



Planning, policy and integration for sustainable development of offshore wind energy in Vietnam 2022-2050

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Regulations

Planning

Biomass

Wind

Grid

Credibility

Excellence

Happiness

Responsibility

Interdependence



an active

INDEPENDENT

THINK TANK

since 8/2018

Research

Expertise

Consultancy

Training

Dialogue

Scenarios

Modeling

Economics

Integrated

assessment

International

experience

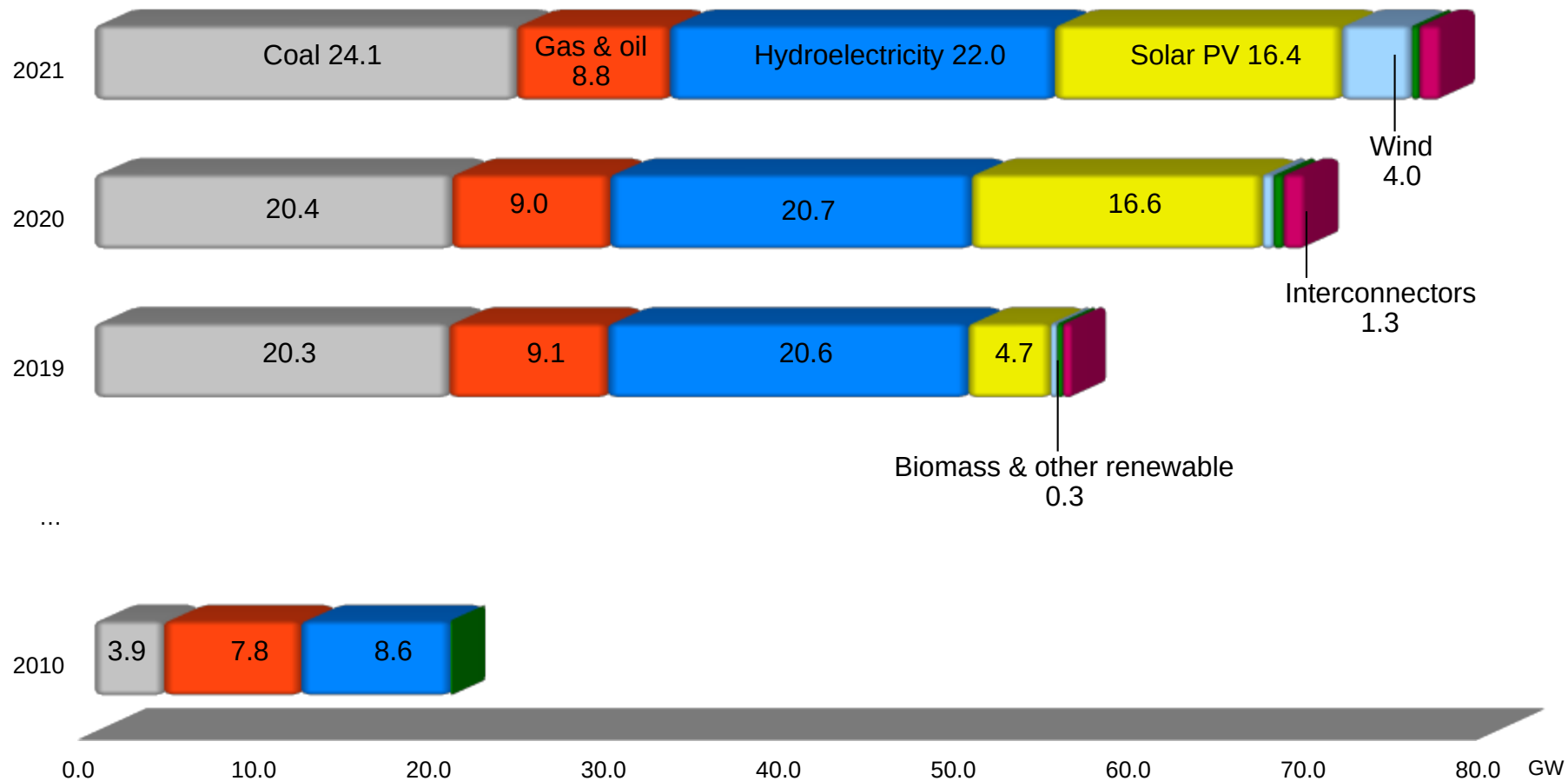
1. Wind power in Vietnam today

88 projects operating

4.2 GW installed capacity

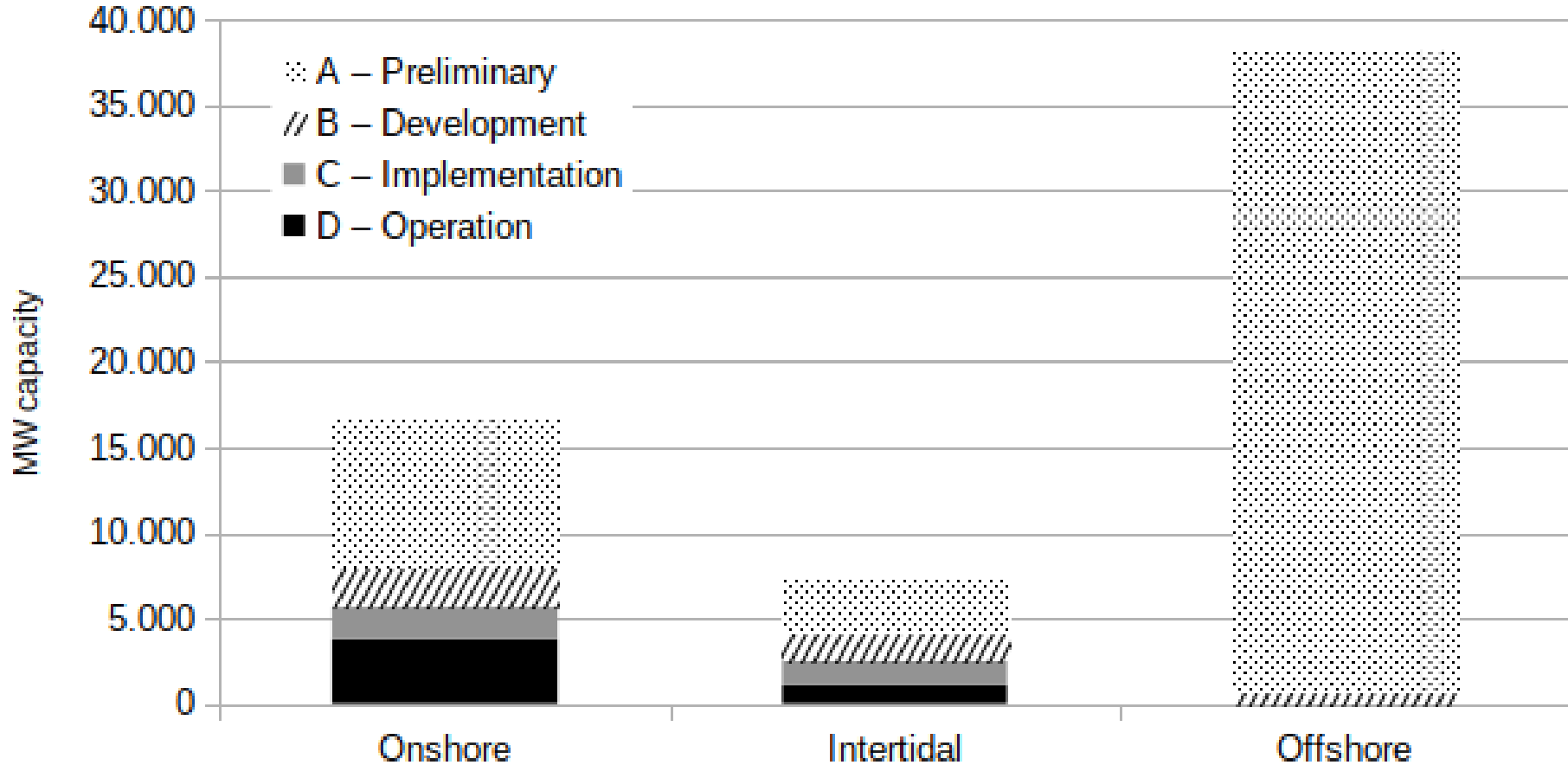
No “real” offshore under construction

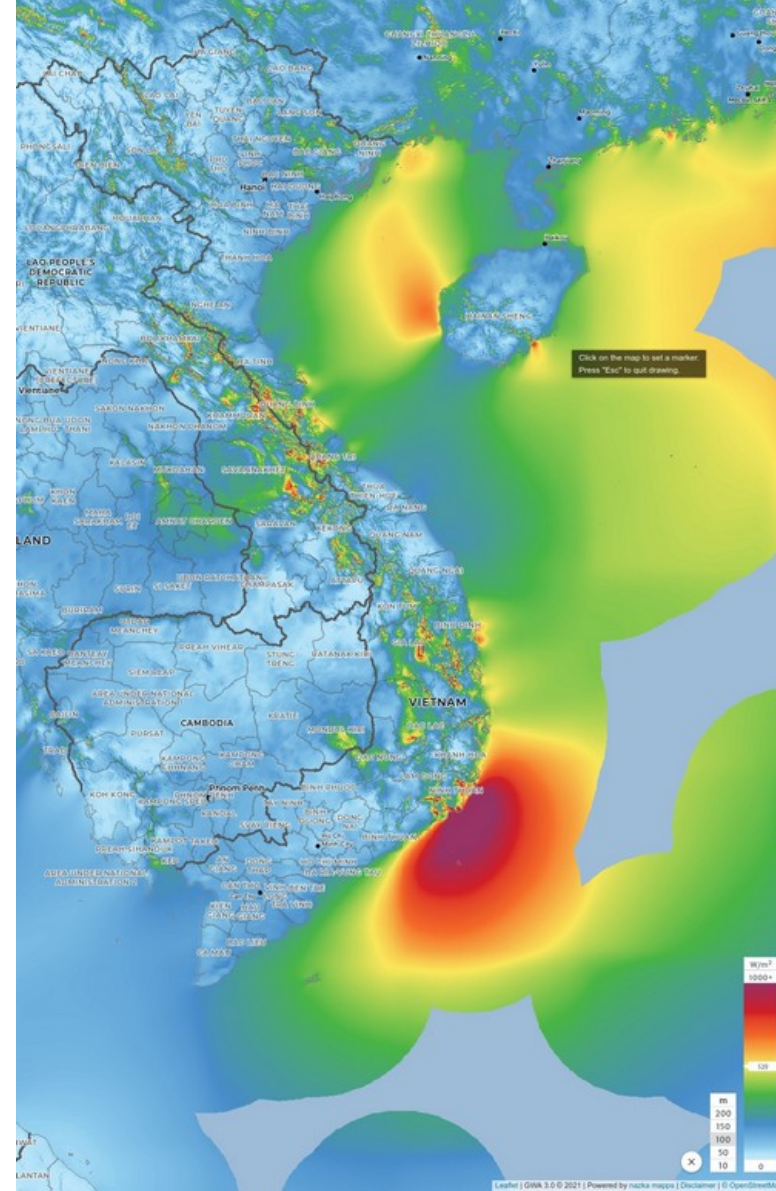
Vietnam installed 40GW of power generation capacity in 2010-2021



Development status of wind power projects in Vietnam

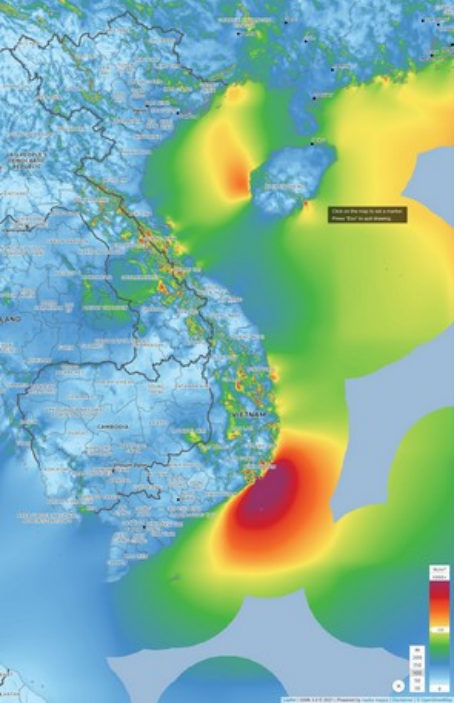
October 2022





Mean wind power density for Vietnam at 100m, color scale from 0 to 1000+ W/m²

Source: Global wind atlas 3.1



Wind farms in Vietnam

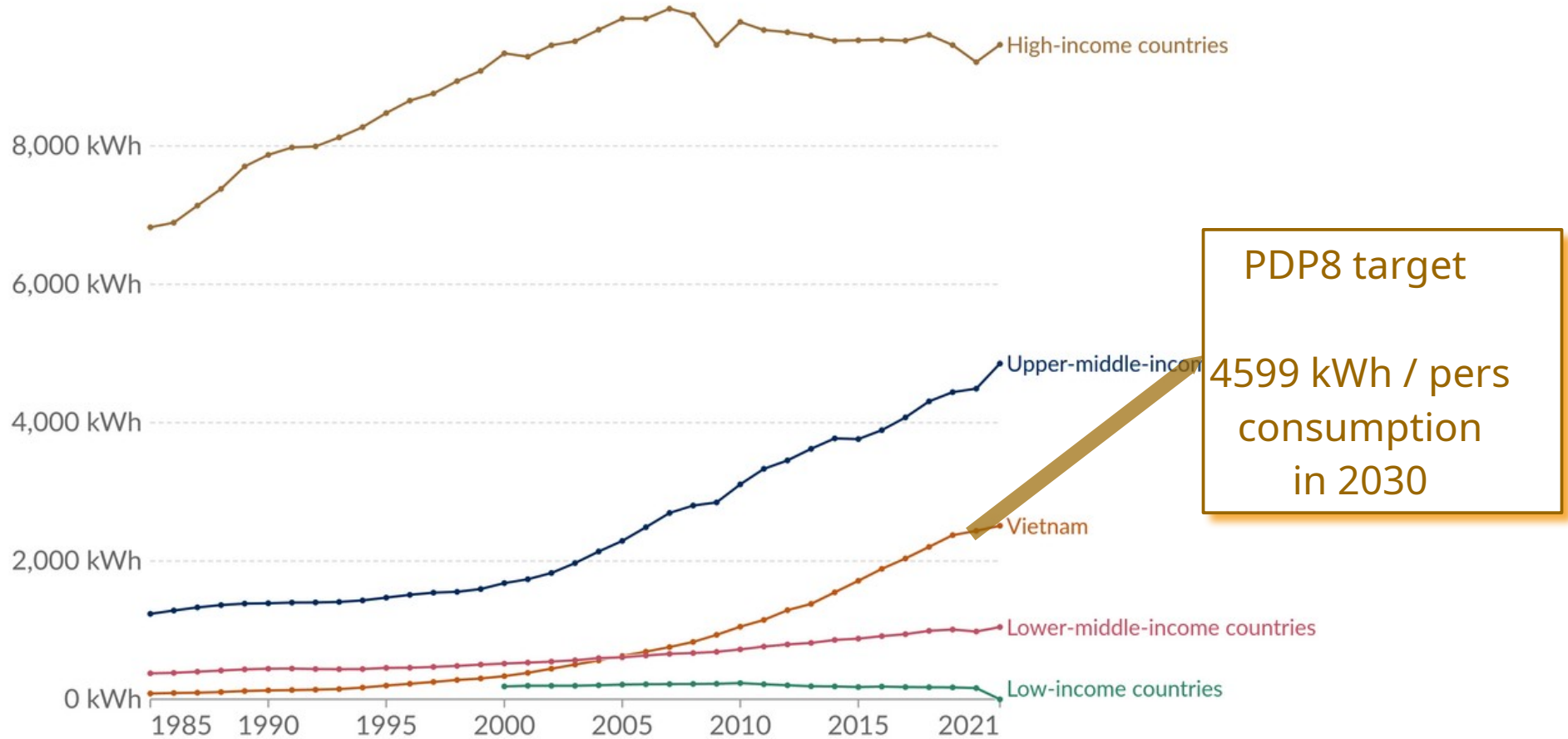
Source: pgis.vietse.vn

2. Vietnam needs more electricity

And wind is the #1 clean, affordable solution

Per capita electricity generation

This is annual average electricity generation per person, measured in kilowatt-hours.



Source: Our World in Data based on BP Statistical Review of World Energy (2022); Our World in Data based on Ember's Global Electricity Review (2022); Our World in Data based on Ember's European Electricity Review (2022)
OurWorldInData.org/energy • CC BY



EVN

TẬP ĐOÀN ĐIỆN LỰC VIỆT NAM
VIETNAM ELECTRICITY



Introduction

Cooperation Information

Media

EVN and Customers

Press Releases

Information about failures of some substations in the North on 4 July 2022

According to information from the National Load Dispatch Center, at 13:00 on 4 July 2022, voltage fluctuations appeared on the Northern power system, affecting some customers' power supply in the North.

The initial cause was determined hot weather, which increased power consumption and some generator units failed causing voltage fluctuations, then power supply interruption resulted in some customers in the North.

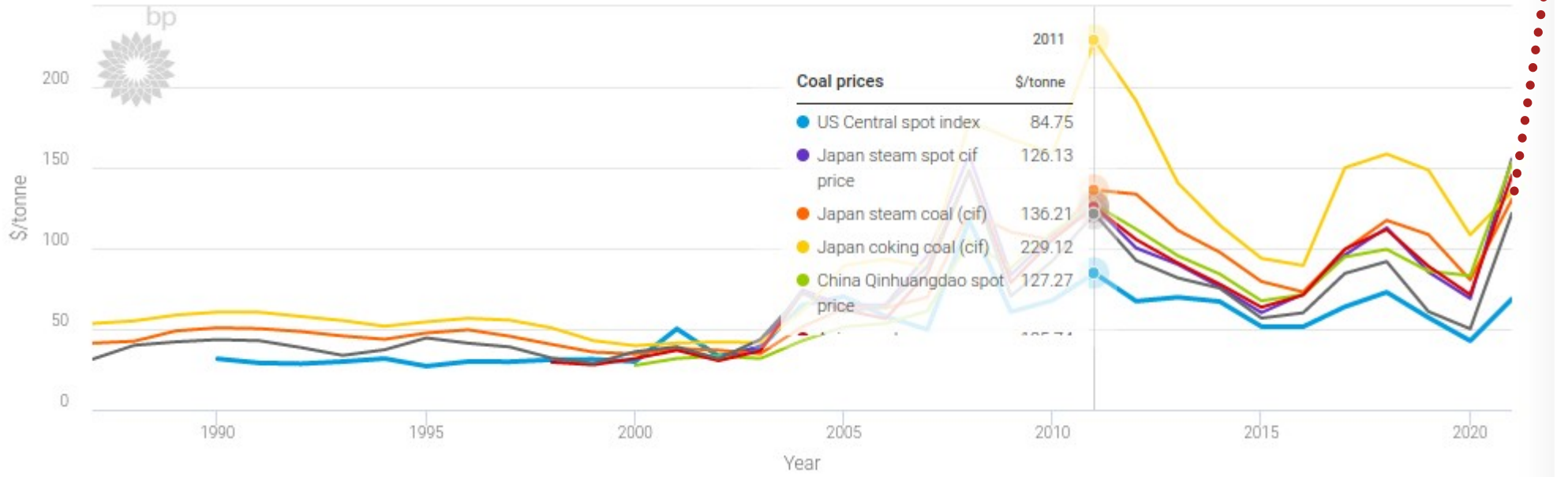
Immediately after the failure occurred, the National Load Dispatch Center actively coordinated with power generation and grid operating units to troubleshoot the problem and restore power supply to customers as quickly as possible.

By 15:00 on the same day, all customers who were affected by power disruption had been restored to the power supply and the Northern power system have returned to stable operation.

Prices of coal, 1985-2021

Steam coal was 50-150 \$/t

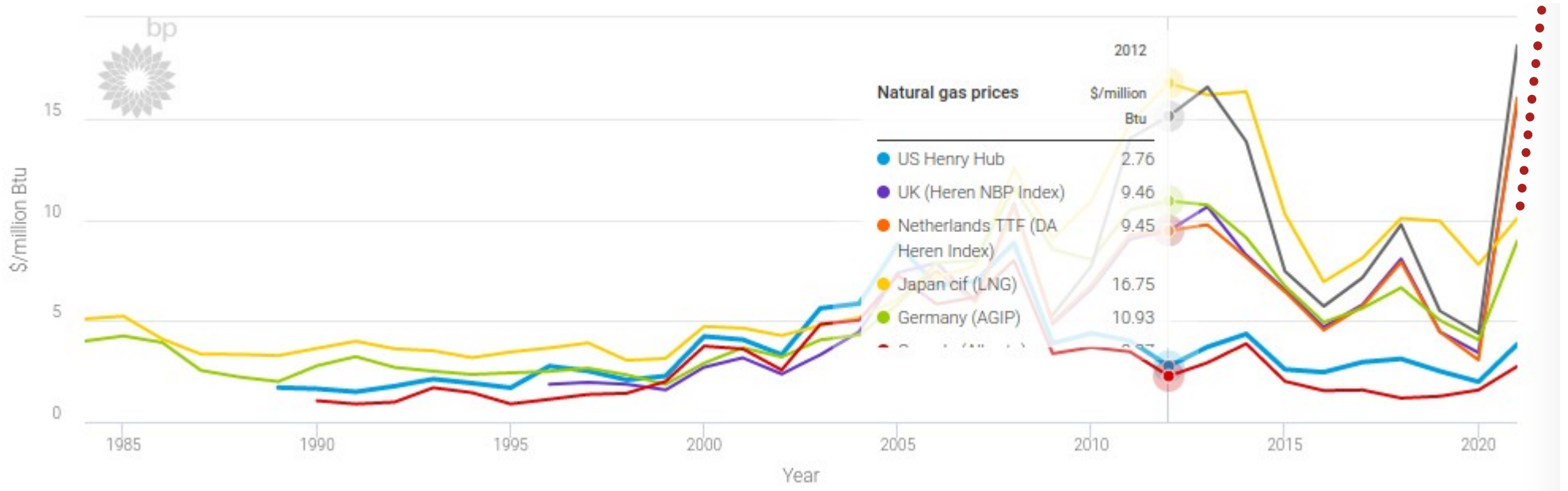
to 400 \$/t



Prices of natural gas, 1984-2021

LNG was 4 - 16 \$/Mbtu

to 50
\$/Mbtu



Energy sector CO2 emissions must peak before 2035

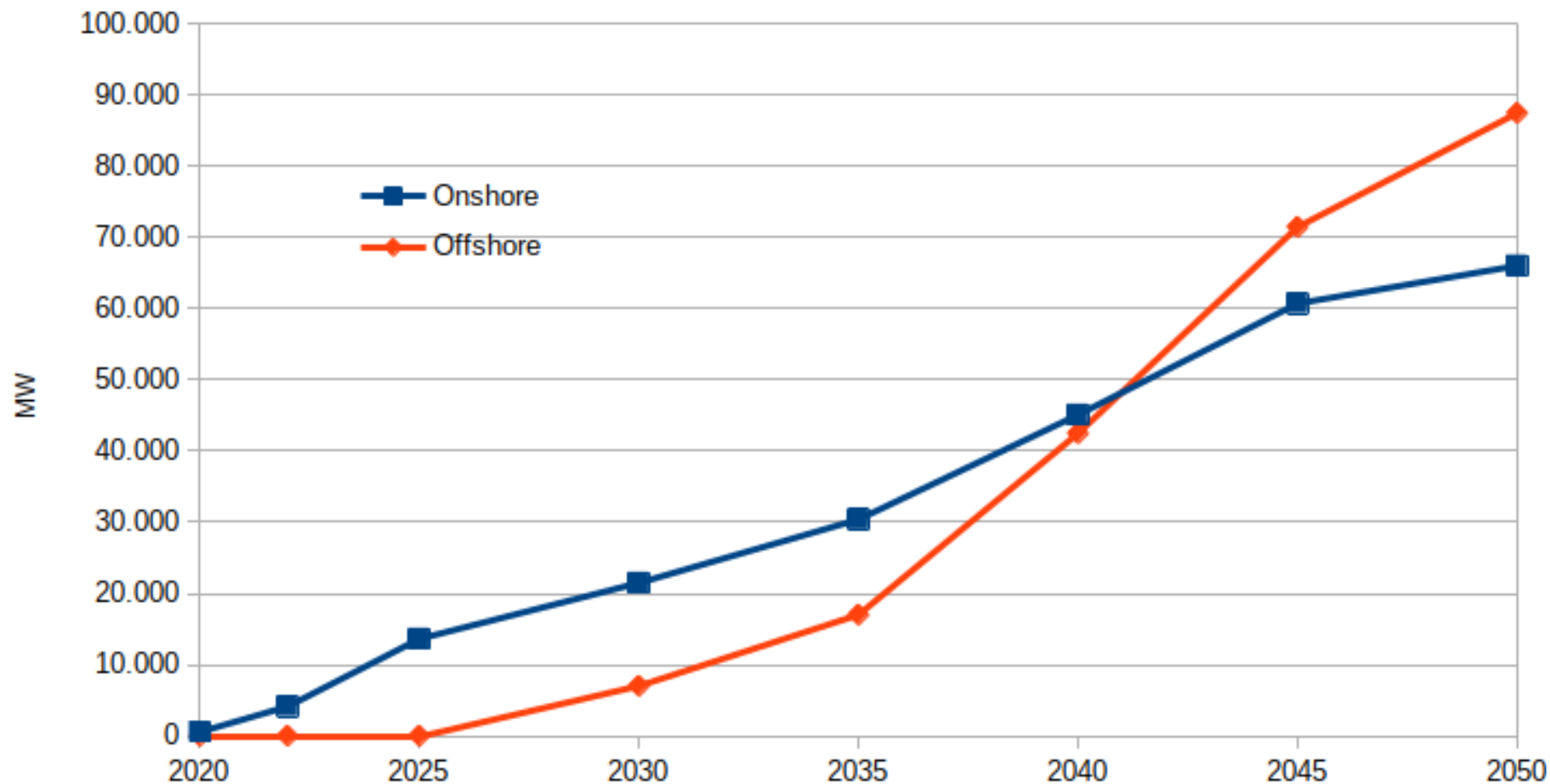
No new coal after 2030

Control methane emissions

Carbon neutrality by 2050

Wind in Vietnam's power development plan

draft 6328/TTr-BCT 13/10/2022



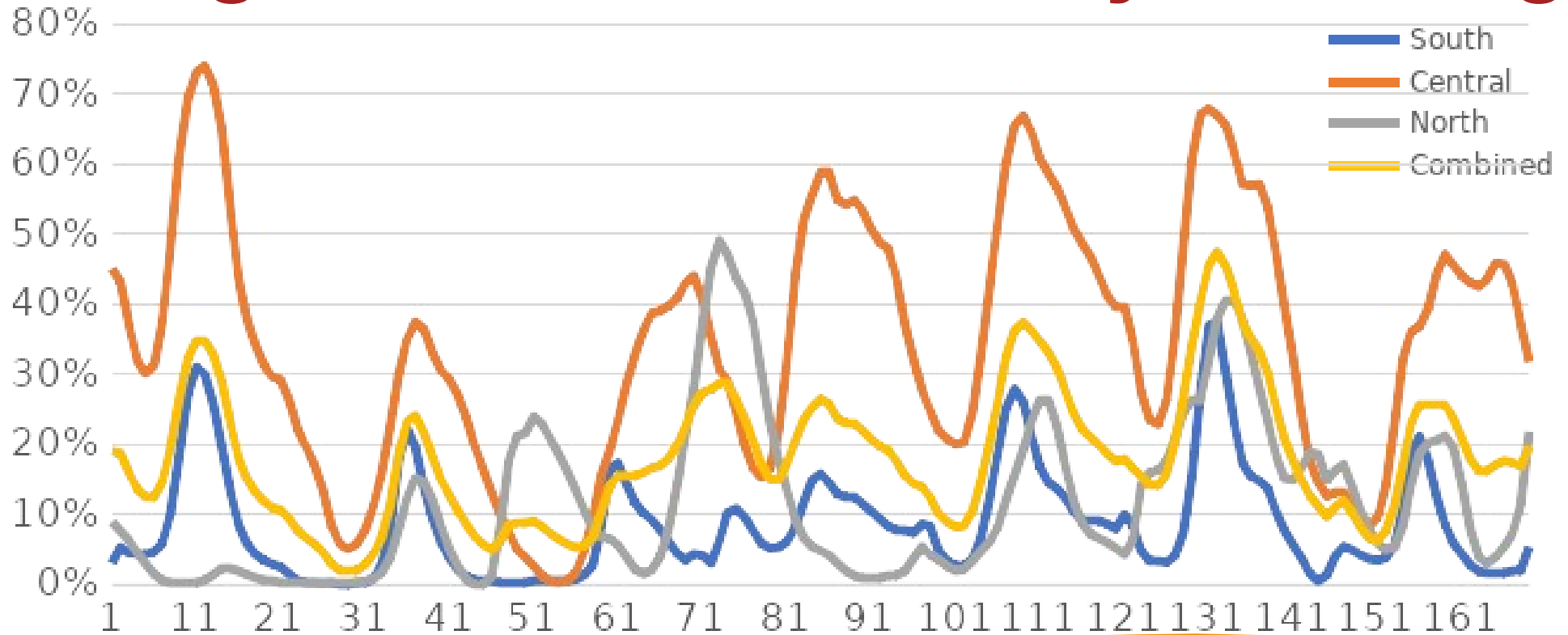
3. Challenges ahead

Integrate, manage variability

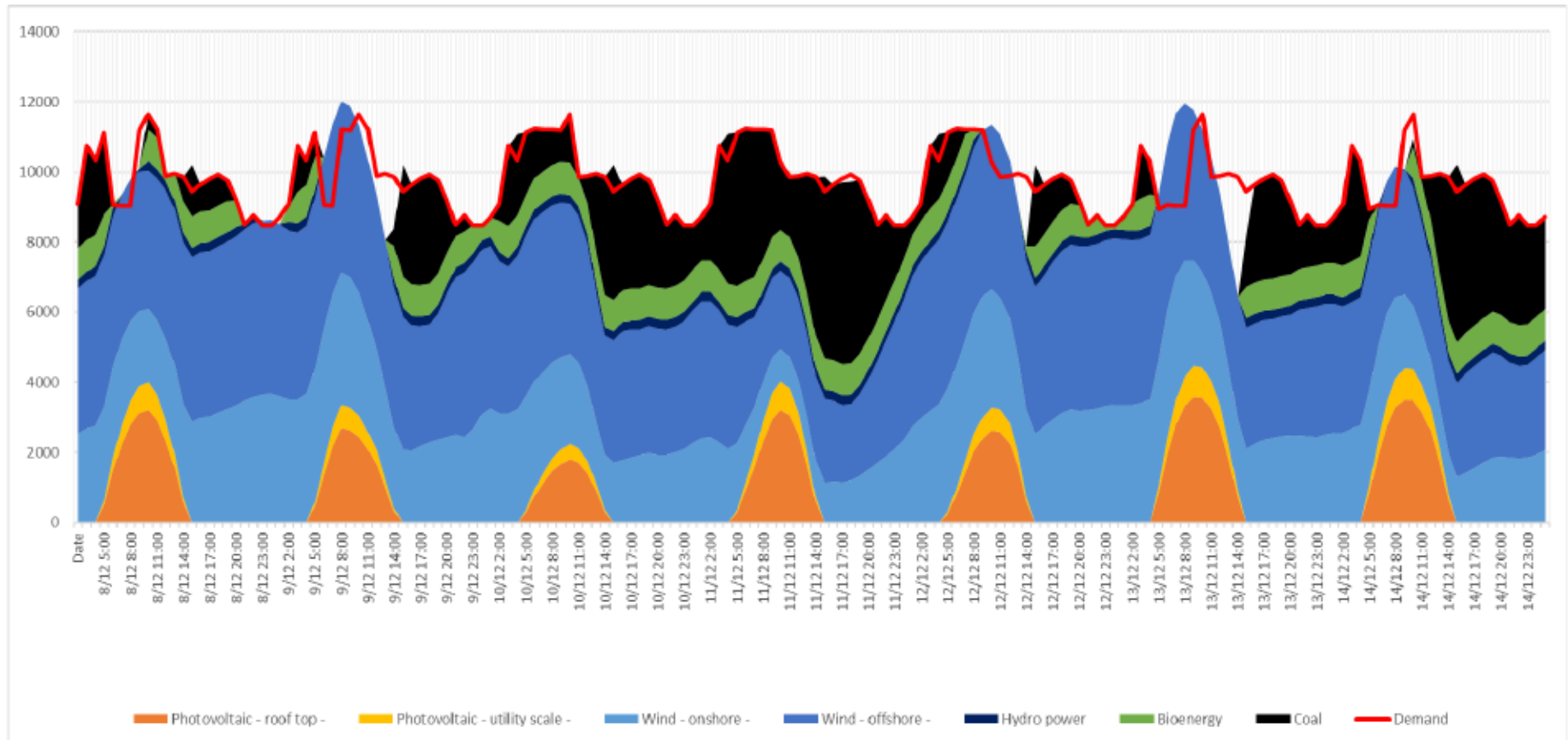
Finance, find capital

Connect, build the transport infrastructure

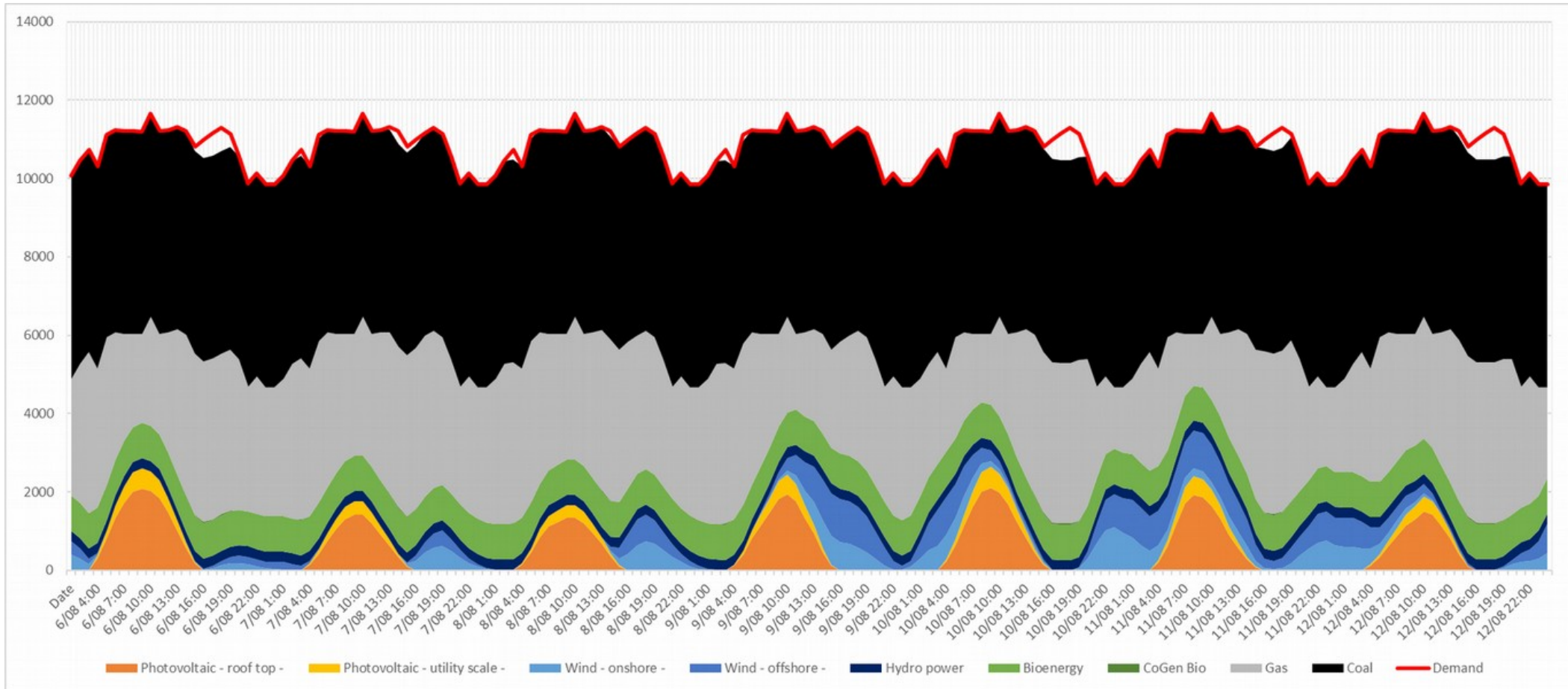
Wind generation variability challenge



Power mix simulation for the Red river delta (2030) in a very windy week and high renewables scenario



Windless week → Thermal power here in 2030

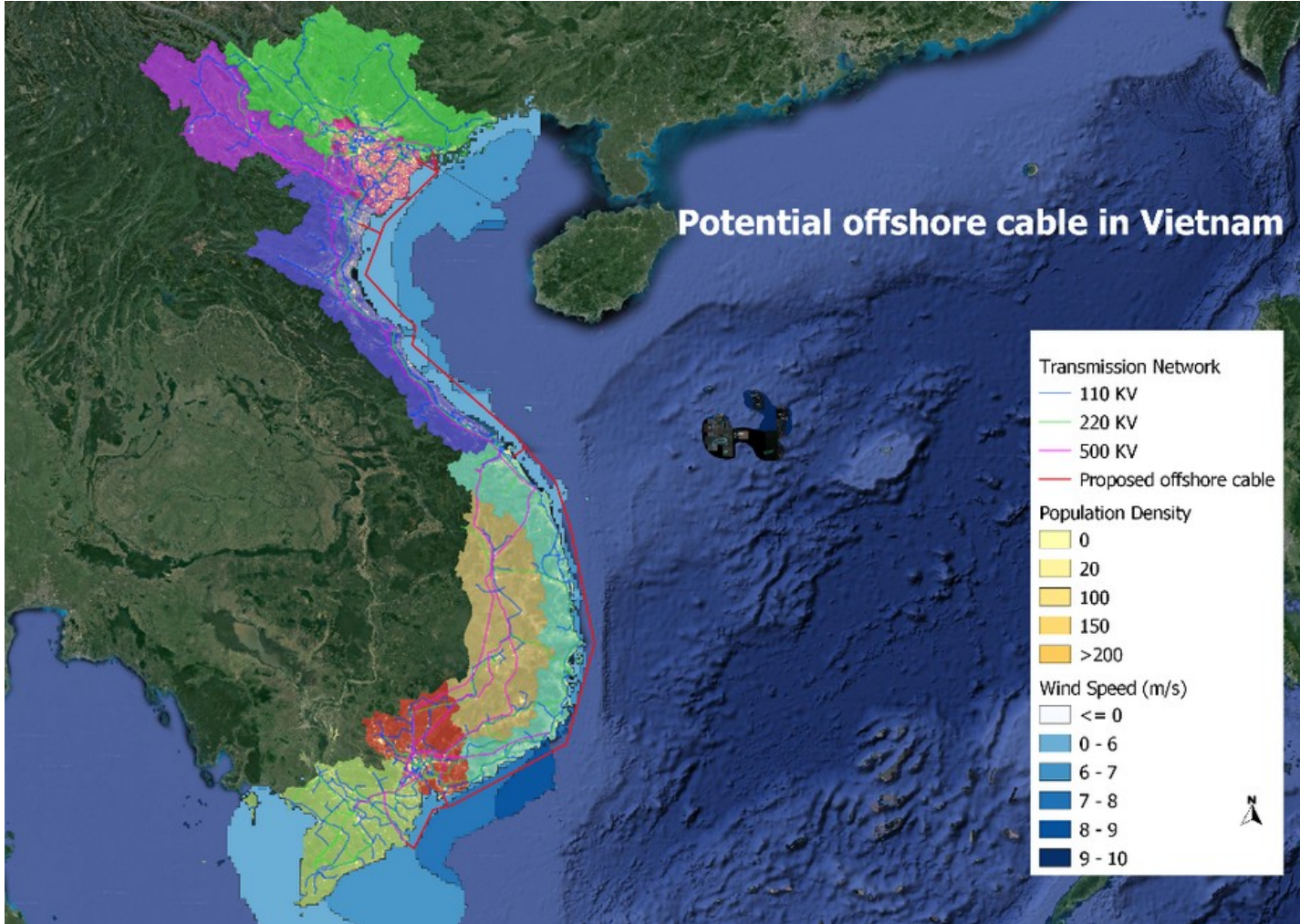


Power sector capital challenge

9.0 - 12.6 billion USD for generation sources
+
1.5 - 1.6 billion USD for the grid
per year, over 2021-2030

According to 5709/TTr-BCT 23/09/2022

Infrastructure challenge



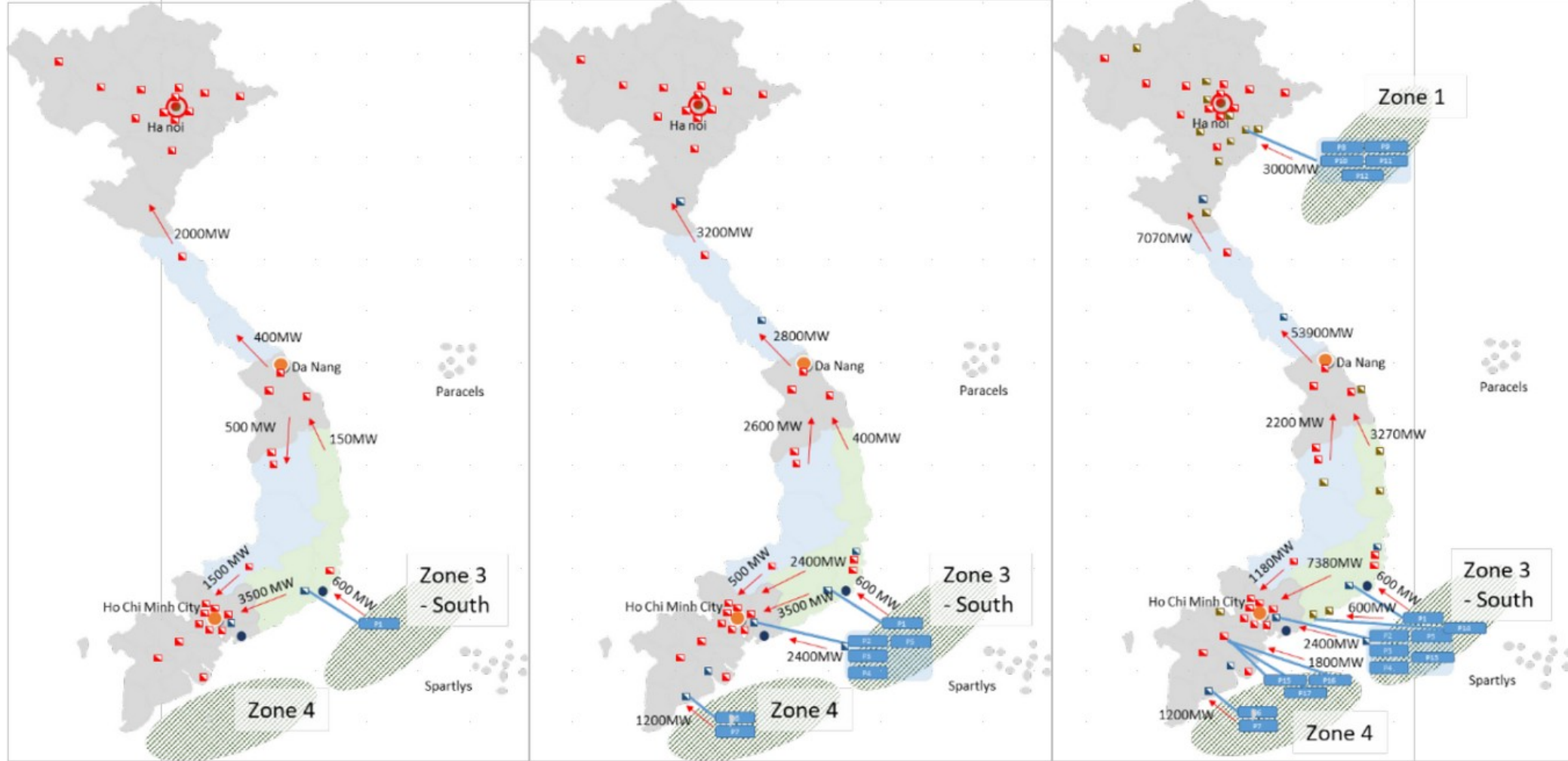


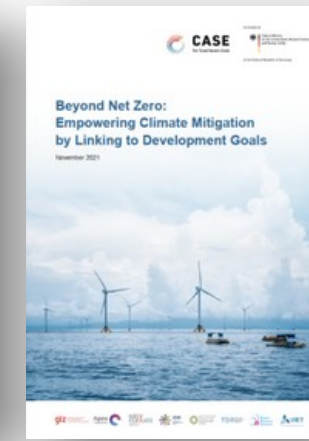
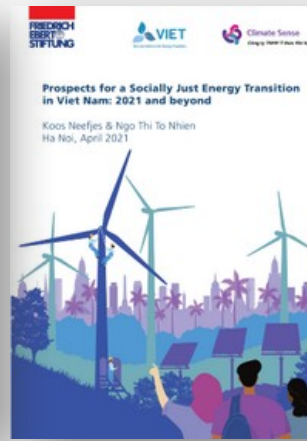
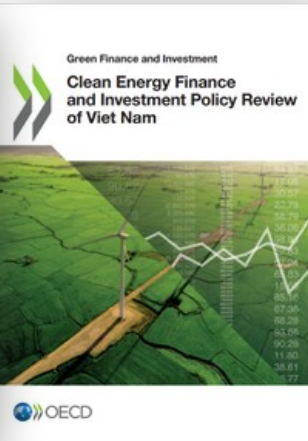
Fig. 1. Load flow snapshot in 2023, 2025 and 2030 (from left to right) - Cases of high renewable sources including max capacity from OWFs.

Conclusion

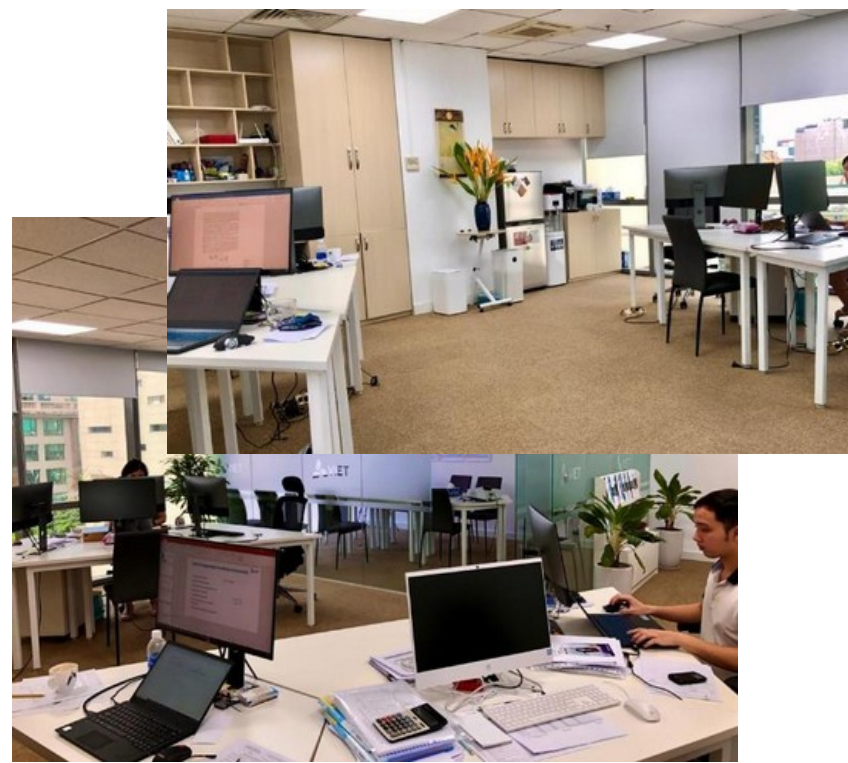
Vietnam ♥♥ Offshore wind

- Future of domestic power supply
- Hydrogen production potential
- Growth sector with a global supply chain

More info at <https://vietse.vn>



Thank you!



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