

# Unlocking Renewable Energy Value Chain in Indonesia

Presentation for China RE  
Invest Indonesia 2024

April 2024



2024 China  
**RE Invest**  
Indonesia  
Renewable Energy Investment Forum

# Indonesia's Net Zero commitment requires significant decarbonization effort in power sector; renewable energy development plays a critical role



Indonesia **set an ambitious target to reach net zero by 2060** and has embarked on the decarbonization efforts across multiple dimensions



## Indonesia NZE 2060 commitment

Indonesia has set national target to achieve net zero carbon emission by 2060



## Net Zero Emission Roadmap

KESDM has built a roadmap to reach NZE by fossil energy phase-out and RE push from the power sector



## Just Energy Transition Partnership

GOI has developed just energy transition long-term plans to mobilize strategic funding to decarbonize ID energy sector

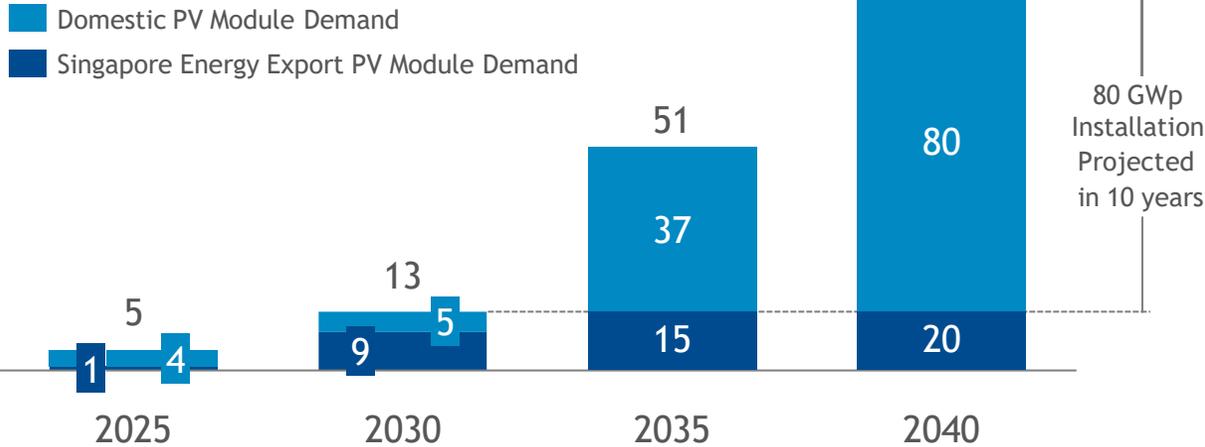
Accelerating renewable energy development is critical to reach Indonesia Net Zero target by 2060

# Solar PV demand is projected to grow significantly in the upcoming years; green electron export to SG provides initial traction



**~100 GWp solar PV installation** forecasted by 2040 with **8 GWp p.a. demand** in Indonesia from 2030 onwards

Accumulated solar PV installation capacity projection, 2025-2040 (GWp)

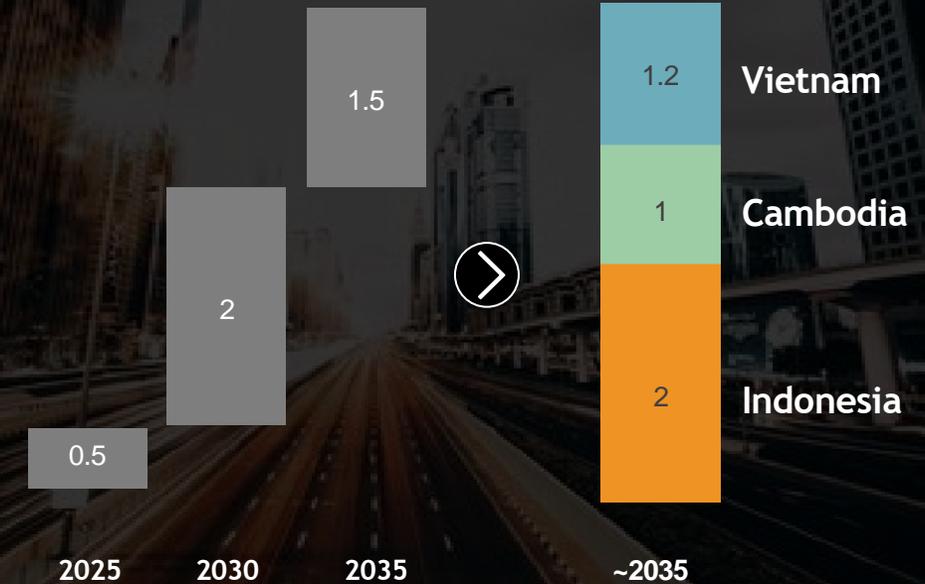


Potential higher demand trajectory due to JETP program

Singapore's 4-GW clean power import is pivotal in decarbonizing the sector

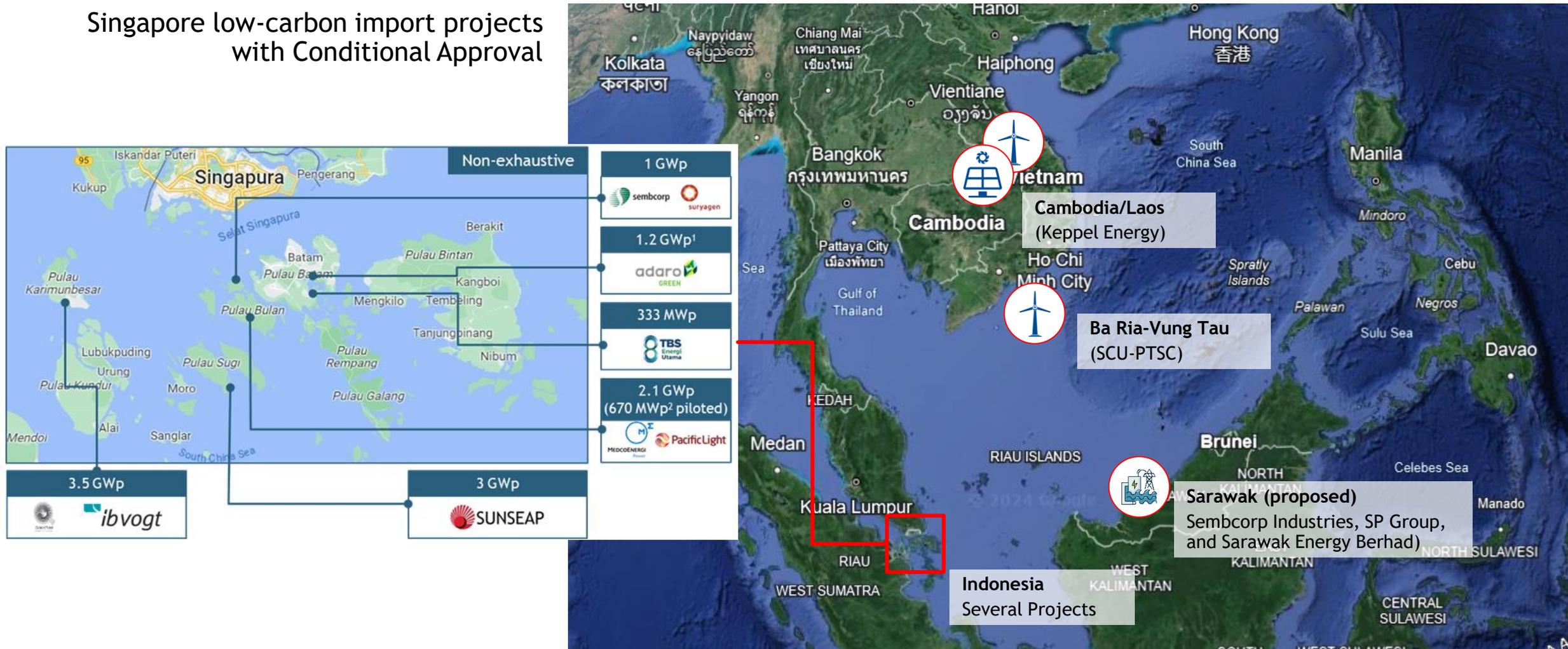
Demand for power imports (GW)

Conditional Approval (GW)



# Indonesia is leading the way to become home of the first low-carbon import projects, leveraging its close proximity to Singapore

Singapore low-carbon import projects with Conditional Approval



# A green electron export MOU between Singapore and GOI was signed to drive investment towards RE value chain and cross-border electricity trading

## RE Power Export MOU signed between Indonesia and Singapore on March 16, 2023



**Leadership retreat:**  
President Joko Widodo  
and PM Lee Hsien Loong



**G2G MOU:**  
Coordinating Minister of  
Maritime and Investment  
Affairs (Marves) and PM  
Senior Teo Chee Hean

## Both countries will facilitate investment and partnership towards:



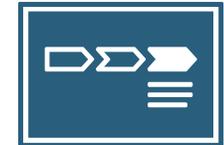
Development of E2E local RE manufacturing capabilities across the value chain (localization), including Solar PV modules and BESS



Green electron power export from Indonesia to Singapore using locally produced solar PV modules and BESS (in line with local content requirements standard)



Driving investment toward green corridor projects (including green industrial estates development)



Development of local RE manufacturing capabilities and localization roadmap is the main requirement for renewable power export to Singapore

# An investment totaling US\$18 billion is needed in Indonesia for commissioning projects with conditional approval as well as future opportunities

**US\$18 billion**

investment required for 2 GW, 24/7 power generation

**14 GWp PV**

capacity needed, higher than the reported 11 GWp to meet the load requirement

**27 GWh**

battery storage\* for firming up supply

\*Eight-hour storage assumed

## Localization of solar PV manufacturing & BESS in Indonesia from 2024/25

1



Solar PV localization **starts from cell & module manufacturing in 2024/25** & expands to ingot/wafer /polysilicon by 2030 depending on domestic demand

2



BESS system integrators are expanding offers **from Turnkey solutions to Installation & service**, battery manufacturers exploring to produce cell locally

Other than renewable export project, Indonesia has huge clean and renewables potential as well as local demand:

- Indonesia's potential of **3,686 GW** renewable resources (0.3% utilization rate or only 12 GW).
- The biggest potential is **Solar (3,295 GW)**, **wind (155 GW)**, **hydro (95 GW)**, **ocean (60 GW)**, **bioenergy (57 GW)**, **geothermal (24 GW)**.
- Indonesia possesses the world's largest reserves of nickel, copper, bauxite, and other critical minerals that serve as raw materials for the electric vehicle and battery industries.

To meet the Indonesia's NZE commitment by 2060, solar PV and BESS will play a very critical part of Indonesia Energy transition journey & require support from industry players globally

---

THANK YOU

---