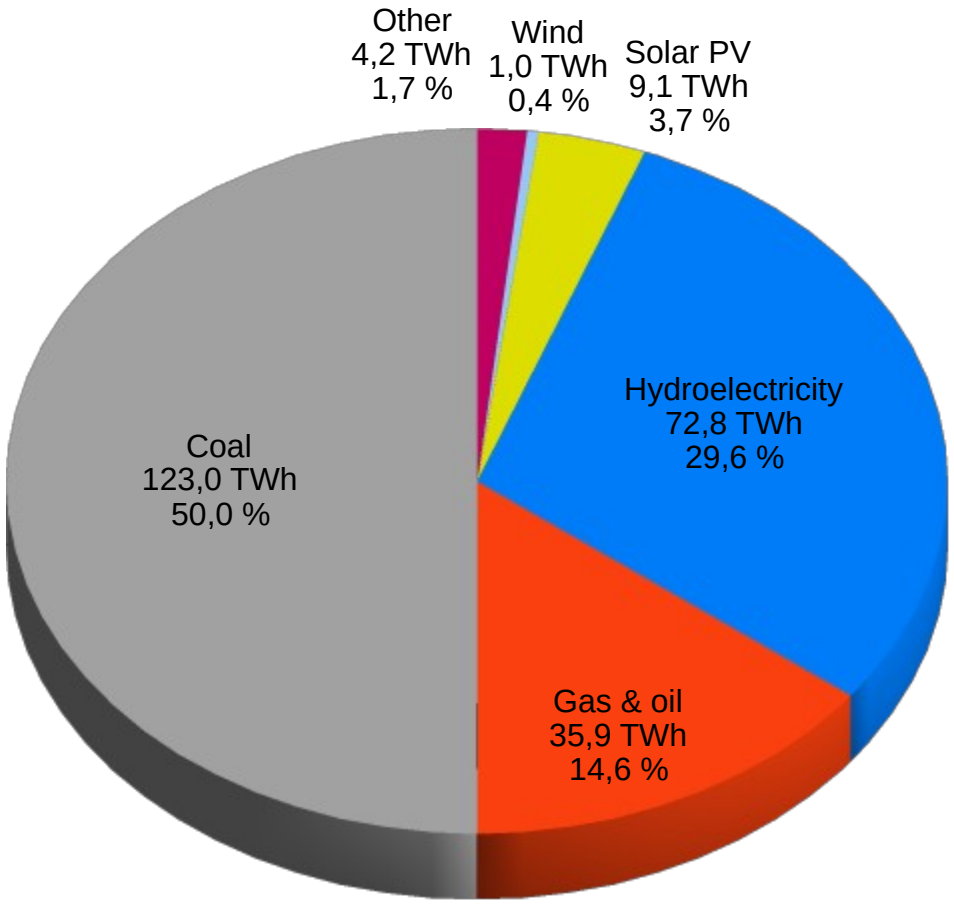


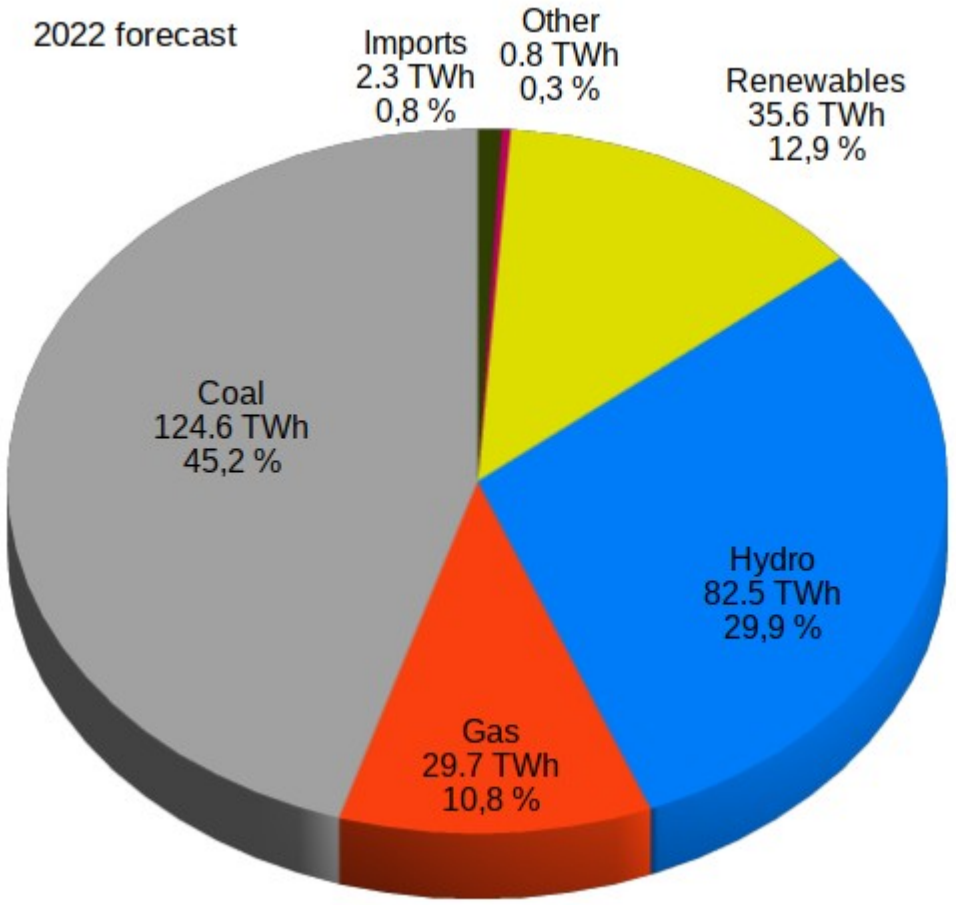
Installed generation capacity in Vietnam (GW)
in 2010, 2019, 2020 and 2021




Vinh Tan 3 in red
PV farms in blue
Nhà máy điện mặt trời Vĩnh Tân 2
BẮC NỚ
Nhà máy nhiệt điện Vĩnh Tân
VĨNH SƠN
Điện mặt trời Vĩnh Hảo 6
Nhà máy điện mặt trời vĩnh hảo 4
Nhà máy điện mặt trời Tuy Phong
Nhà máy điện mặt trời Vĩnh Hảo
3D

Electricity production by primary energy source
2020 vs. 2022 forecast





Power development plan: rationalist policymaking

a) The overview on socio-economic development situation

b) The forecast of electricity demand

c) Assessment on sources of primary energy, fuel prices forecast

d) Detailed development programs of electricity Sources, Power grid, Interconnects

đ) Synthesis of investment capital

e) The environmental protection and natural disaster fighting and prevention

g) Anticipation on land need for electricity works

h) The mechanisms, policies, solutions ensure implementation of the programs.

(Vietnam 2012 Electricity Law, art. 8a.)

Modeling stacks

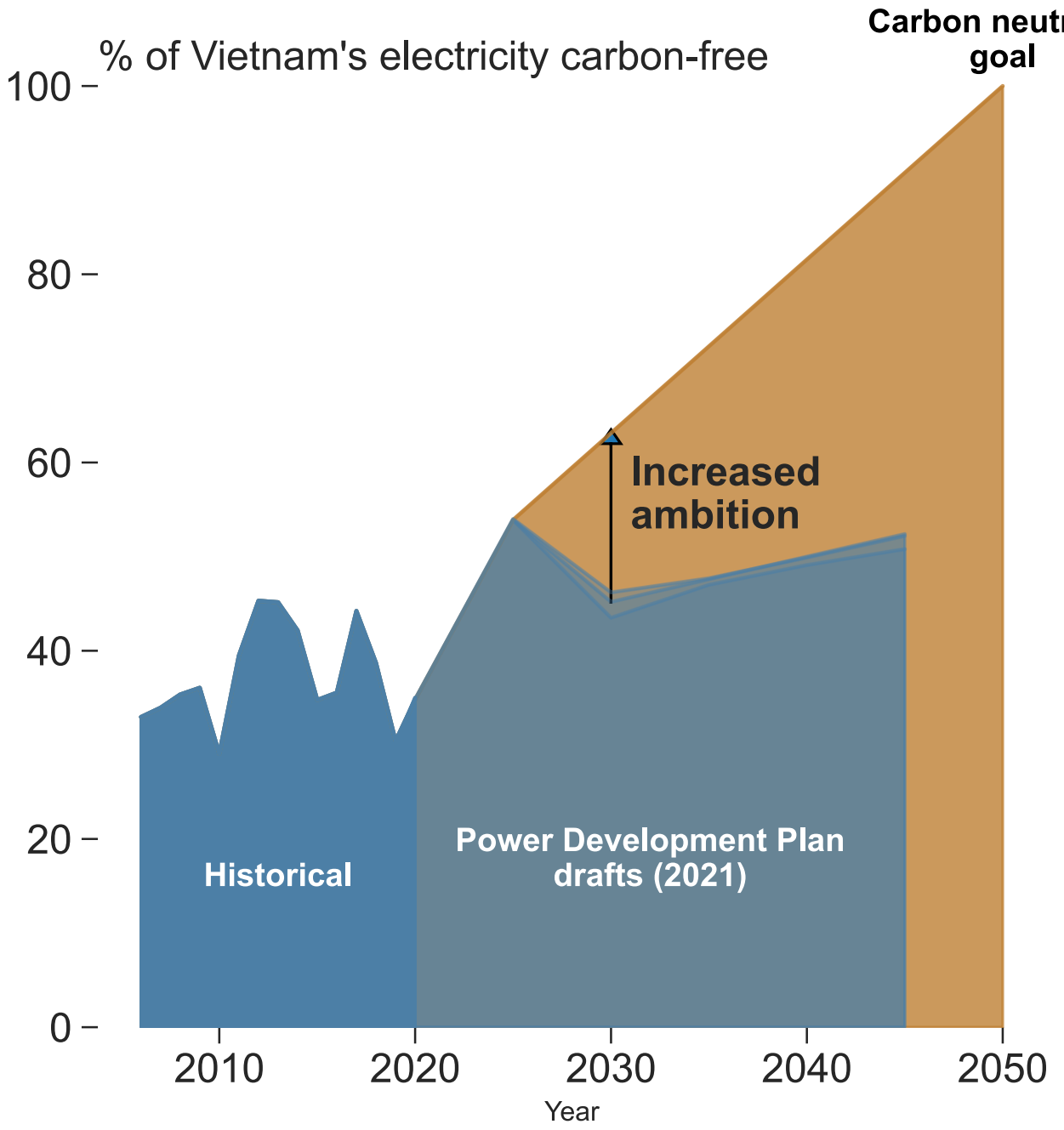
- VEO 2021 uses two modelling frameworks: **TIMES** model (all sectors of the energy system) + **Balmorel** model, (power system in higher level of detail)
- Institute of Energy ‘flexible generation’ 2020 analysis was carried out using **BALMOREL** to calculate the future capacity expansion, **PLEXOS** for power market modelling and as a simulation, and **PDPAT** for dispatching, power balance, and LOLE index by region.

Power Development Plan 8: March 2021 draft

Base case of PDP8 chapter 1, chapter 6 p. 239, chapter 9 pp. 352, 354.

	2020	2025	2030
Electricity used (TWh)	216,8	335	491
CO2 emissions (Mt)	118	186	246
PM2,5 emissions (kt)	9,45	21,312	31,707
Total installed capacity (GW)	69,3	102,1	137,7

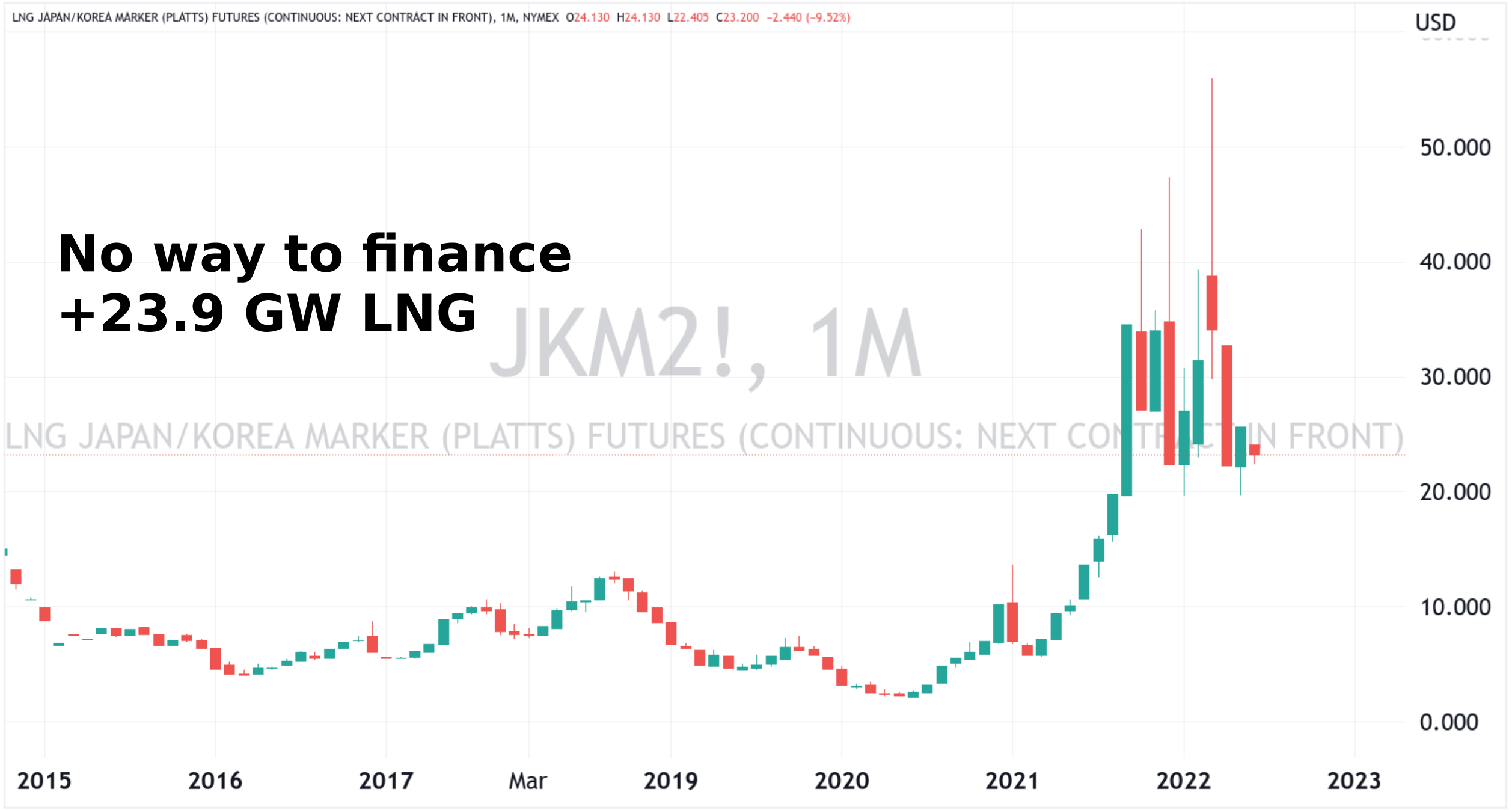
Need for increased ambition post COP26



Draft PDP8 Revision was marginal

	2020	2030 (March 2021)	2030 (April 2022)
Domestic coal	14,3	16,9	13,7
Imported coal	6,1	20,4	23,8
Domestic gas	7,1	10,6	5,8 – 14,9
Imported LNG	0	18,1	**23,9**
Oil	1,9	0,3	n/a
Hydroelectricity	20,7	26,0	28,9
Solar PV	16,6	**18,6**	16,5
Onshore and nearshore	0,6	16,0	15,6
Offshore	0	2,0	**7,0**
Biomass & other renewable	0,6	3,1	1,2
Interconnectors	1,3	5,7	5,7
Storage, incl. pumped hydro and batteries	0	1,2	2,45

Published on TradingView.com, Jun 13, 2022 10:28 UTC



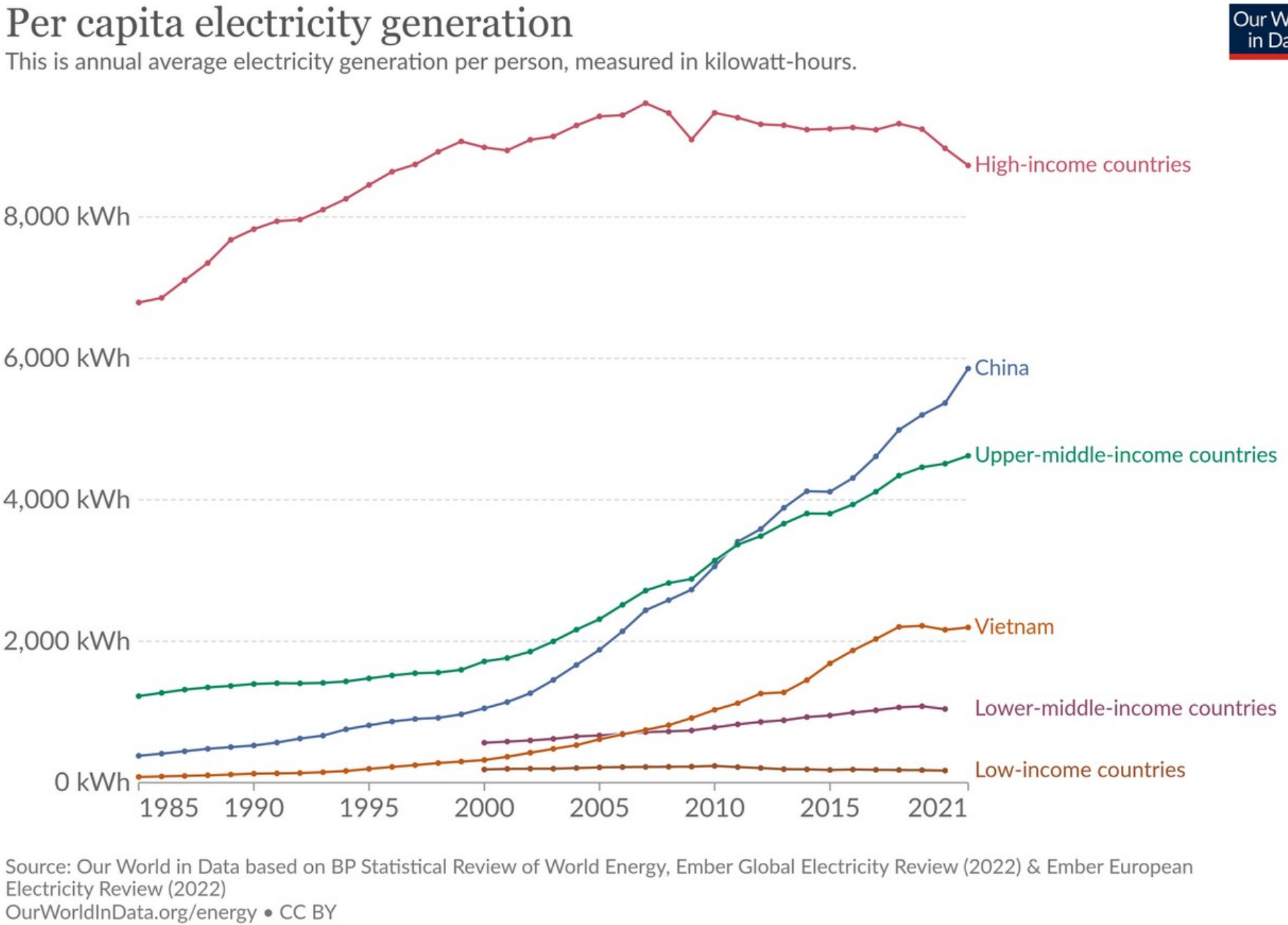
TradingView

Thi Vai, the only LNG terminal in Vietnam?

Modeling Question 1

How much power does Vietnam needs?

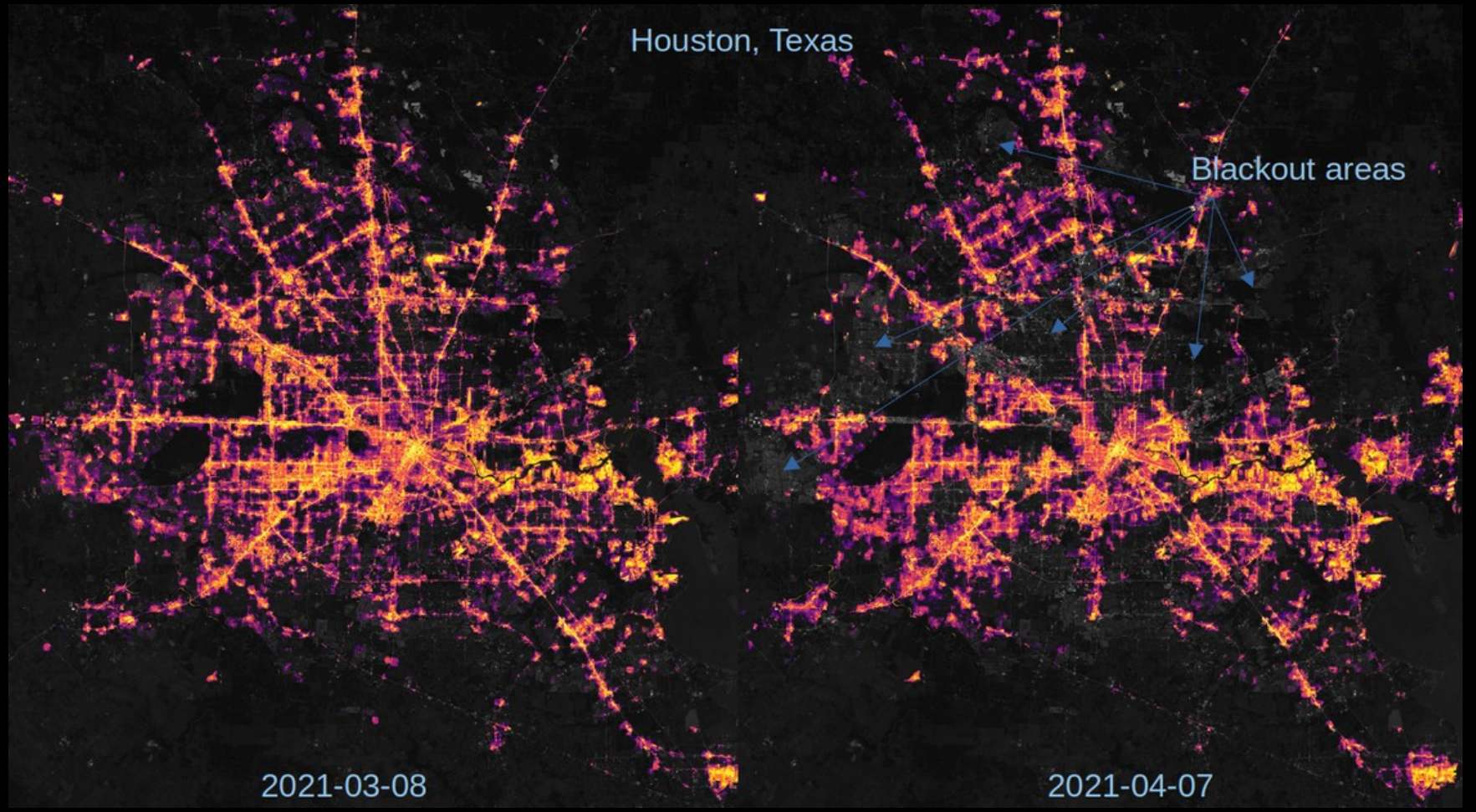
#Energy Efficiency
#Growth
#Structure



Modeling Question 2

How to ensure a reliable power supply?

#Variability
#Storage
#Trade



Modeling Question 3

How to finance new grid, capacity, ancillary services?

#Auctions #DPPA #NonSovereign Loans #GreenBonds #ClimateFinance

Modeling Question 4

How much should EVN raise electricity prices?

#Justice
#Competitivity