Science Based Policy Making and Partnerships for Decarbonisation: Role of **Technology Co-innovation** in Asia

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Thematic Track
Net-zero and Resilient Transitions in Asia: From Science to Policies and Implementation
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IGES
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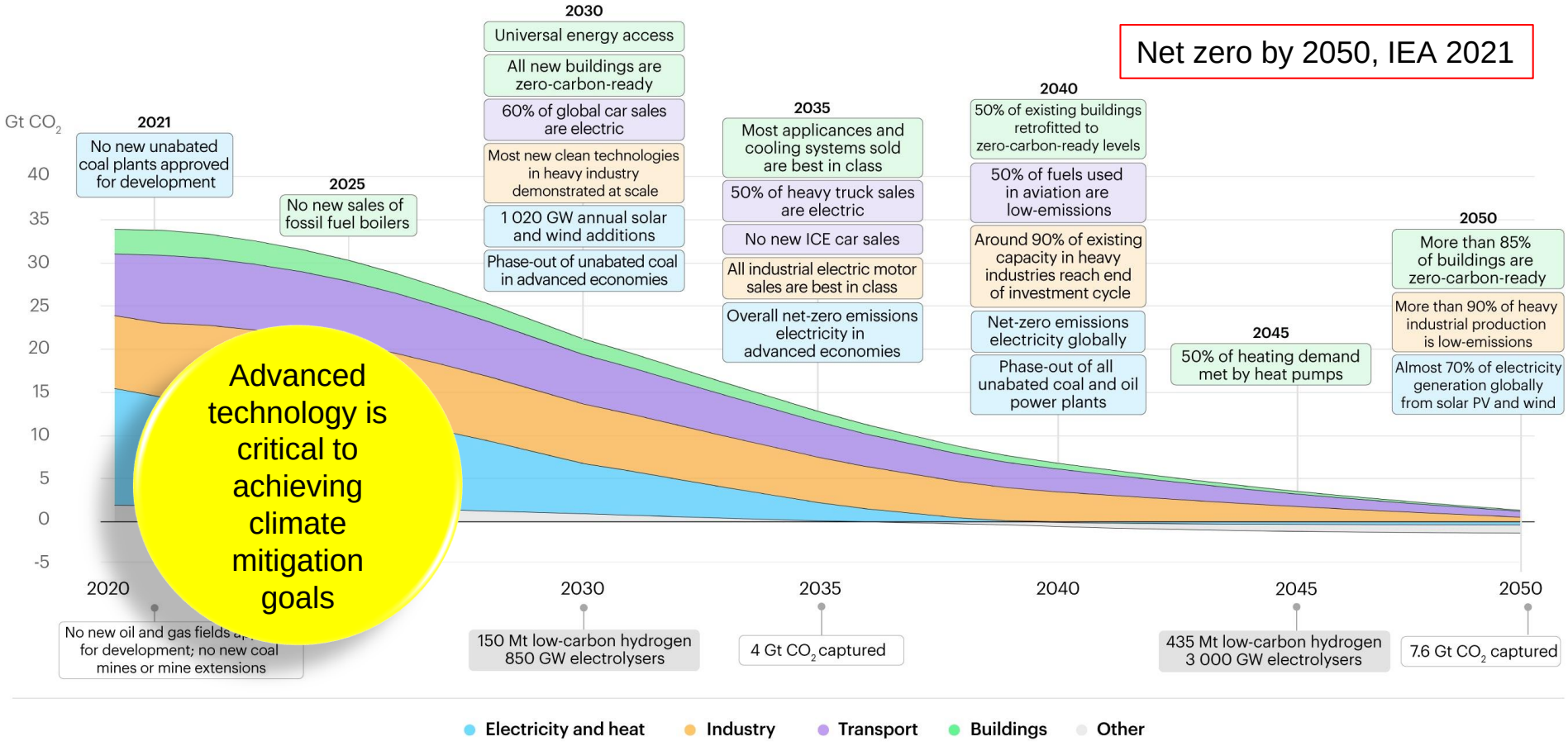
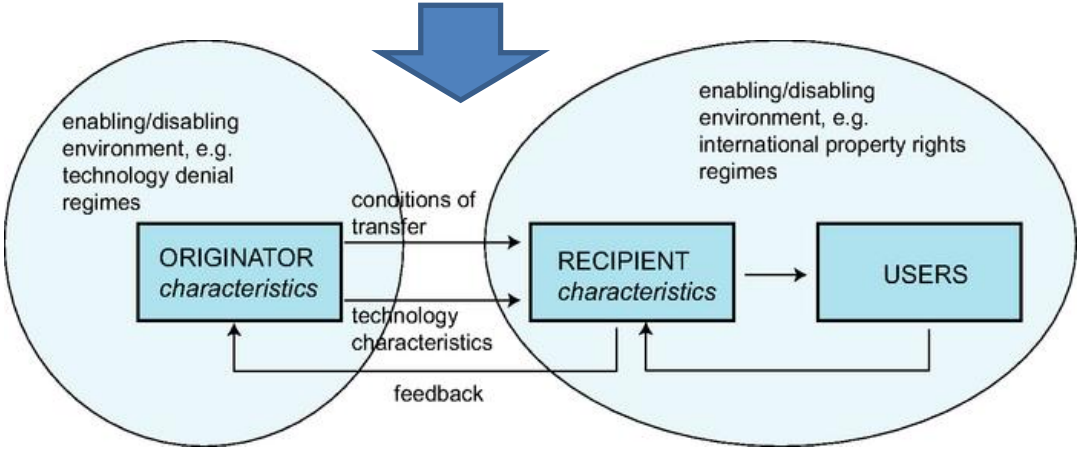
Net zero by 2050, IEA 2021



Limitations of Conventional TT

Financial support, aid, grant etc.



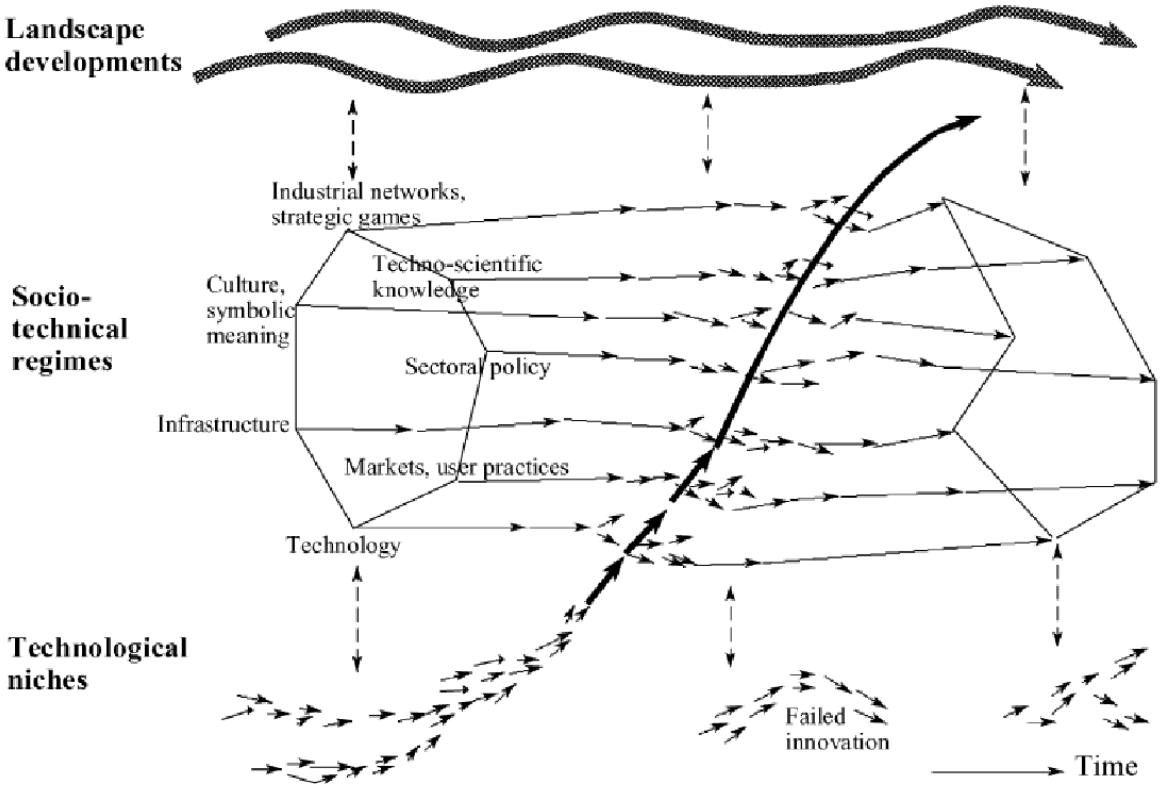
IPCC AR4: https://archive.ipcc.ch/publications_and_data/ar4/wg3/en/figure-2-4.html

Limitations

- Transfer or Sale
- Cost
- Scalability
- Replicability

Technology needs are context specific

Multilevel Perspective for Sociotechnical Transition



Geels, F.W., 2002.

Socio-technical transition for low-carbon innovations demand greater interplay of technology and society. Three specific approaches are needed to achieve this objective.

1. Replace conventional, static, and linear technology transfer with dynamic and iterative engagement between stakeholders (conventionally termed as technology source and recipients).
2. Multi-level Perspective needs to be central in designing technology engagement between source and recipient for transitions.
3. Broadening technology engagement and recognising economic, social and environmental co-benefits are critical.

LONG TERM STRATEGY support by AIM (Asia-pacific Integrated Model)

Thailand
Long-Term Low Greenhouse Gas Emission Development Strategy (Revised Version)

Prof. Bundit Limmeechokchai
(Sirindhorn International Institute of Technology, Thammasat University)

Figure 3-1 Framework of Thailand's LT-LEDS

https://unfccc.int/sites/default/files/resource/Thailand%20LT-LEDS%20%28Revised%20Version%29_08Nov2022.pdf

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Indonesia
Long-term strategy for Low Carbon and Climate Resilience 2050

Prof. Rizaldi Boer (Bogor Agricultural University)
Prof. Retno Gumilang Dewi and Dr. Ucok WR. Siagian (Bandung Institute of Technology)

4.1. Scenario Development

4.1.1. Models for Mitigation Pathways

Indonesia used a set of models in developing the emission pathways with two stages of analysis. In the first stage, separate models were developed for modelling agriculture, forestry and other land uses (AFOLU), and energy. The AFOLU sector used AFOLU Dashboard (a spreadsheet model), meanwhile energy sector used AIM-EndUse and the AIM-ExSS (Extended Snapshoot). In both models, economic and population growth are the key drivers for changes in food and energy demand. In the second stage, the economic and economic impact of both AFOLU and energy sector mitigation are analysed by utilizing the Asia Pacific Integrated Model/Computable General Equilibrium (AIM/CGE)-Indonesia (see Figure 3).

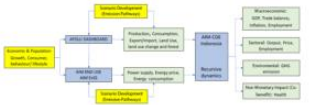

Figure 3. Models for developing emission pathways in Indonesia

https://unfccc.int/sites/default/files/resource/Indonesia_LTS-LCCR_2021.pdf

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Capacity Development in Asia

Support for Asian countries to foster/strengthen their in-country capacities!

Training Workshop to introduce ExSS, Enduse and CGE

- Jan. 30-Feb. 1 2017, SIIT-TU, Thailand
- Bhutan, Cambodia, China, Indonesia, Korea, Malaysia, Nepal, Thailand, Vietnam

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Stakeholder meeting using AIM/CGE in Bhutan, on May 17-18, 2018

Technology Engagement: Software and Hardware

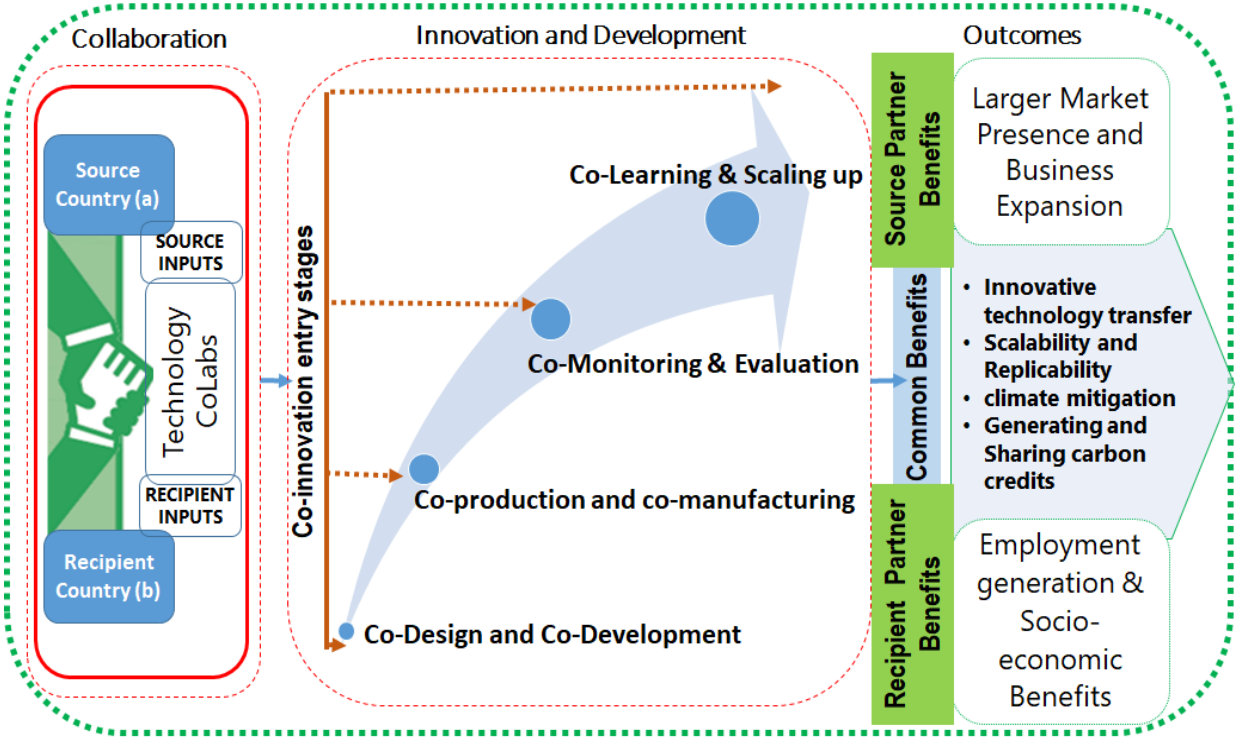
ADAPTABILITY

AFFORDABILITY

FLEXIBILITY

Co-innovation **is a collaborative and iterative approach to jointly innovating, manufacturing and scaling up technologies by source and recipient countries for accelerating progress on sustainability.**

Co-innovation can be combined with existing modes of technology collaboration



MARUTI SUZUKI

1983

2021

Conclusion

- Socio-technical transition for climate mitigation demands greater interplay of technology with policies, cultural contexts, infrastructures, businesses and consumer practices.

- Conventional technology transfer approaches have only limited scope in furthering transition in developing economies. This demands alternative mechanisms such as CO-INNOVATION that are iterative, collaborative and sensitive to local contexts and needs.

Thank You