



Overview of PDP8 and National Transition Roadmap

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Vietnam Initiative for Energy Transition (VIET)

Outline

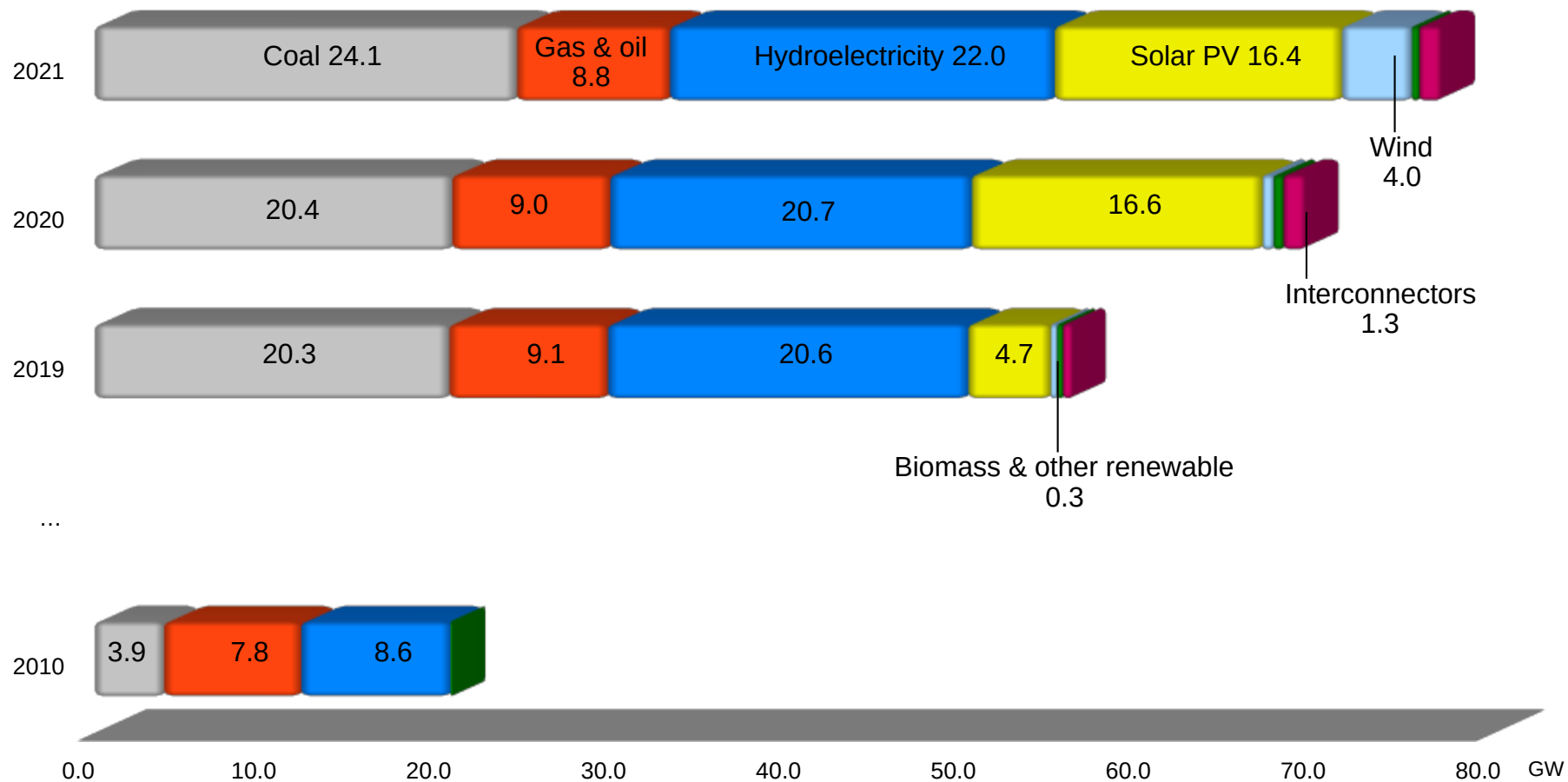
- 1) State of the energy and power system
- 2) Trends and game changers
- 3) Conclusion: Key issues

1. State of the system

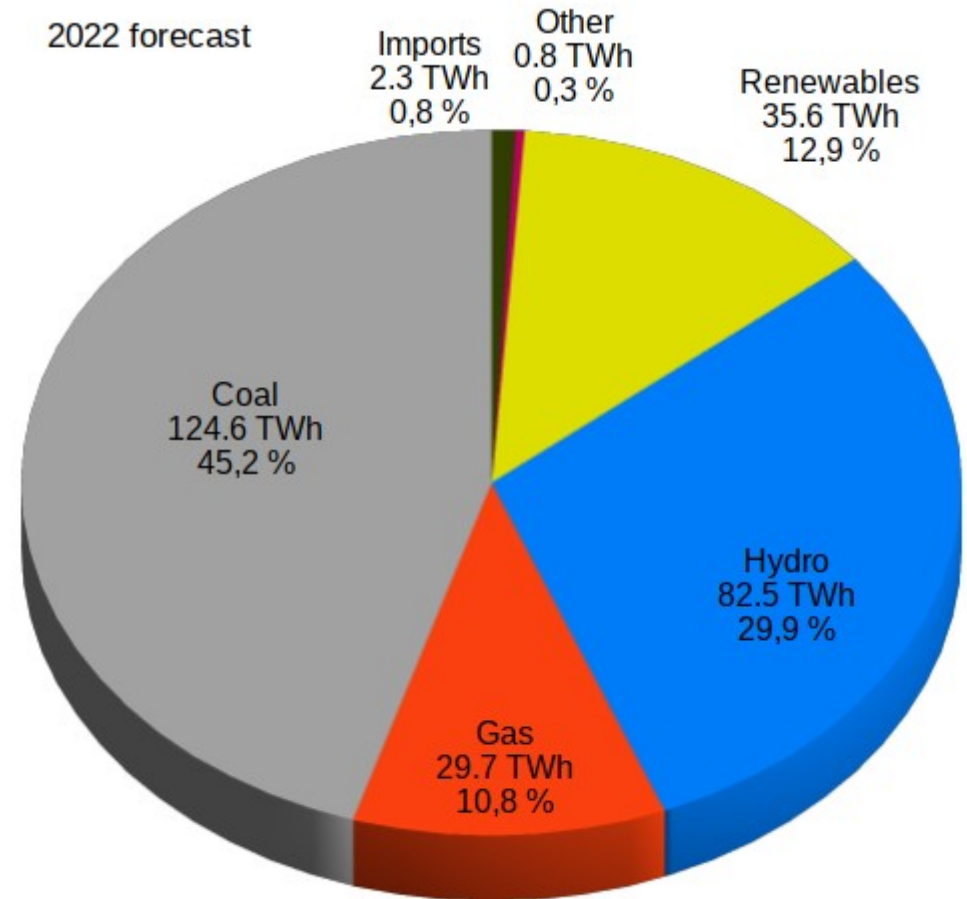
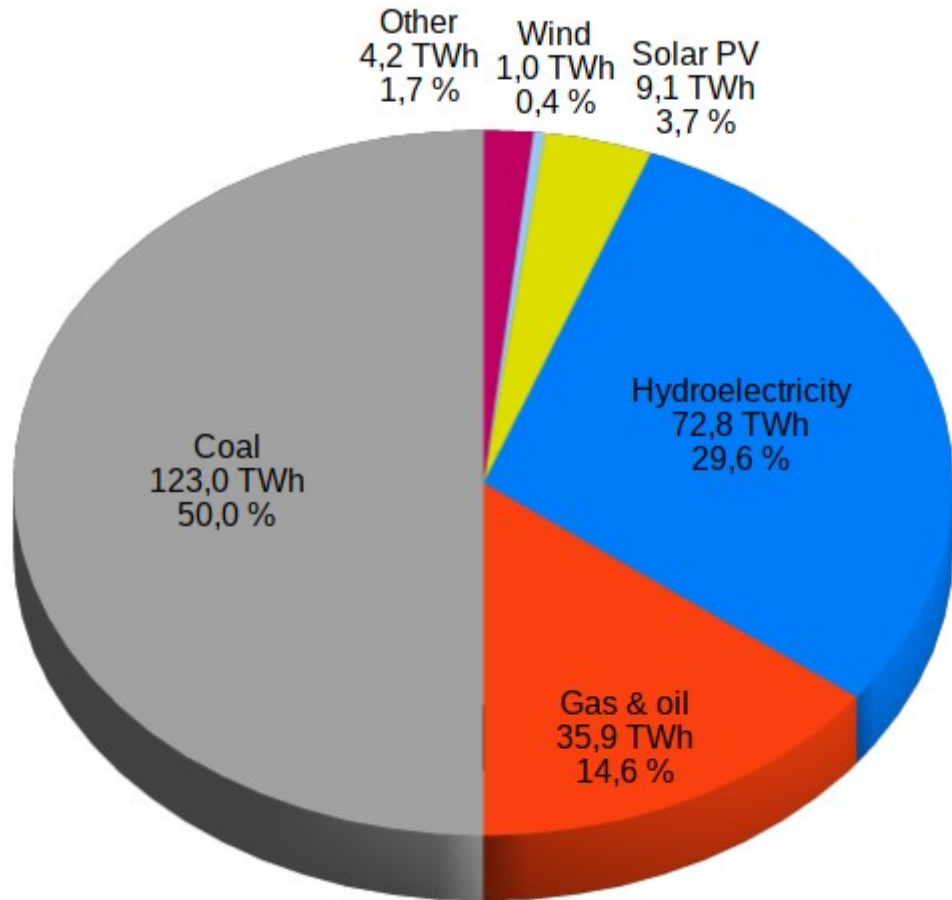
A market opportunity

**Vietnam's energy sector needs
more than 4 billion USD invested annually**

40GW of power generation capacity installed in Vietnam, 2010-2021

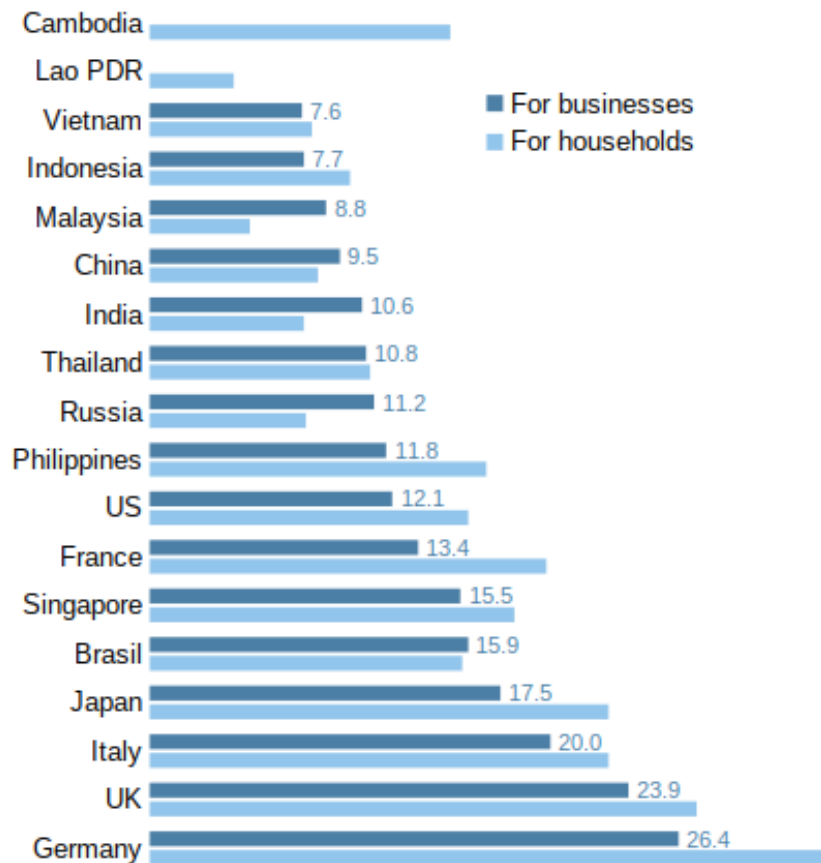


Vietnam power output, 2020 and 2022 forecast



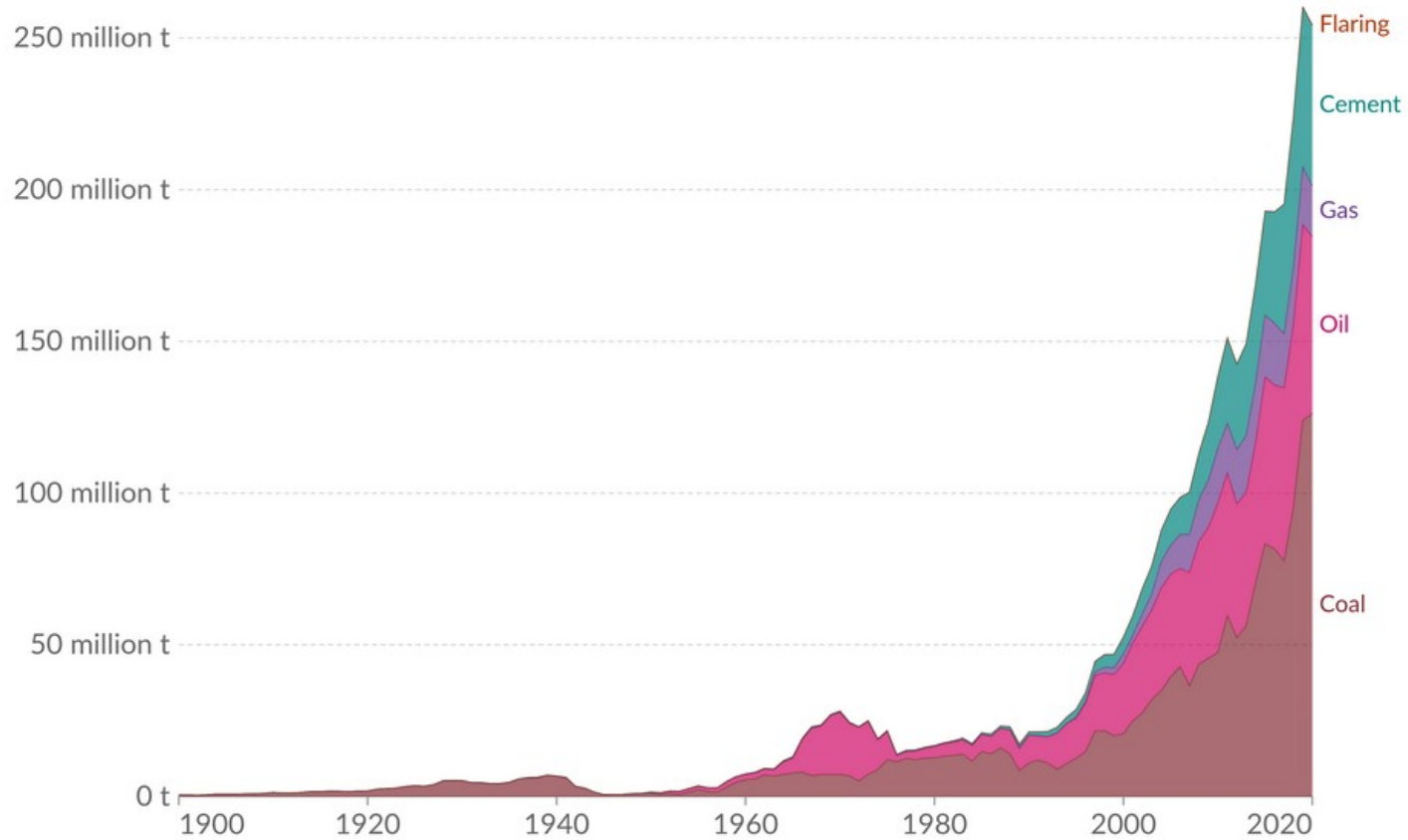
Electricity prices, \$/kWh

September 2021



CO₂ emissions by fuel type, Vietnam

Annual carbon dioxide (CO₂) emissions from different fuel types, measured in tonnes per year.



Source: Global Carbon Project

OurWorldInData.org/co2-and-other-greenhouse-gas-emissions/ • CC BY

2. Game changers

MOIT prepares the PDP8 since 2019*. Since then:

- Fossil fuels prices are in crisis
- Domestic fossil fuel reserves are peaking
- Climate policy ambitions increased

**TRỊNH Đ.D. (2019) Decision 1264/QĐ-TTg 2019 Approval of the Terms of Reference for the National Power Development Plan for the 2021-2030 Period, Outlook to 2045. Ha Noi, Viet Nam.*

The fourth global energy crisis

Coal prices x4

LNG unaffordable except for rich countries

Price of Coal

Newcastle coal futures benchmark

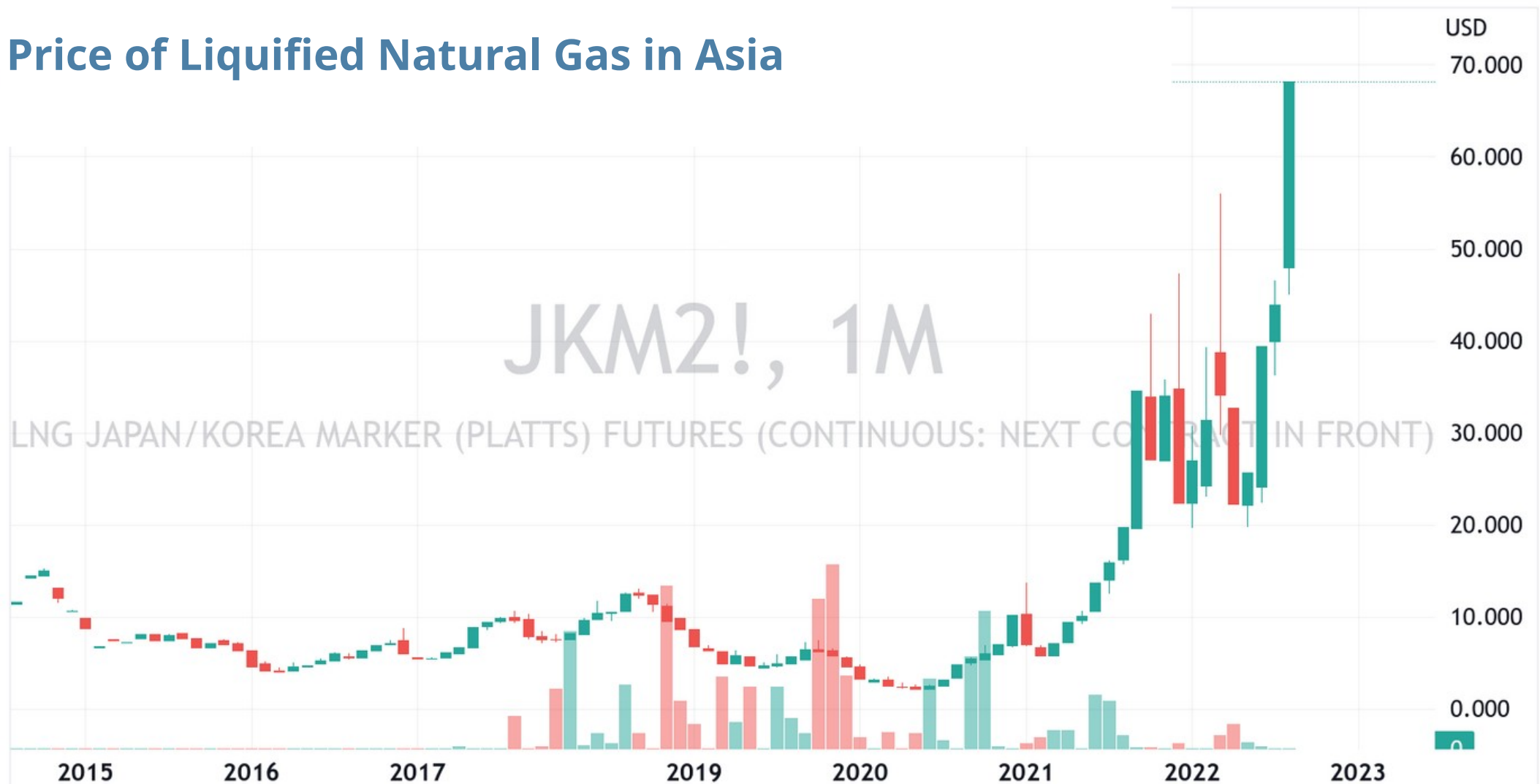


Vietnam cancels all new imported coal power plants

Vinh Tan 3 power project in Binh Thuan.



Price of Liquefied Natural Gas in Asia



Will Vietnam build new imported gas power plants?

PVN's Thi Vai Liquefied Natural Gas terminal.



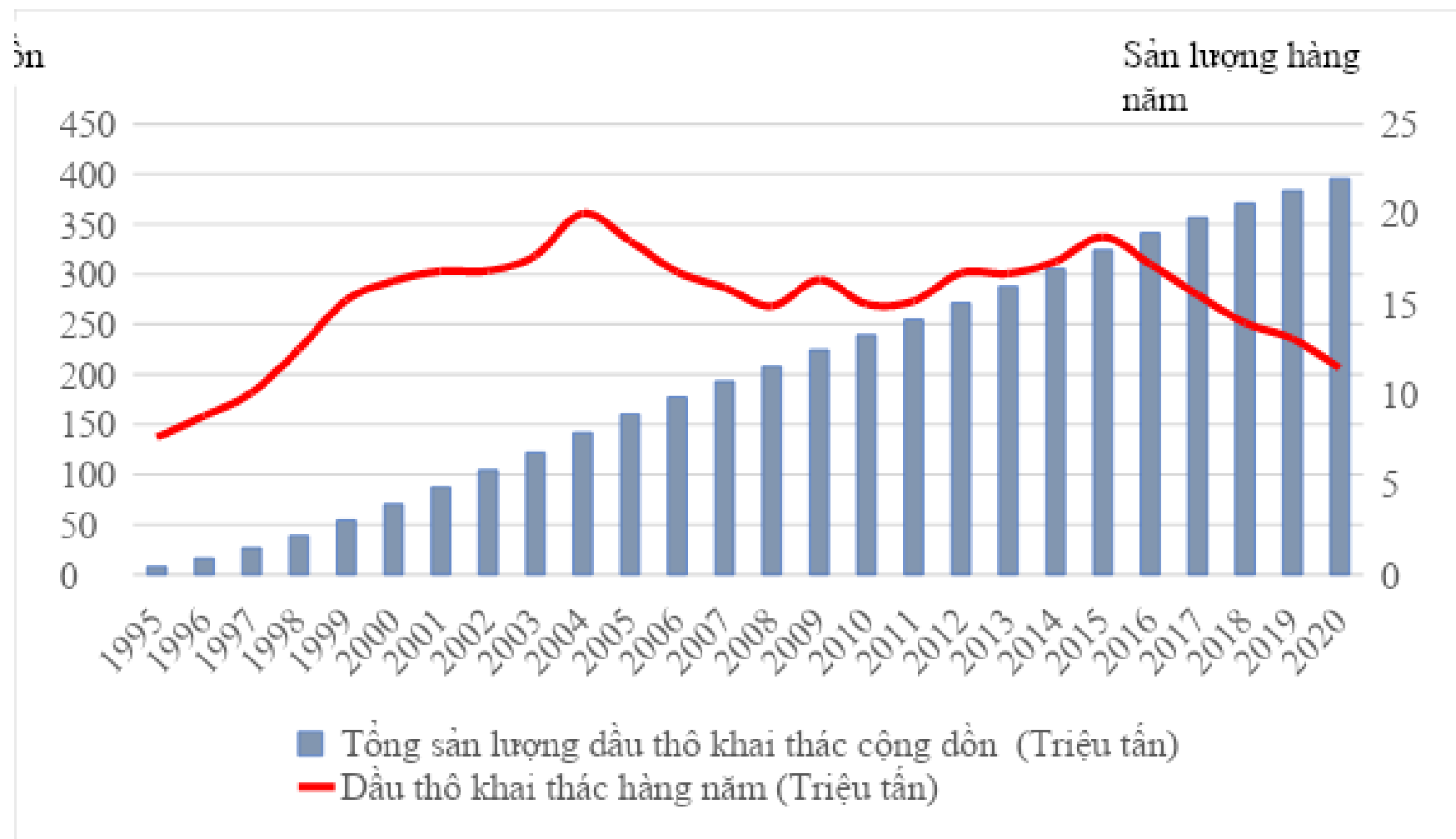
Fossil fuels production in Vietnam

Oil has peaked

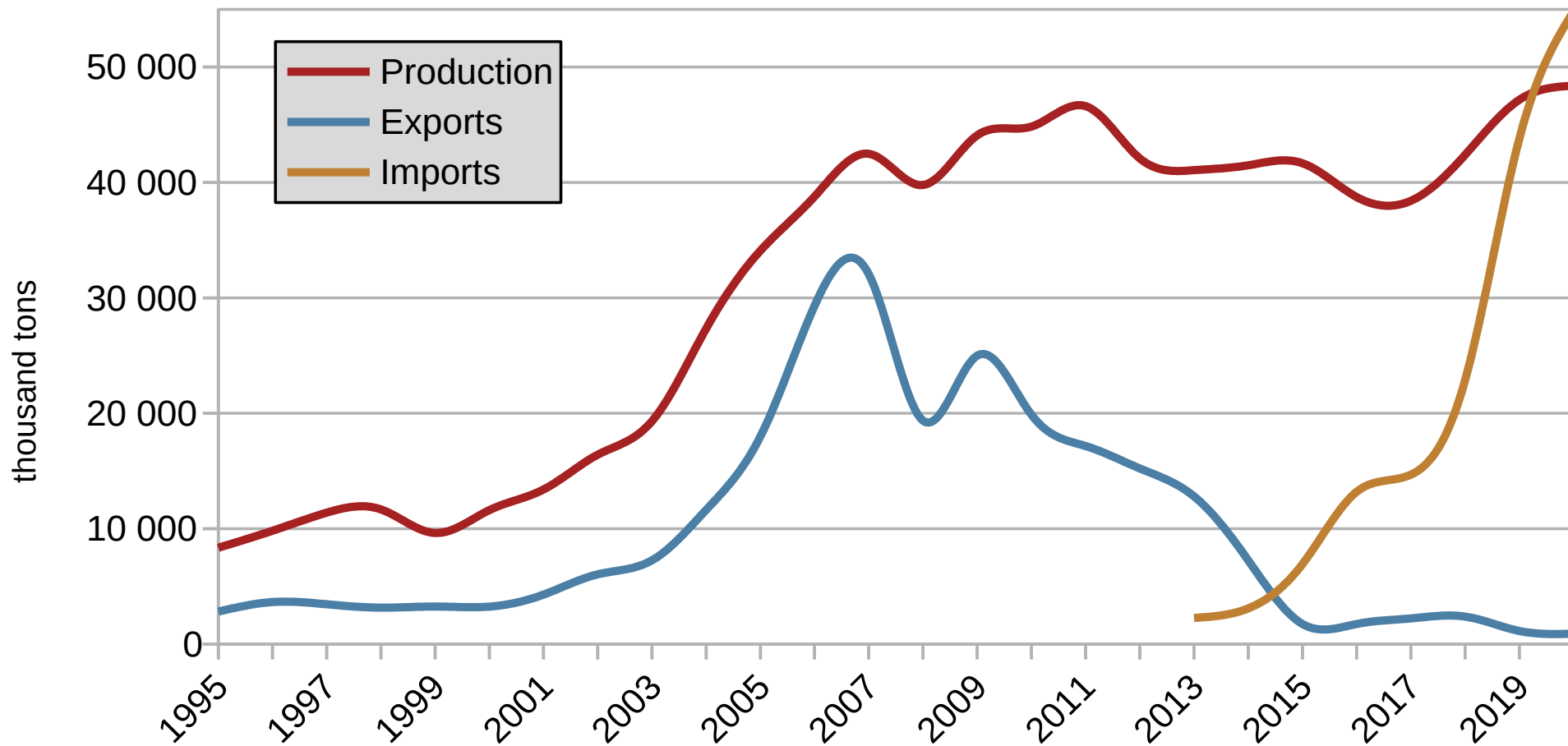
Coal is at its peak

Gas *may* defer the peak

Crude oil production peaked 15 years ago

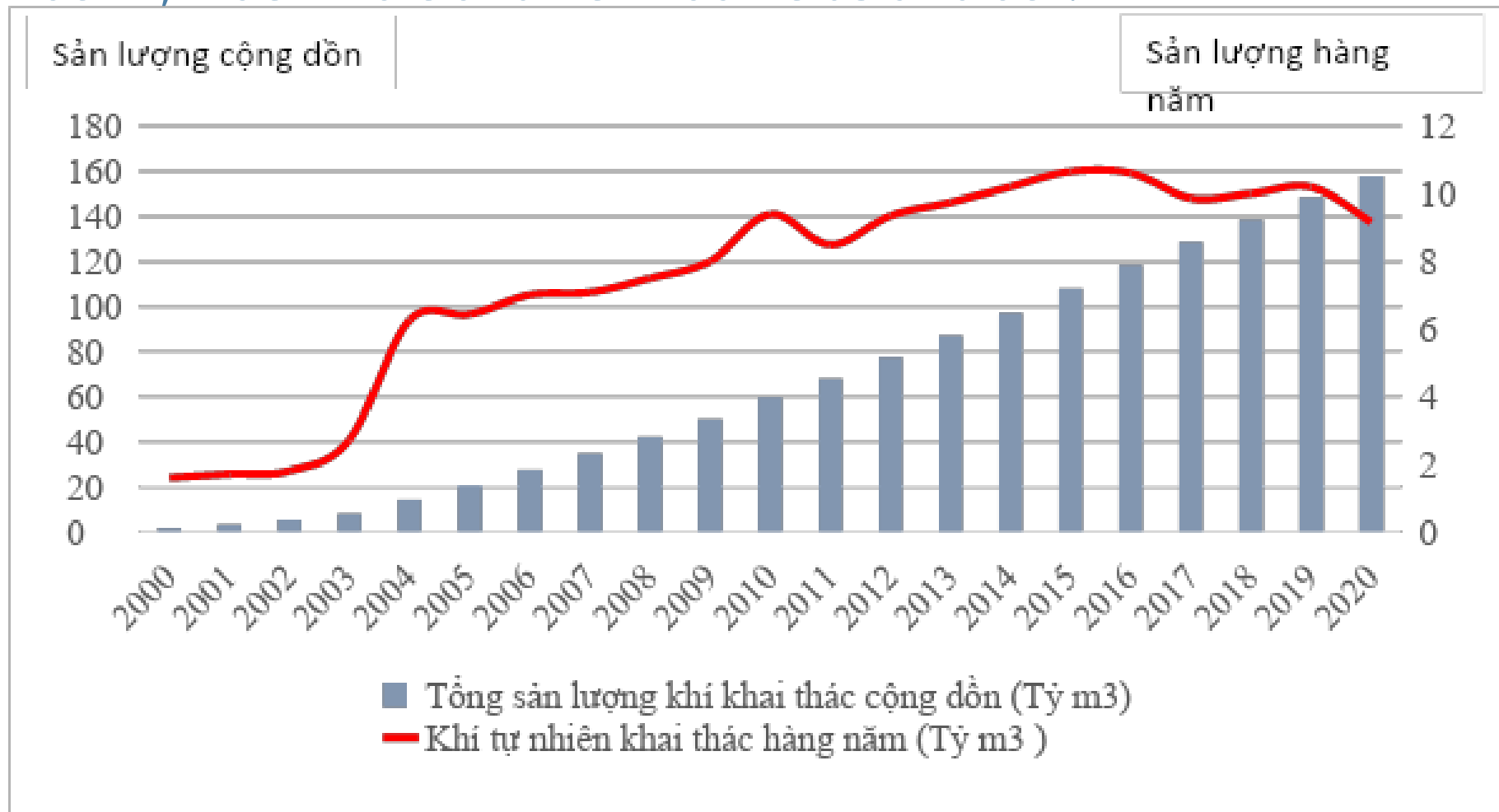


Vietnam coal production and trade



Reserves may allow to defer the natural gas peak

If Block B, Blue Whale and Ken Bau fields unblock.



Increased climate policy ambitions

COP26:

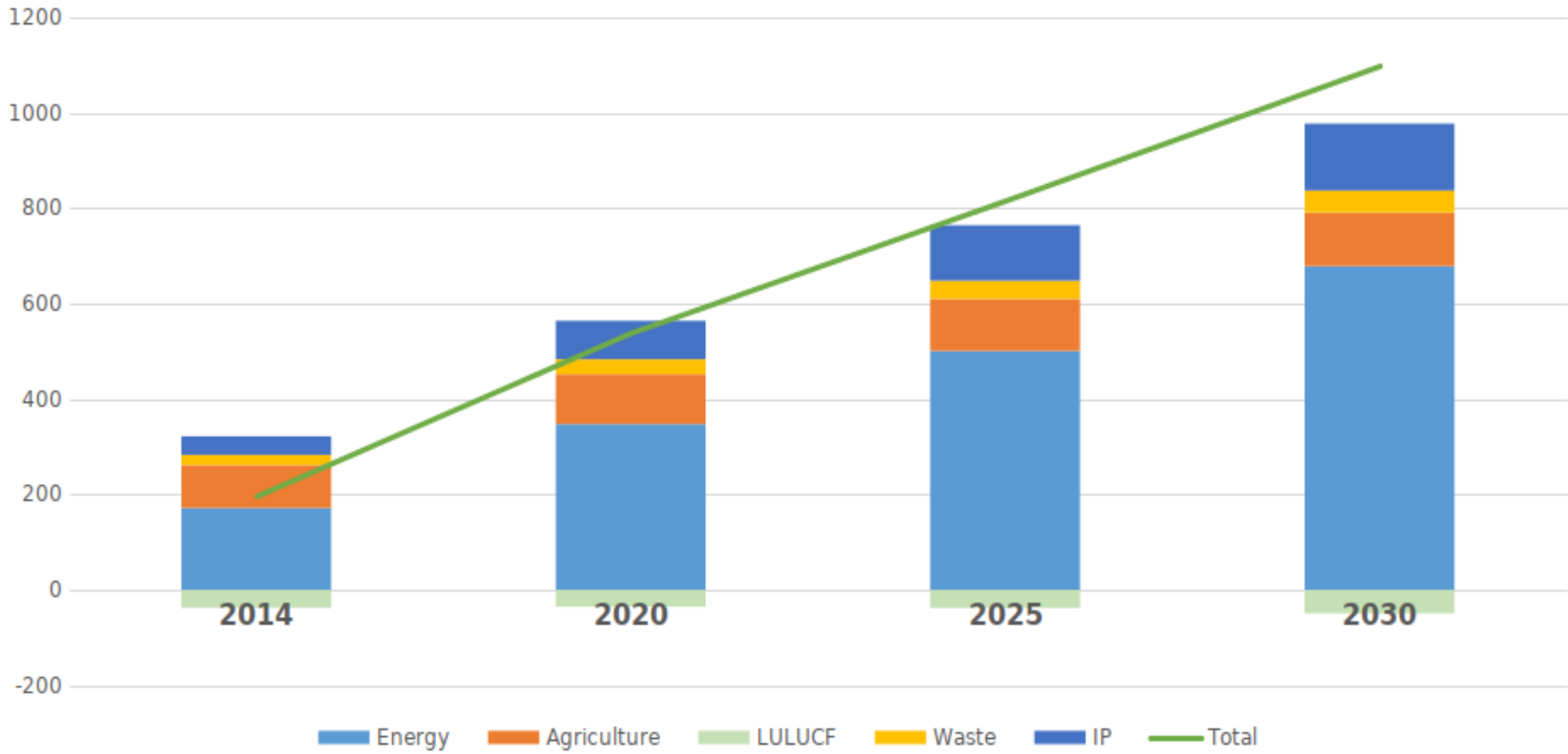
No new coal after 2030

Carbon neutrality by 2050

Scenarios:

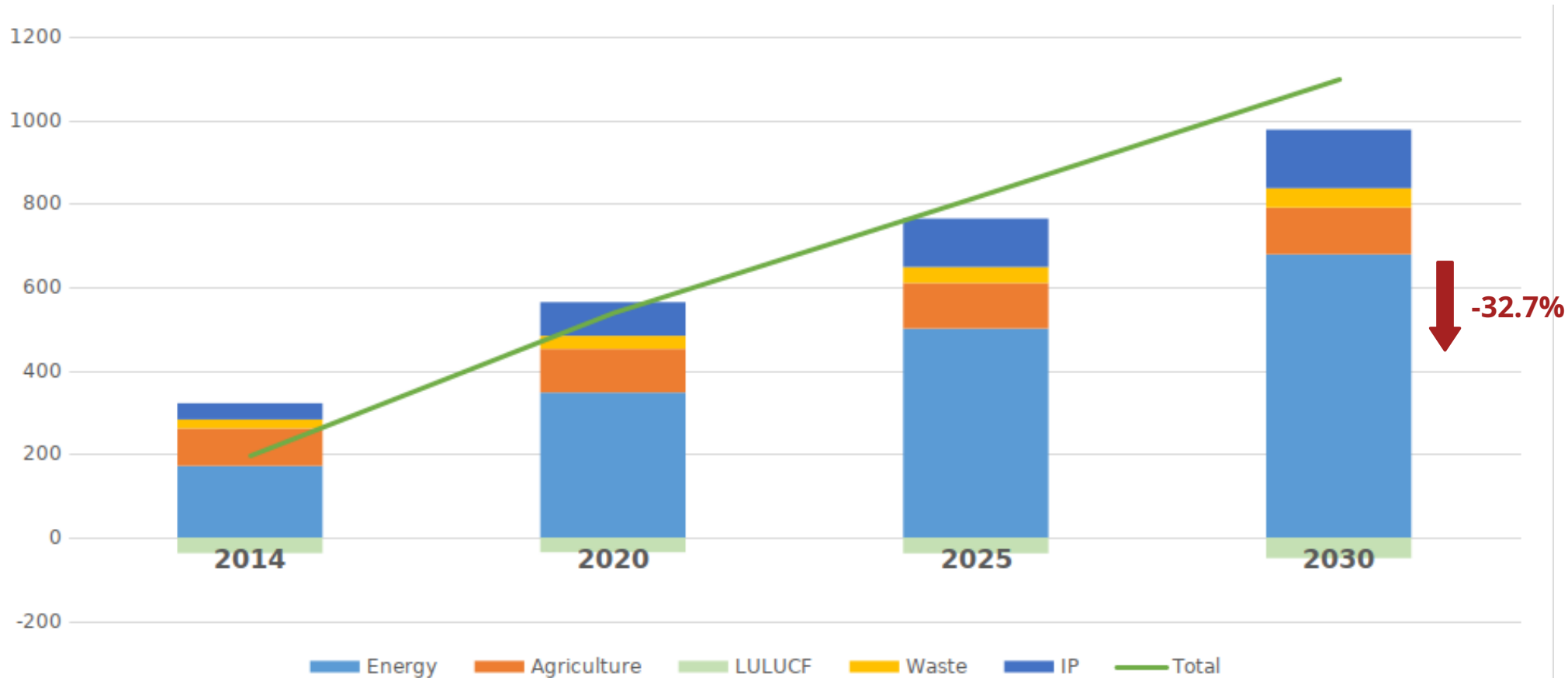
CO2 peak around 2035

Baseline Vietnam CO2 emissions according to updated NDC (MtCO2e)



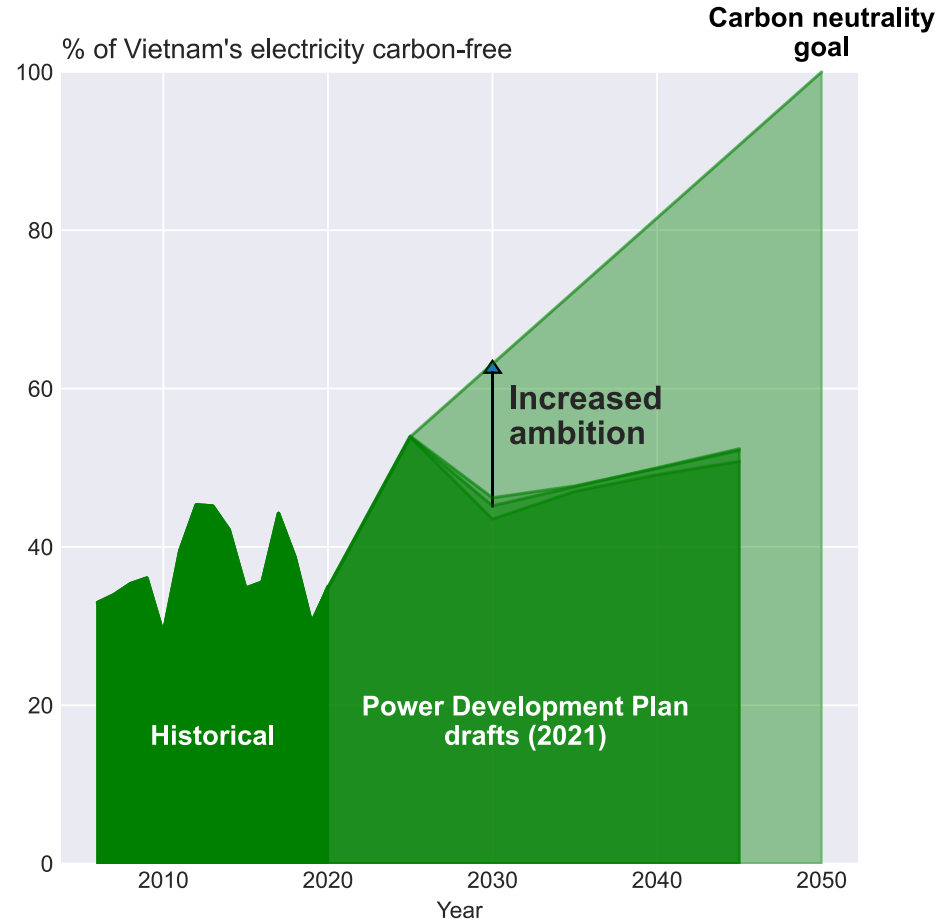
Energy sector 2030 goal = 460 MtCO₂eq

Decision 896/QD-TTg 2022-07-26. National climate change strategy to 2050



The climate change strategy

- Low coordination with power and energy masterplans
- Progressively stronger
- A carbon market is coming



3. Key issues

The planning process needs reform

Need solutions soon

PDP8 iterations

Zero: July 2020

Fist: March 2021

Second: October 2021

Third: November 2021

Current: August 2022*

	2020	2030 (March 2021)	2030 (April 2022)
Coal-fired power plants	20,4	37,3	37,5
Gas/oil-fired power plants	9,0	28,9	29,7 – 38,8
Hydroelectricity	20,7	26,0	28,9
Solar PV	16,6	18,6	16,5
Wind power	0,6	18,0	22,6
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

Solutions to go forward now

- Shave peak load: Energy Efficiency, decentralized PV+Storage, demand side management, district cooling
- Gas-to-power for flexibility and reserve capacity
- Auctions and Direct Power Purchase Agreements in the North
- Offshore wind: market and industry
- Electricity price
- Green Finance