



ISAP 2020

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IGES
Institute for Global
Environmental Strategies

Transforming Asia toward Net-zero Emissions : Challenges and Opportunities

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Background and Objective

Background:

- Growing momentum for net-zero emissions goals
 - ✓ Climate Ambition Coalition (120 countries), EU, China, Japan and South Korea, etc., and the US is likely to follow.
- COVID-19 recovery packages
 - ✓ Need for green recovery, “build back better/green”

Objectives:

- To examine the **current status of climate and energy policies** in Asia in terms of their consistency with the long-term temperature goals of the Paris Agreement
- To examine how **Asian countries' COVID-19 recovery packages** can be designed to promote long-lasting, transformative investment in decarbonizing infrastructure
- To present possible **Asian regional strategies** to facilitate the pursuit of net-zero emissions in consideration of future developmental needs, geopolitics and societal changes

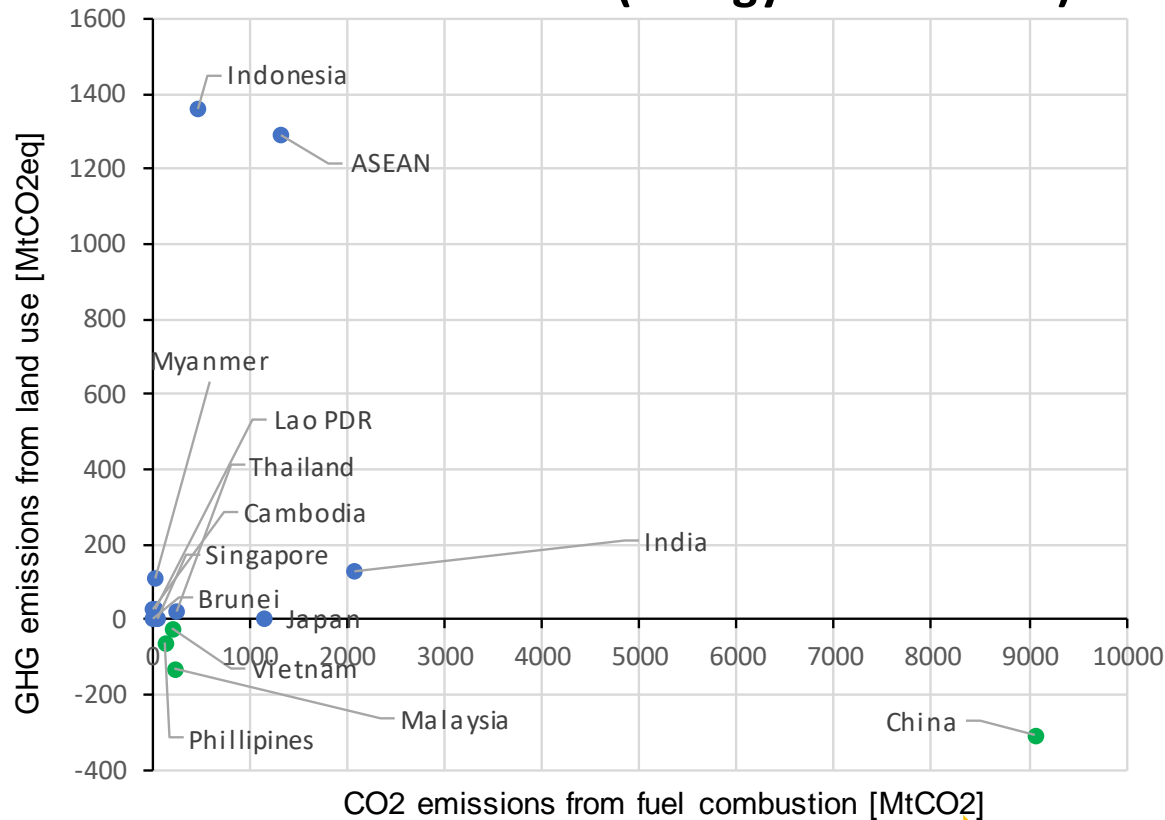
Outline of Presentation

1. Current status of GHG emissions, economy, and future emissions pathways
2. Policy Assessment: Review of climate and developmental policies in terms of time horizon and the interlinkage.
3. Review of COVID-19 Recovery Packages and Energy Investment Necessary for Net-zero Emissions
4. Regional Strategies: Geopolitics and Possible Areas for Collaborations
5. Conclusions

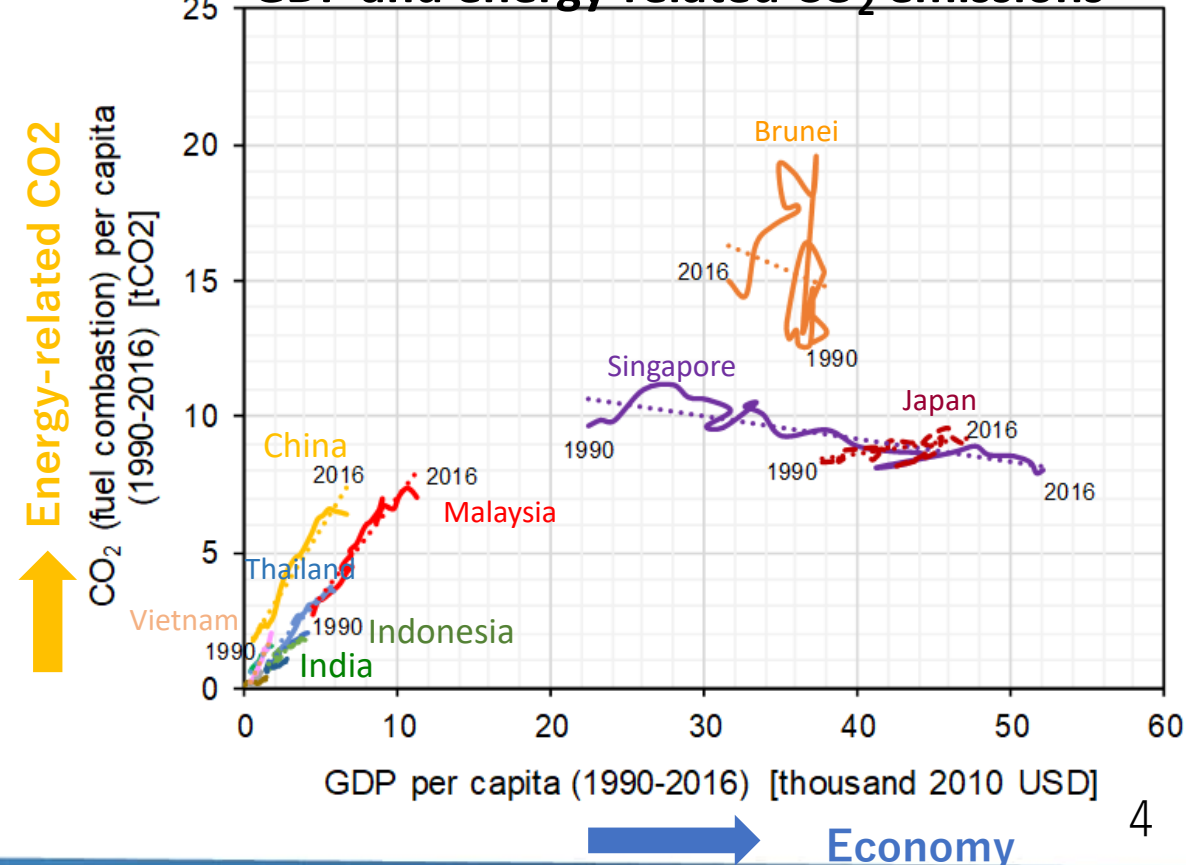
Current Status of GHG Emissions and Economy

- Energy transition is key to all, but expansion of forest sink through sustainable land-use transition is also important to many Asian countries, especially Indonesia.
- Asian countries (except Singapore and Brunei) are still at the CO₂ increasing phase mainly due to their rapid industrialization. Decoupling of GDP growth and CO₂ emissions for them will be required earlier than Singapore and Brunei, by a leap-frogging.

GHG emissions (energy and LULUCF)



GDP and energy-related CO₂ emissions



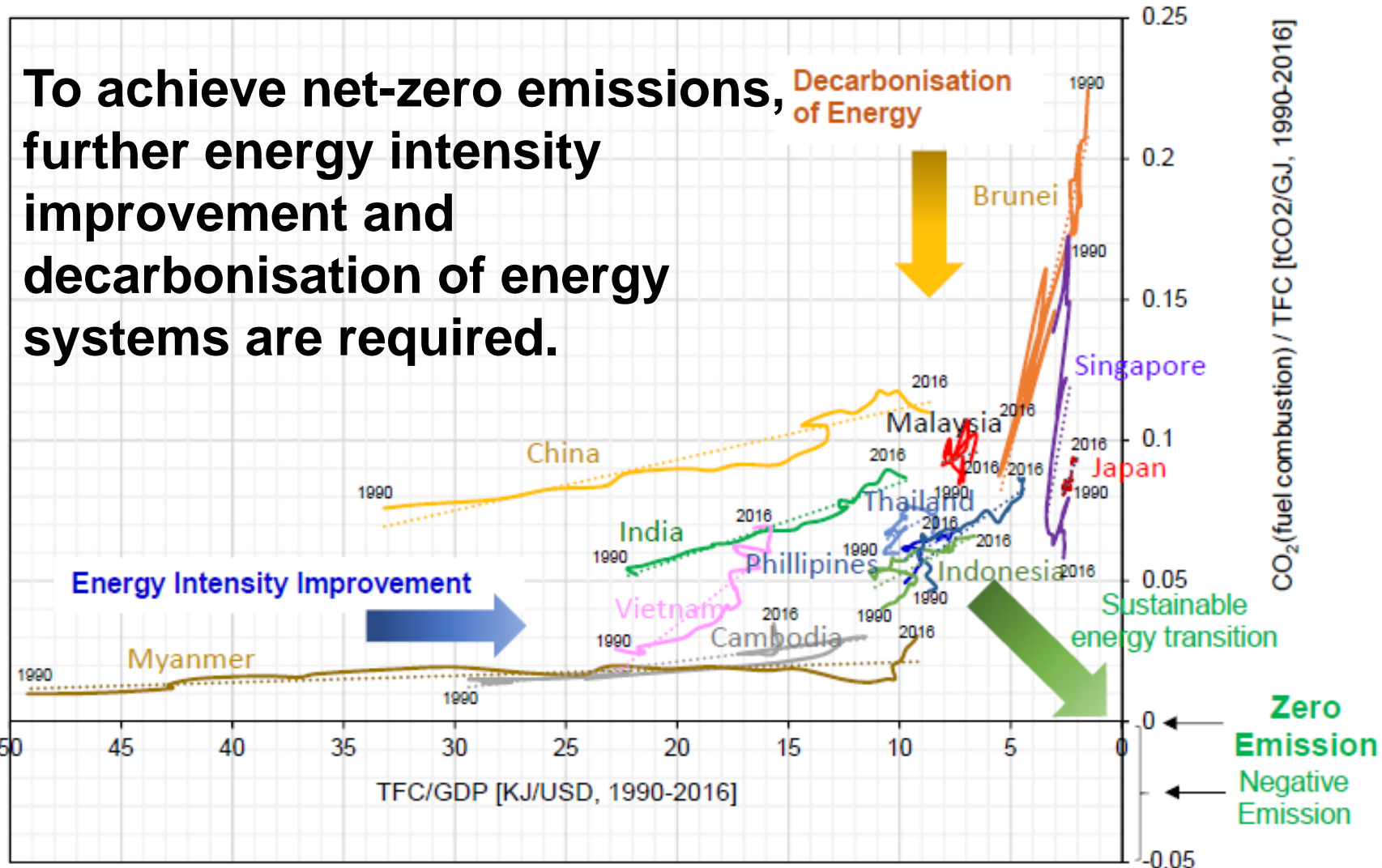
Energy Intensity and Emission Intensity: Toward Net-zero

■ Significant improvement in energy intensity with economic growth

- ✓ Countries with large hydropower endorsement (Laos, Cambodia and Myanmar)
- ✓ Emerging economies (China, India, Vietnam, Thailand, Indonesia and Philippines)

■ Rapid decarbonization of energy systems

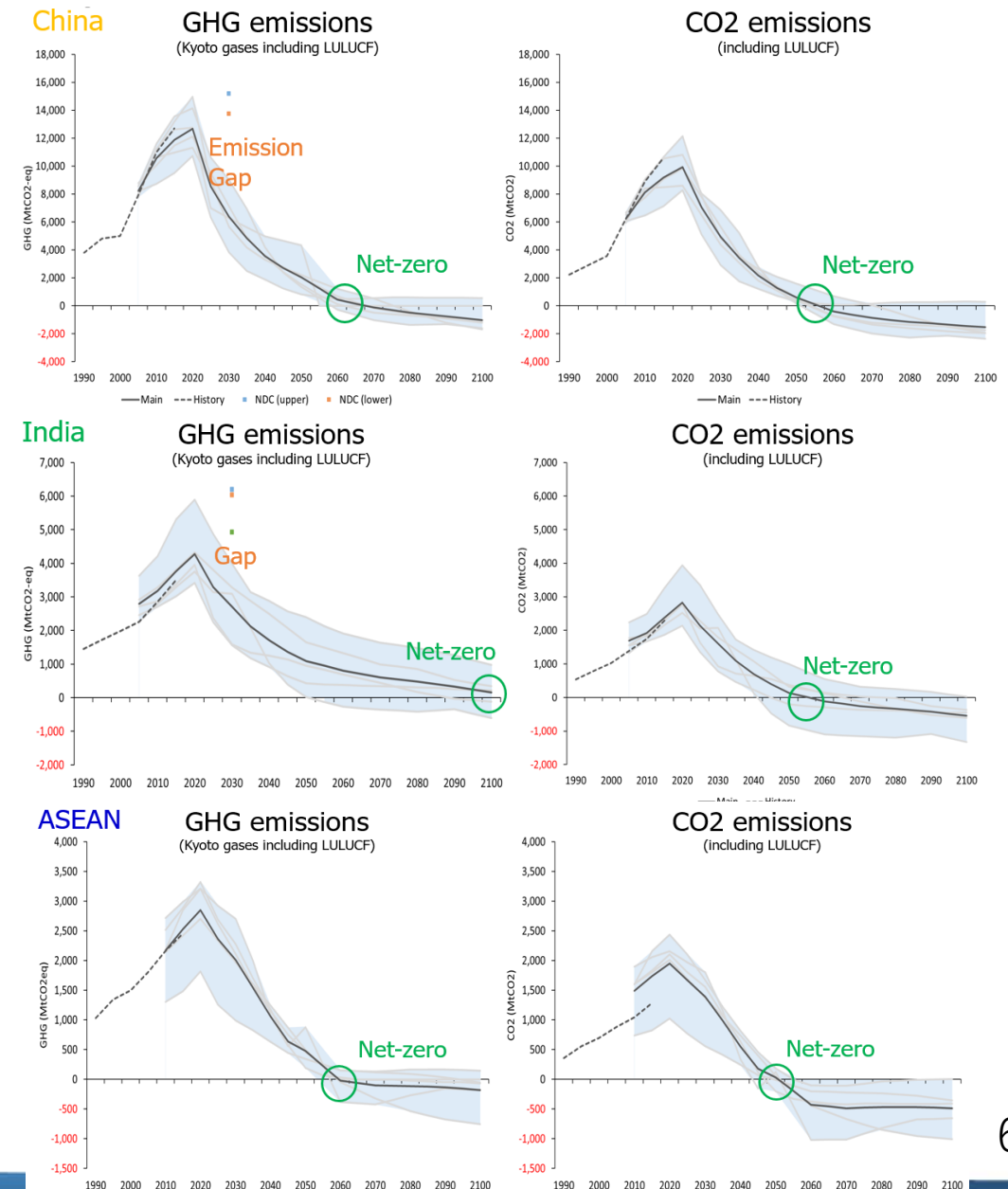
- ✓ Countries with high income (Singapore and Brunei)



Models: MESSAGE (IIASA), WITCH (FEEM), IMAGE (PBL), POLES (JRC), AIM (NIES). Source: CD-LINKS scenario database

GHG Pathways

- Asian countries are expected to achieve net-zero emissions in the latter half of this century, if the world attains 1.5°C goal.
 - CO₂ emissions are expected to be net-zero in around 2055 for China, India and ASEAN.
 - 35-year time horizon for CO₂ net zero emissions poses challenges for countries with various developmental issues.
- Importance of linking climate mitigation policies with developmental objectives



Policy Assessment

■ Review of long-term strategies/ goals, NDCs, developmental policies and COVID-19 recovery packages shows:

- ✓ There tends to be policy gaps in a sense that short/medium-term actions are not informed by long-term visions
- ✓ There is not yet a net-zero strategy which integrates climate and developmental policies.

What timeframe does each policy have?

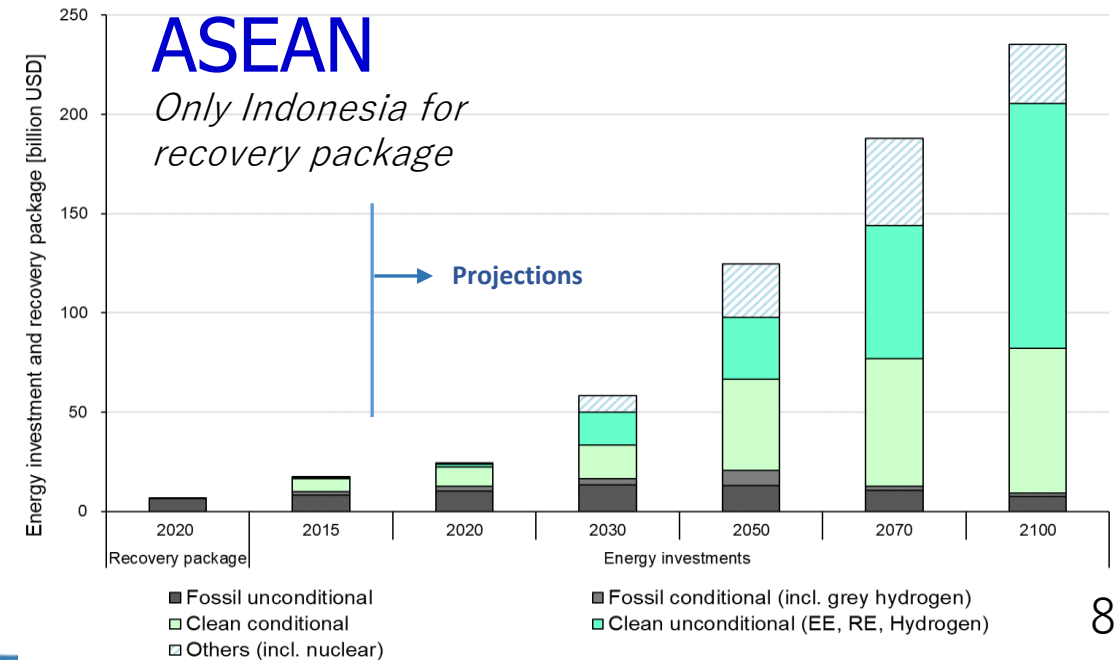
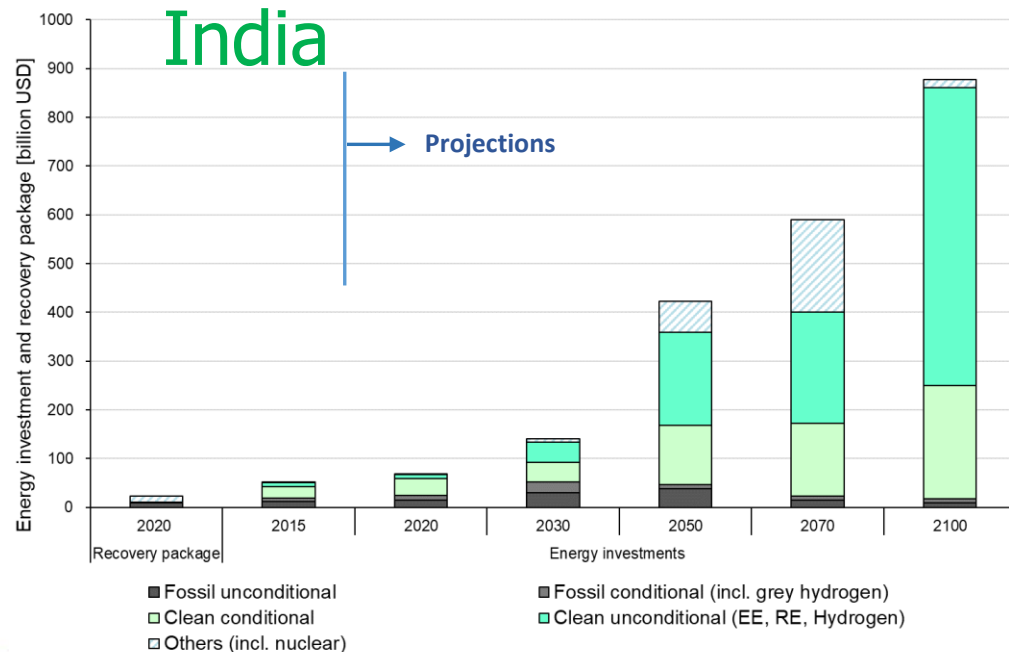
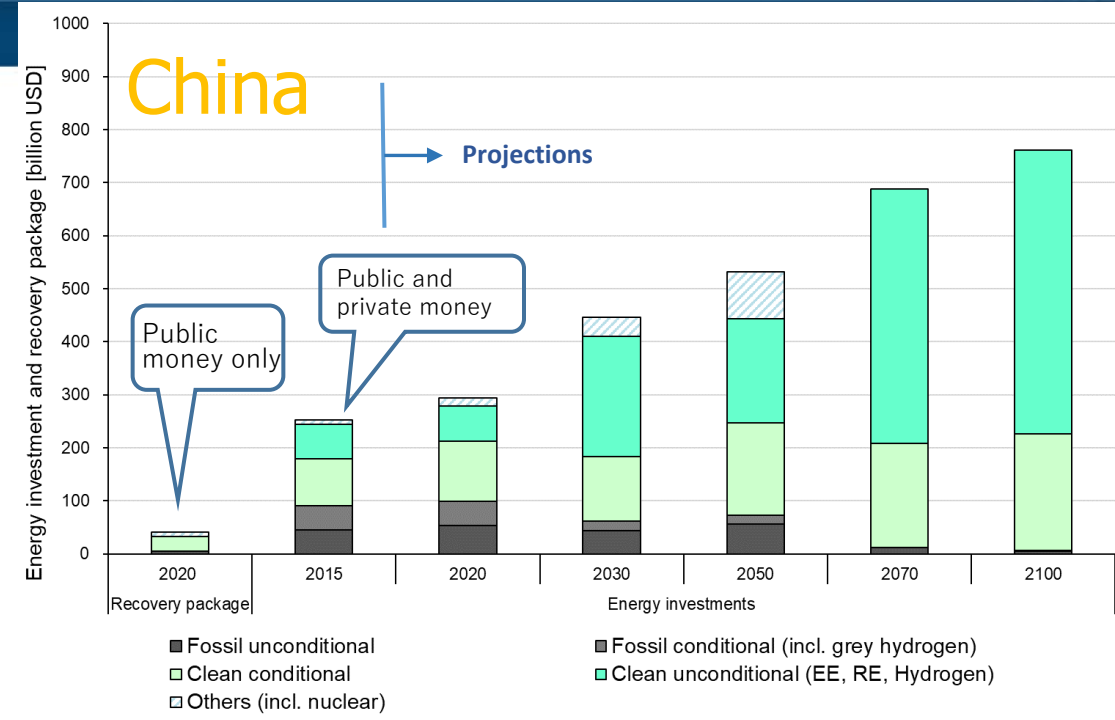
To what extent are climate mitigation policies and developmental policies integrated?

		Climate (mitigation) target and societal & developmental description																				
		Climate (mitigation) target					Developmental & societal description															
Country/re gion	Climate and developmental policy	Time horizon of target																				
		2020	2025	2030	2035	2040	2045	2050	2055	2060												
		GHG emission	CO2 emission (including LULUCF)	CO2 emission (only energy-related)	Energy/electricity mix (e.g. RE target)	Energy demand	Energy efficiency	Economy (e.g. poverty eradication, industrial transformation, employment)	Security (e.g. energy, resource, food)	Resilience (e.g. adaptation to climate change)	Finance (e.g. PRI, ESG, green finance)	Technology (e.g. digitalization, general-purpose technology, innovation)	Institutions (e.g. norms, values, rules, culture, behavioural outcomes)	Equity (e.g., Just transition****)	Environment (e.g. land use, air, water, soil, natural habitat)							
China	Long-term strategy (LTS)	Pledge of carbon neutrality										✓										
	NDC																					
	Main climate/energy plan*																					
	Main developmental strategy/vision**																					
	COVID-19 response strategy																					
India	Long-term strategy (LTS)																					
	NDC																					
	Main climate/energy plan																					
	Main developmental strategy/vision																					
	COVID-19 response strategy																					
ASEAN	Main climate/energy plan	Scenario analysis																				
	Main developmental strategy/vision																					
Indonesia	Long-term strategy (LTS)	Scenario analysis																				
	NDC																					
	Main climate/energy plan																					
	Main developmental strategy/vision																					
	COVID-19 response strategy																					
Thailand	Long-term strategy (LTS)	Vision Framework										✓										
	NDC																					
	Main climate/energy plan																					
	Main developmental strategy/vision																					
	COVID-19 response strategy																					

Energy-related recovery packages (IISD's Energy Policy Tracker category) and necessary energy investments toward net-zero emissions

* Projections after 2020 are drawn from the MESSAGE (IIASA) model for a 1.5°C scenario, Source: CD-LINKS scenario database.

→ Recovery packages need to prioritize the sorts of investments that can deliver immediate jobs and revenues and to be designed to mobilize private capital for long-term productive assets.



Implications of Geopolitics

■ Two Implications:

1. Competing infrastructure development initiatives

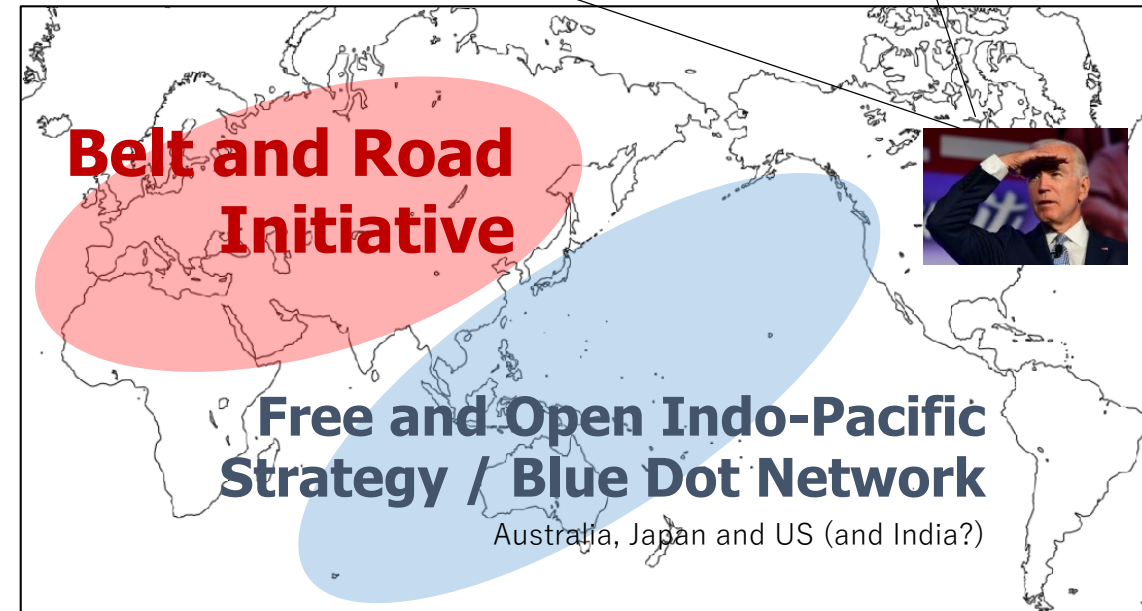
- Currently not “1.5°C goal compatible”.
- ✓ Scenario 1: Gridlock competition
- ✓ Scenario 2: Coordination for net-zero
- ✓ Scenario 3: Competition for net-zero

2. Changing supply chains: Decoupling, reshoring and relocating

- ✓ Increase in industrial production across Asian countries
- ✓ Growing importance for strengthening local production capacities

I will rally a united front of nations to hold China accountable to high enviro'tal standards in its Belt and Road Initiative.

I will seek a G20 commitment to end all export finance subsidies of high-carbon projects, (and) eliminate financing for coal in all but the poorest countries.



Great domestic circulation



Atmanirbhar Bharat (Self-reliant India)



Support for relocating supply chains from China to other countries



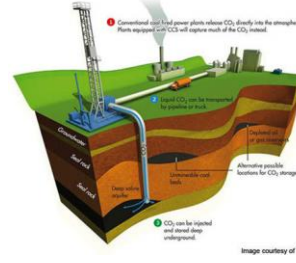
9 While geopolitics matters, int'l and regional initiatives become more important for net-zero Asia.

Regional Strategies for Net-zero Emissions

Energy interconnection (Asian power grid, etc.)



Decarbonization of industry (Electrification, hydrogen, Biomass, CCU, CCS)



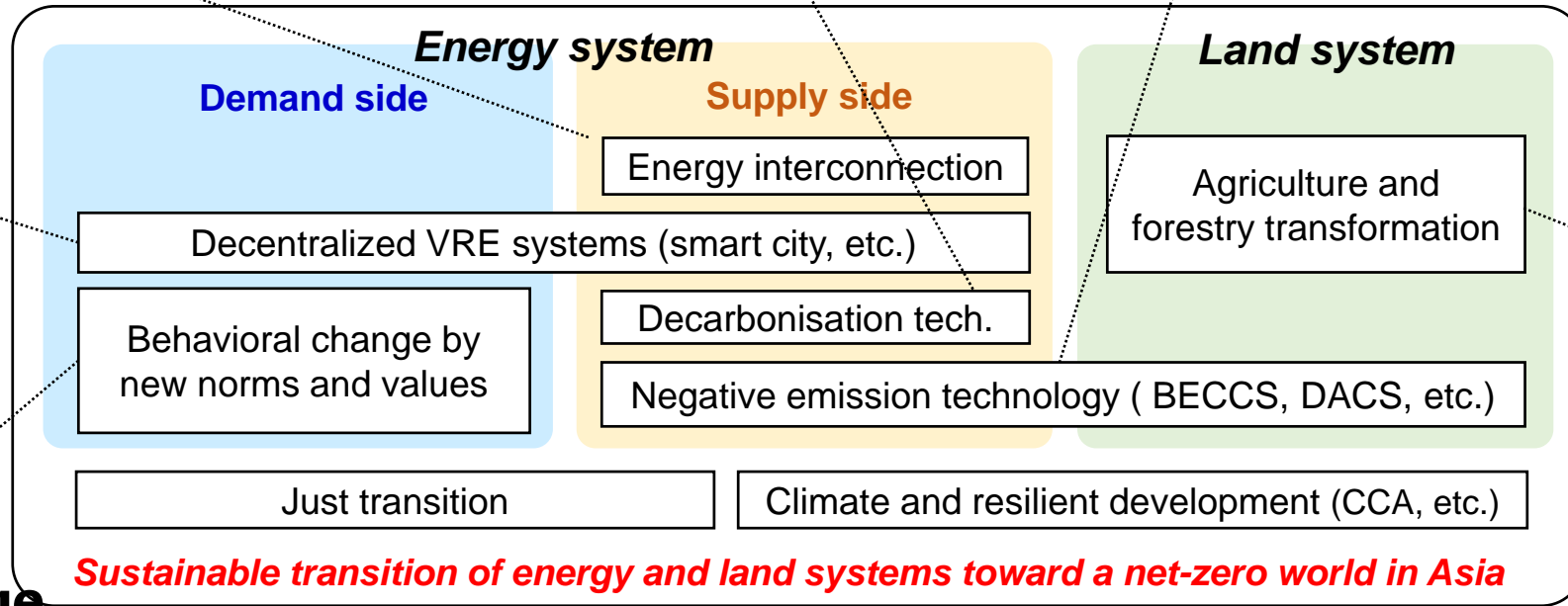
Negative emissions (DACs, BECCS, etc.)



Decentralized RE system (smart city, Smart grid, EV, ZEH/ZEB etc.)



Behavioral change by new norms and values (Teleworking, etc.)



Agriculture and forestry transformation (Desert industry, Afforestation and reforestation, climate smart agriculture)

Take Home Messages

- It is critically important to transform the COVID-19 recovery packages into green ones, thereby catalyzing public capital and accelerating energy investment toward net-zero emissions.
- While changing dynamics of geopolitics matter, there remains importance of seeking regional collaboration/strategies for net-zero emissions in various areas, such as energy interconnection, decentralized RE systems, decarbonisation of industry, sustainable land-use.
- Societal changes caused by COVID-19 pandemic as well as possible future changes in society and technology will form a ground to achieve net-zero in Asia. Climate policy/action and Asian regional strategy should take into account these underlying elements, with a view to simultaneously meeting various developmental needs/challenges such as economic growth and security (energy, resource, and food).

ご清聴ありがとうございました。
Thank you for your attention.

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