Hydrogen Role in Decarbonizing ASEAN Energy Sector

Advancing the Net-Zero Agenda through Regional Cooperation in Green Hydrogen in Asia

IGES Webinar

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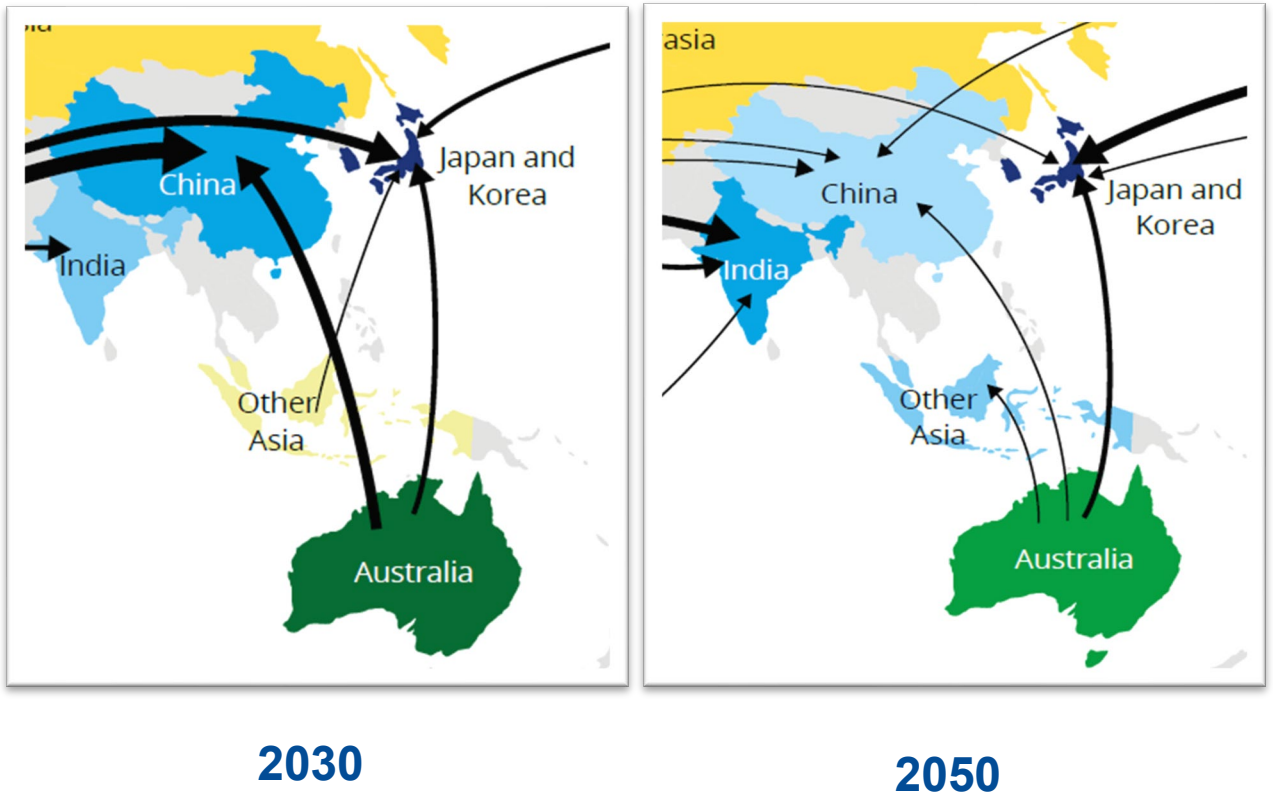
One Community for Sustainable Energy

Why ASEAN needs to consider H2 technology?

Global hydrogen trade among key regions



2030 2050

Source: Deloitte's 2023 global green hydrogen outlook

Pursuant of Regional and National Climate Targets

- H2 is a potential solution to realize long-term decarbonization on hard-to-abate industry

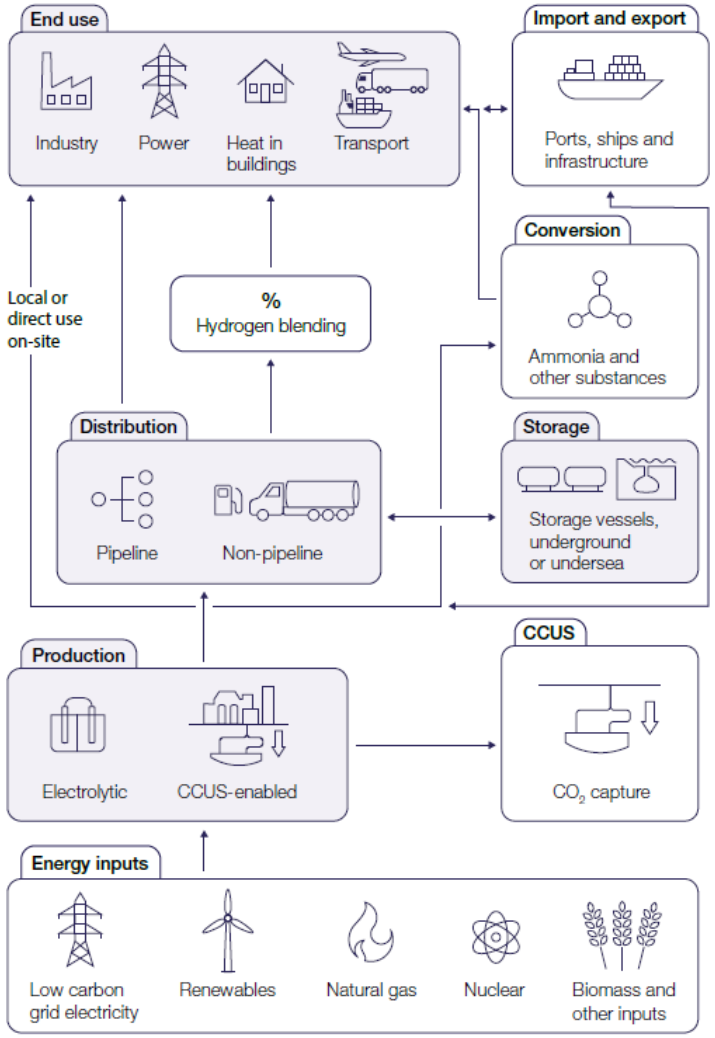
Considerable potential for Low Carbon H2 Production

- Vast resource allow ASEAN to be well-positioned as H2 producer especially in the accelerative trend of renewable energy (RE) realization

Growing industrial demand & located near H2 potential demand center

- Indonesia as 3rd Biggest ammonia producer & exporter
- Singapore aim to be the region's H2 hub, part of green shipping corridor
- Japan and Korea have declared themselves as H2 importer

When should ASEAN consider H2?



Source: UK Hydrogen strategy

Enablers of H2 Technology in ASEAN

Massive penetration of RE

Stringent decarbonisation policy in the energy sector (i.e. carbon pricing)

Advancement for H2 technology and its supporting technology (i.e.CCUS)

To consider developing H2 in the region….

- To decide the H2 utilisation for a specific sector, it is essential to also compare with other alternative technology solutions that currently exist
- Prioritize efforts in massive electrification and increasing RE penetration in the power sector
- Focus on efforts to reduce RE electricity since it makes up to 60-70% of green H2 cost

How is the H2 progress in ASEAN? What to do next?

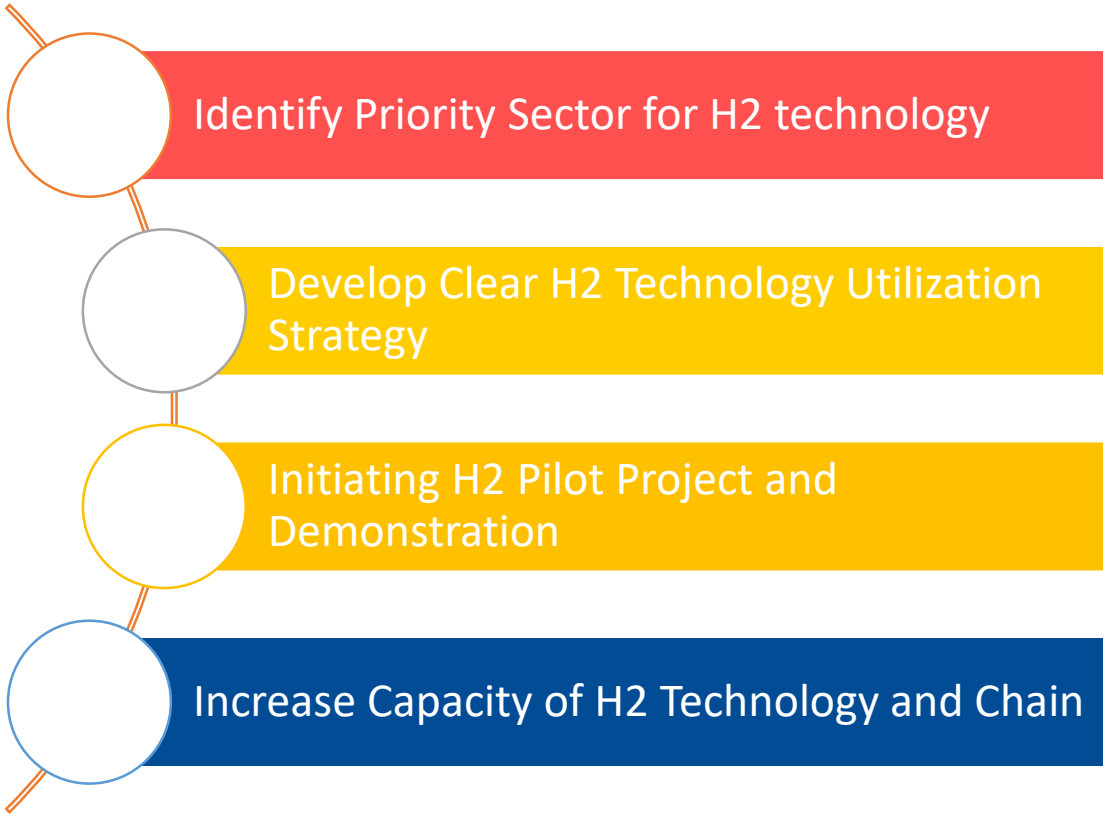
Singapore

- In 2020, introduced Low-Carbon Energy Research (LCER) Funding Initiative to incentives H2 technological advancement
- Singapore has conduct study on feasibility and downstream apllication of H2 technology
- Start to built its first H2 power plants named Keppel Sakra Cogen Plant that are expected to be ready in 2026

Indonesia

- The country will utilize hydrogen by 2050 to achieve net-zero
- PLN has signed MOU with Hydrogen de France SA(HDF) to develop hydrogen power generation in Indonesia
- Together with Japan in conduct several project consisting feasibility studies, advancing technology and business chain for amonia co-firing and CCUS

What ASEAN need to do next?



Thank You!

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