



MINISTRY OF FOREIGN AFFAIRS  
OF DENMARK

# Vietnam

**Perspectives on the renewable energy  
market**

Ambassador, Nicolai Prytz – August 2024





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# AGENDA

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2. The power sector

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5. Drivers and barriers in the energy transition

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# Vietnam at a glance...



 Fast growing economy and energy demand

 Large and young population

 Competitive labor costs

 Proximity to China, attractive for diversification

 Many bilateral and multilateral FTAs (EVFTA)

 Renewable energy leader in SEA (22 GW)



 Corruption as a key barrier to foreign investment

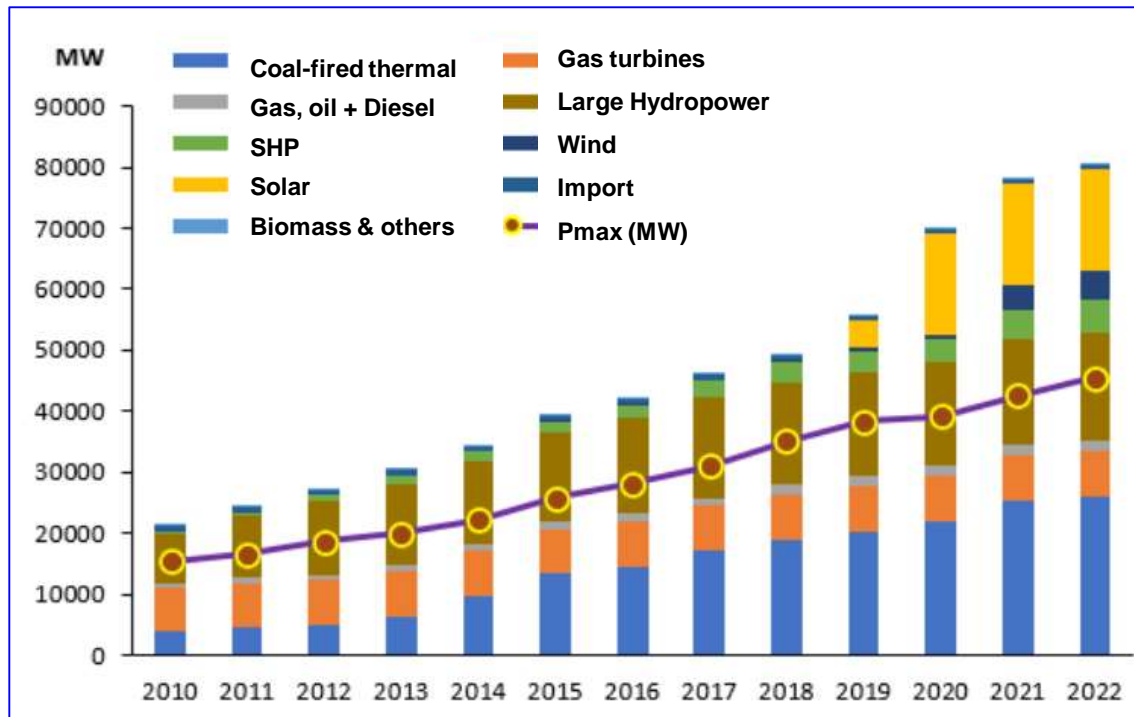
 Administrative procedures/bureaucracy

 Heavy dependence on imported inputs for its export and manufacturing

 Over-reliance on FDIs and exports

# The power sector

Installed capacity (MW) from 2010-2022 (Source: MOIT)

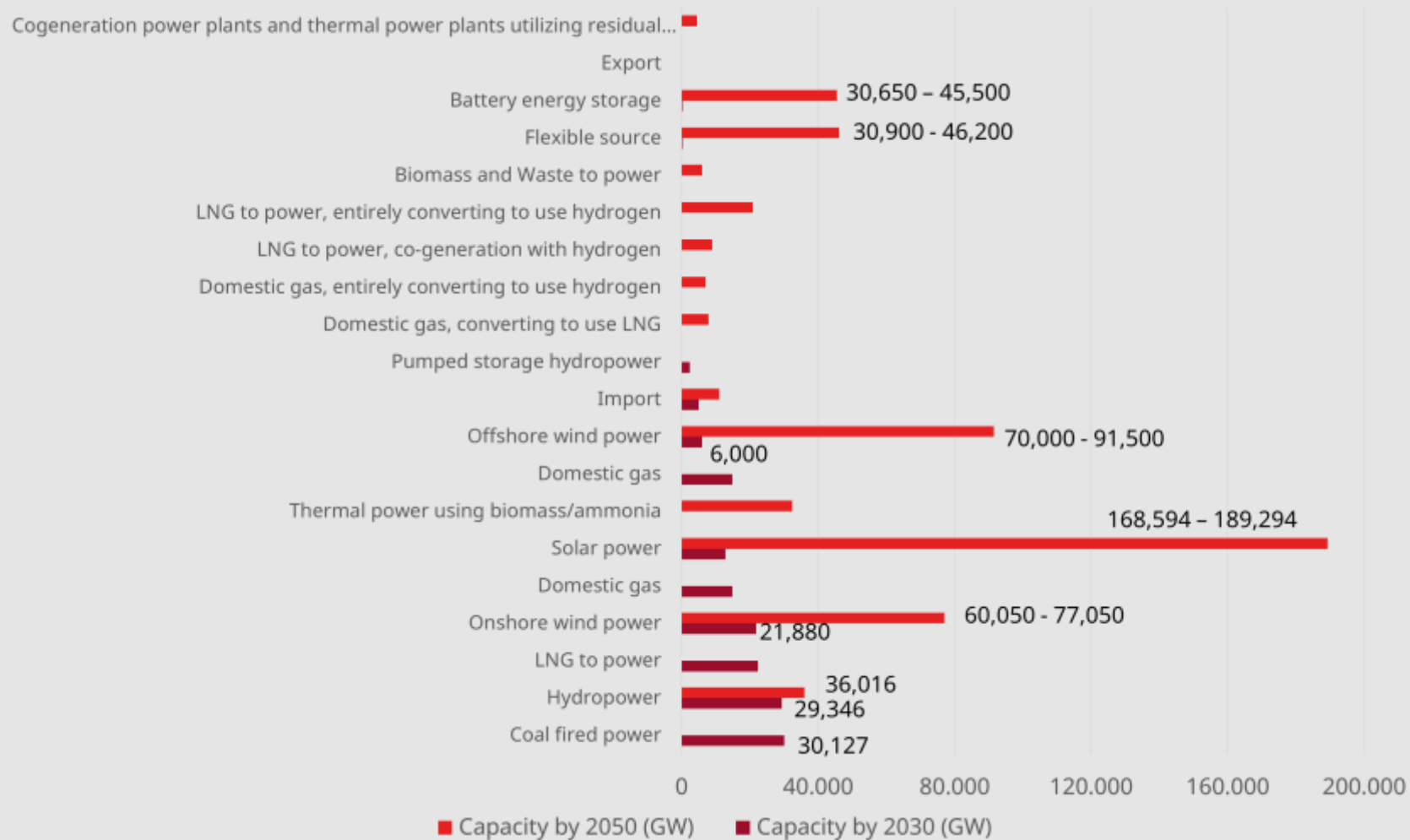


## Overview and trends

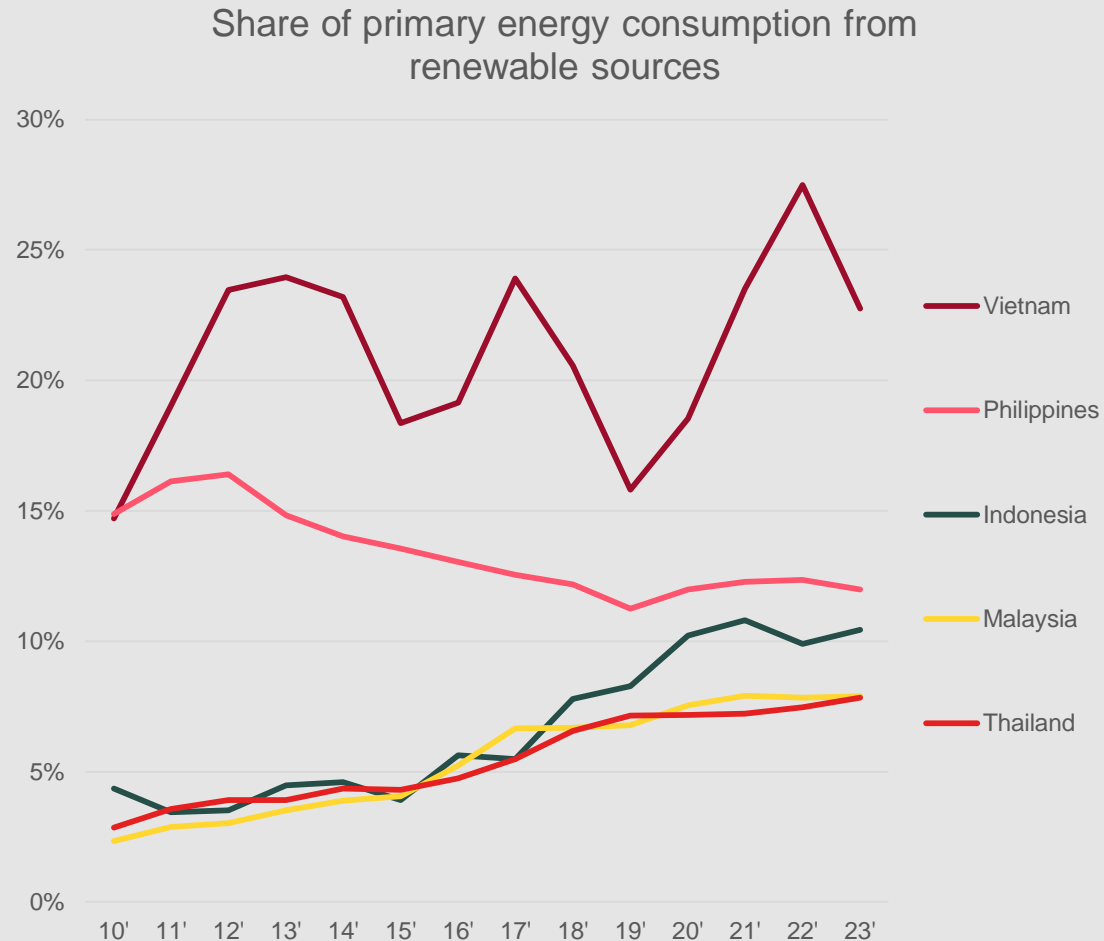
- Vietnam's power sector has grown substantially driven by economic expansion and an increase in industrial demand
- Coal still accounts for 40% of power generation today
- Rapid development of solar power and onshore wind power in 2019-2021
- Onshore and offshore wind are key to the energy mix as per Power Development Plan 8
- Solar power, despite its low cost, is politically undesired due to mismanagement cases under previous FiT scheme



# Power development plan 8 targets



# The future of renewable energy



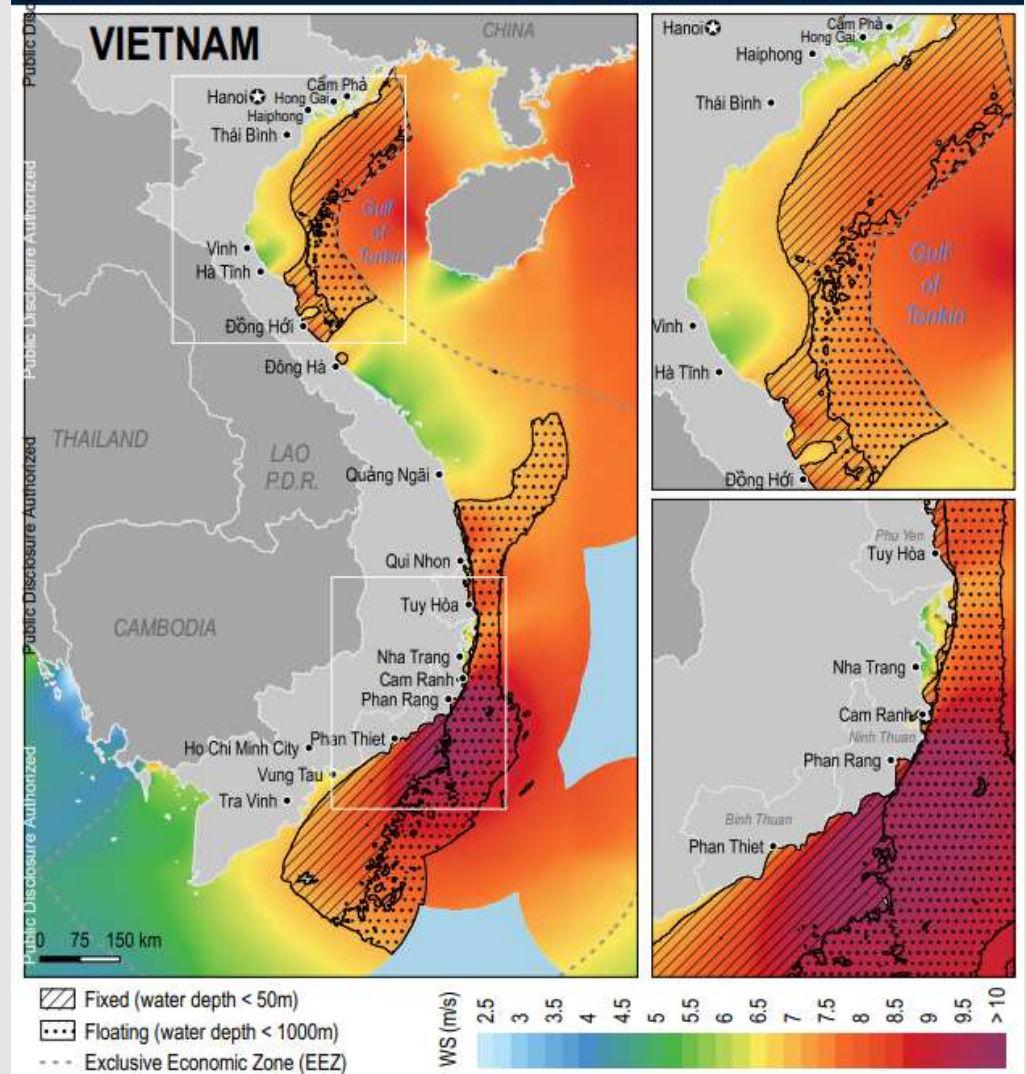
- dPPA decree approved 07/2024 for consumers > 200MWh/month and capacity capped by existing master plans (PDP8,..):
  - Option 1: Direct wire
  - Option 2: Virtual w min. 10MW wind/solar, approval by SO required
- RTS PDP8 limited to additional 2,6 GW by 2030.
- Carbon market: Pilot phase for domestic ETS and carbon credits from 2025 (planend) – quotas allocated to large emitters incl. TPP and heavy industry
- EVN procurement continues on negotiated terms w ceiling price post-FiT to be set annually with more regional variation. PPA not bankable internationally.

# Offshore wind status

- Strong fundamentals for OSW
- Clear long-term ambition and need (80-90 GW)
- Growing supply chain capability (substations, foundations, towers)
- Local content prioritised
- SOE-led 'pilot' projects, foreign partners not excluded
- Geopolitics and security concerns
- 1.4GW export project to Singapore

## Offshore Wind Technical Potential in Vietnam

RISE score: 67      Fixed: 261 GW || Floating: 338 GW || Total: 599 GW



This map shows the estimated technical potential for fixed and floating offshore wind in Vietnam in terms of installed power capacity in megawatts (MW) within 200 kilometers of the shoreline. It is provided under a World Bank Group (WBG) initiative on offshore wind that is funded and led by the Energy Sector Management Assistance Program (ESMAP). For more information and to obtain maps for other WBG client countries please visit: <https://esmap.org/offshore-wind/>. For further details on the RISE score provided please visit: <https://rise.esmap.org/>.

The methodology used to create this map is described in the WBG report published in October 2019 titled 'Going Global: Expanding Offshore Wind to Emerging Markets'. The wind resource data is from the Global Wind Atlas (version 3.0), a free, web-based application that provides data with a 250 m resolution based on the latest input datasets and modeling methodologies. For more information: <https://globalwindatlas.info>.

The World Bank and ESMAP do not guarantee the accuracy of this data and accept no responsibility whatsoever for any consequences of their use. The boundaries, colors, denominations, and other information shown on any map in this series do not imply on the part of the World Bank any judgement on the legal status of any territory or the endorsement or acceptance of such boundaries.

# Drivers and barriers in Vietnam's energy transition

## 'Drivers'

- ① Fossil fuels have become less attractive / viable
- ② Green energy attracts new investments
- ③ Less import dependence for the energy sector



## 'Barriers'

- ① Ceilings for public debt (incl. state-owned companies)
- ② Lack of clear legislation and regulation
- ③ Political-institutional challenges







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Thank you

Ambassador, Nicolai Prytz – August 2024





# Danish Energy Partnership Program with Vietnam

Loui Algren, Country lead for Vietnam



# Global Cooperation

Collaborations with 24 countries – Vietnam one of the four longest and largest collaborations



# Energy Partnership Programme – main features

## Government-to-Government

Danish Energy Agency and  
Ministry of Industry and Trade (MOIT)

## Approach

Capacity building

## Timeline

Collaboration since 2012  
Third phase: 2020-2025



# Vietnam-DEPP III content

## Long-term energy planning

- Vietnam Energy Outlook
- Energy system modeling
- Data development incl Technology Catalogues

## Offshore wind

- Assessment of potential
- Marine Spatial Planning
- Port Study

## Integration of variable renewables

- Grid codes
- Demand-response
- Power plant flexibility
  
- Power system operation  
- with Energinet and National Load Dispatch Centre

## Energy efficiency in industries

- Voluntary Agreement Schemes
- Energy Audits
- Center of Excellence



# Long-term Energy Planning

2013-2016

**DEPP**

2017-2020

**DEPP II**

Sept 2017

Energy Outlook  
Report 2017

Nov 2019

EOR 2019

2020-2025

**DEPP III**

2022

EOR 2021

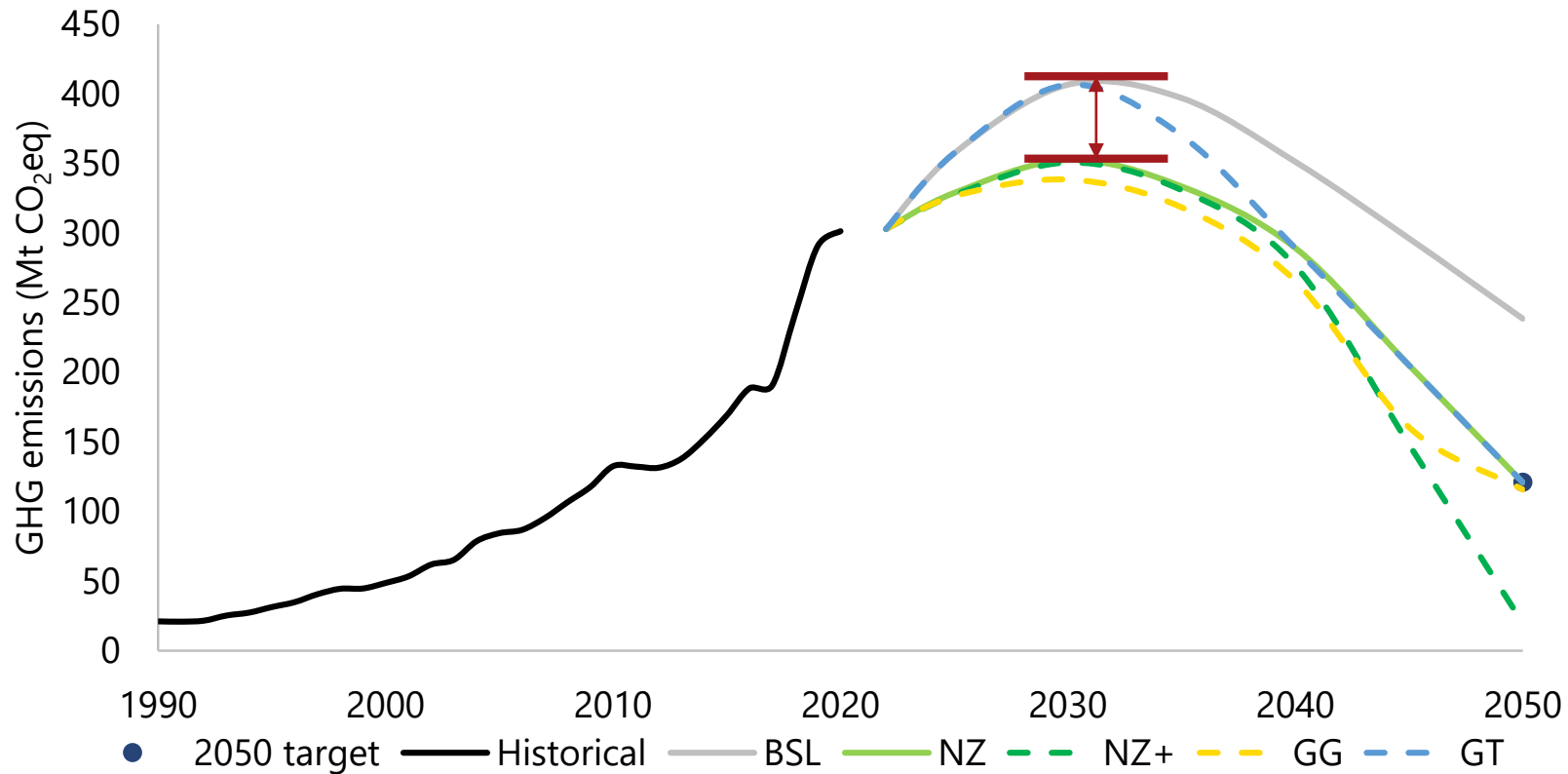
June 2024

EOR NZ

Advanced optimization models  
Whole energy system  
Data gathering  
Emissions  
Air pollution



# CO<sub>2</sub>-peak around 2030 is economically efficient



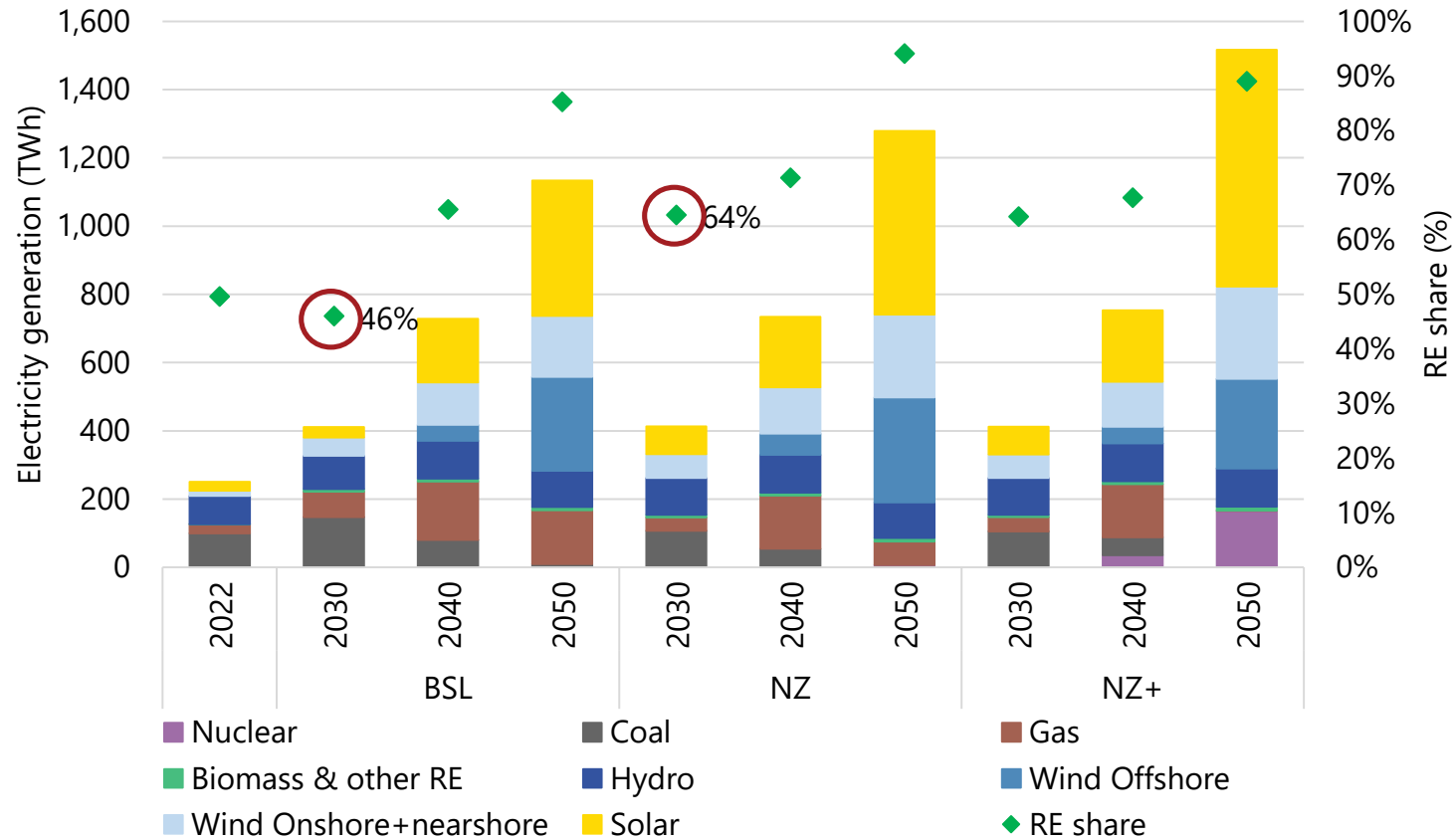
- Emissions peak in 2030, regardless of Net-Zero targets.
- Higher peak emissions in 2030 requires very steep reductions to 2050.



## Recommendation

Early power sector decarbonisation is a pre-requisite for a cost-efficient transition.

# Power production



- 4-6 fold increase in electricity demand
- Wind and solar dominating in all scenarios
- Nuclear



**Recommendations**

Set ambitious short-term targets for RE deployment, and reduce risks and delays in approving renewable energy projects.

Support the ambitious transport sector targets with similar ambitious targets for RE integration in the power sector.



# Key messages from Vietnam Energy Outlook



Reaching Net-Zero in 2050 is economically desirable for Vietnam.

But early action is required  
= CO<sub>2</sub> peak around 2030



Energy demand to increase  
50-100% by 2050

Electricity demand to increase  
400-600% by 2050



First:  
Energy efficiency, Wind, Solar, Grid

Later:  
Electrification, Storage, PtX, CCS  
on industry

Not part of the solution:  
DAC, hydrogen2power

Nuclear?

# Thank you for coming

Find more information here:

[www.depp3.vn](http://www.depp3.vn)



Danish Energy Agency