



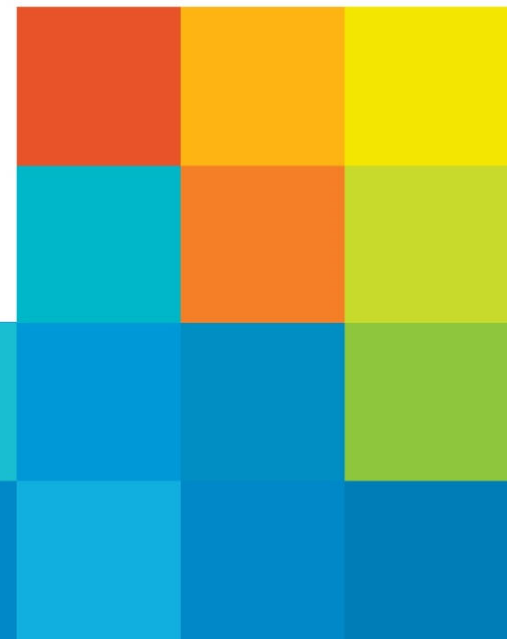
Financing Asian developing countries' pathways to carbon neutrality

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Multiple Pathways to Carbon Neutrality

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Infrastructure investment (inc. climate) gaps is nearly 6% of GDP in Asia and the Pacific. Particularly high in the Pacific, South Asia and Central Asia

Table 1: Estimated Infrastructure Investment Needs by Region, 45 DMCs, 2016–2030
(\$ billion in 2015 prices)

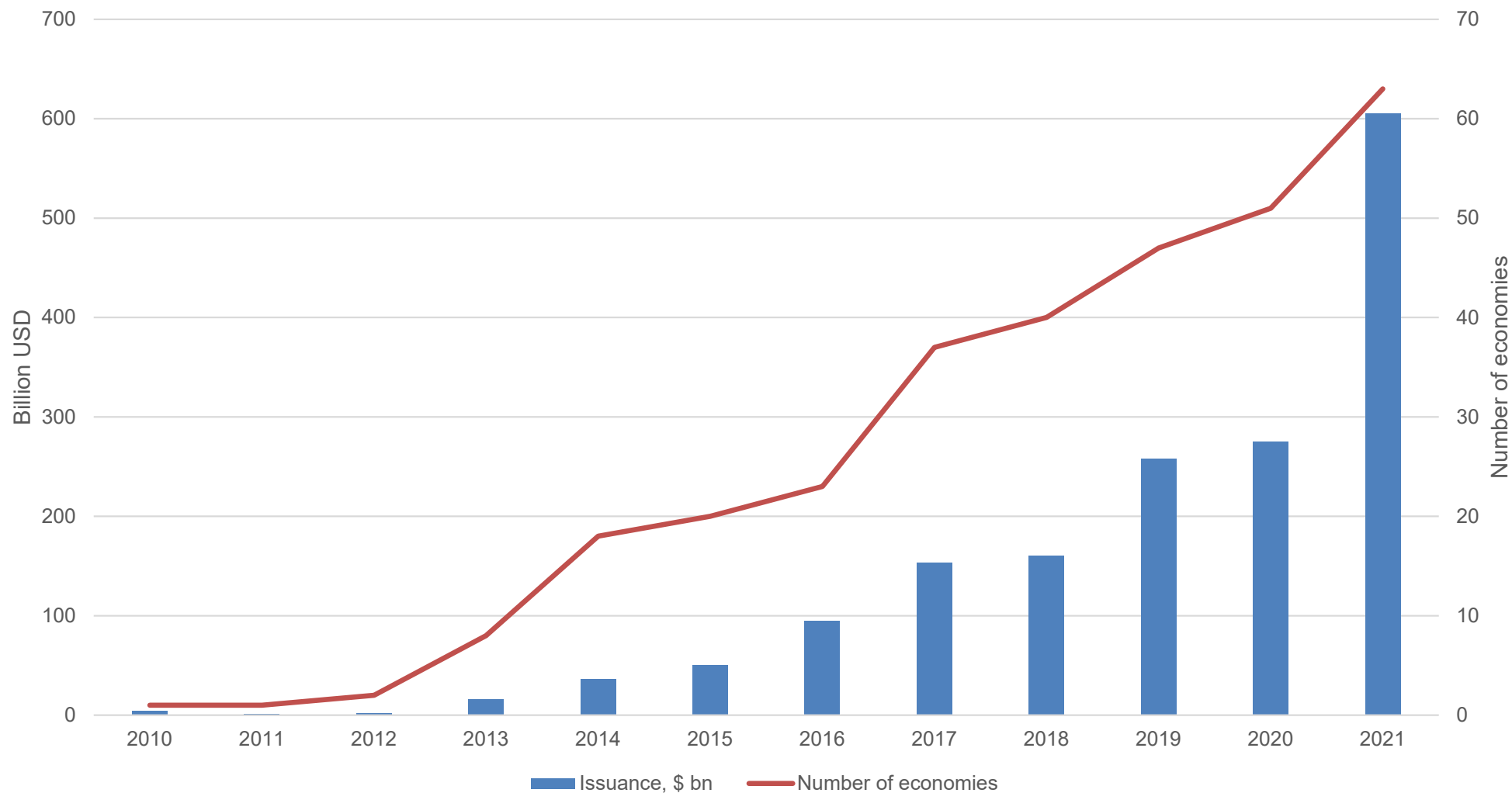
Region/Subregion	Projected Annual GDP Growth	2030 UN Population Projection (billion)	2030 Projected GDP Per Capita (2015 \$)	Baseline Estimates			Climate-adjusted Estimates**		
				Investment Needs	Annual Average	Investment Needs as % of GDP	Investment Needs	Annual Average	Investment Needs as % of GDP
Central Asia	3.1	0.096	6,202	492	33	6.8	565	38	7.8
East Asia	5.1	1.503	18,602	13,781	919	4.5	16,062	1,071	5.2
South Asia*	6.5	2.059	3,446	5,477	365	7.6	6,347	423	8.8
Southeast Asia	5.1	0.723	7,040	2,759	184	5.0	3,147	210	5.7
The Pacific	3.1	0.014	2,889	42	2.8	8.2	46	3.1	9.1
Asia and the Pacific	5.3	4.396	9,277	22,551	1,503	5.1	26,166	1,744	5.9

Note: * Pakistan and Afghanistan are included in South Asia. ** Climate change adjusted figures include climate mitigation and climate proofing costs, but do not include other adaptation costs, especially those associated with sea level rise.

Source: 2015 Revision of World Population Prospects, United Nations; ADB estimates.

Source: <https://www.adb.org/sites/default/files/publication/227496/special-report-infrastructure.pdf>

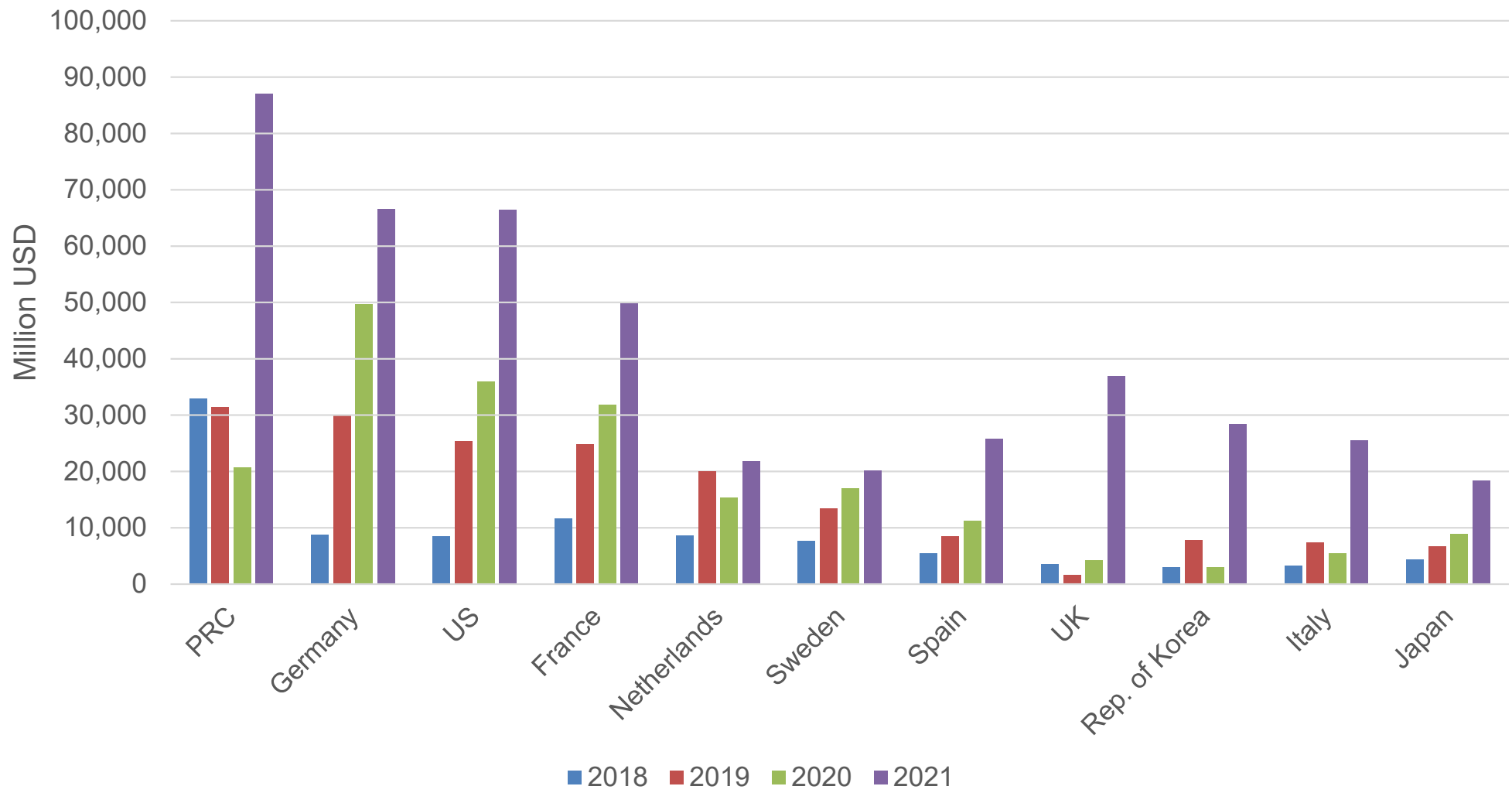
Green bonds also started to grow quickly in 2021, after slow down in 2019-2020 due to COVID-19. Over half trillion of green bonds were issued in 2021¹



Source: Bloomberg terminal (2022)

³ Green bonds are fixed income financial instruments used to fund projects that have positive environmental and/or climate benefits, inc. Green Buildings.

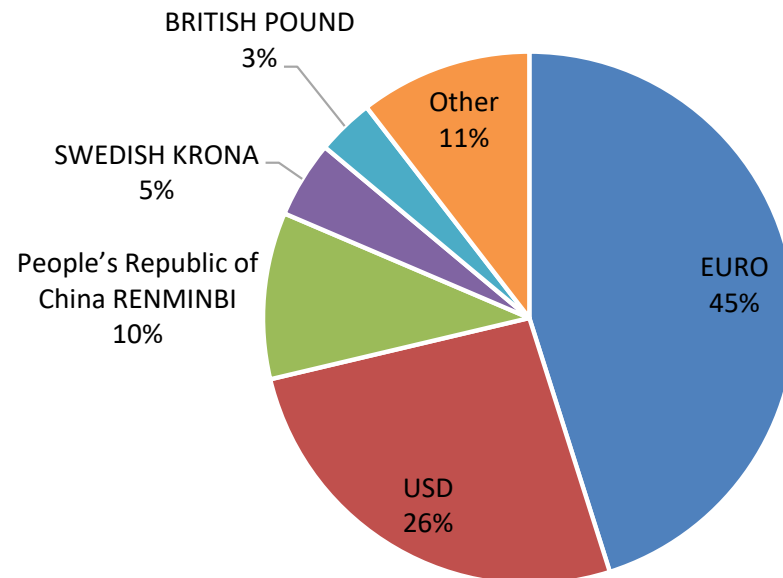
These 11 economies issue 3/4 of all green bonds in the world.



5.1. Green bond

- Main drawbacks of green bonds:
 - (i) Cost of labeling bonds 'green', which includes cost of external reviewers. Solution: Green Bond Grants as in Hong Kong, China; Japan; Malaysia and Singapore
 - (ii) Local currency exchange risks when issued in foreign currency (Figure 5). Solution: support local demand as in Malaysia
 - (iii) Uncertain demand especially for issuers with low ranking (Moody's rating). Solution: Government purchase green bonds (guaranteed demand)

Green bond issuance by currency as of Oct 2021



- The number of responsible investors targeting green investments is growing, international financial institutions have also been urged to play their part and work toward unleashing the trillions in private and public sector finance required to secure global net zero.
- The Asian Development Bank (ADB), for instance, increased its climate finance target from \$80 billion to \$100 billion by 2030

Energy Transition Mechanism (ETM)

Accelerating the Transition from Coal to Clean Energy

ETM is a scalable, collaborative initiative developed in partnership with developing countries that will leverage a market-based approach to accelerate the transition from fossil fuels to clean energy.

Objective: to retire coal power assets on an earlier than if they remained with their current owners. Proceeds from the assets or other investments will be mobilized toward clean energy.

Source of funds: governments, multilateral banks, private sector investors, philanthropies, and long-term investors.

Source: ADB

ETM Pilot

Launched at the COP26 on 3 November 2021, Glasgow, UK

Countries: Indonesia, the Philippines, and Viet Nam

Funds: Governments of the US, the UK, Japan, and Denmark, along with stakeholders from the private sector, and philanthropic foundations

Objective: to retire/repurpose 5-7 coal-fired power plants in the pilot countries. Repurposed plants will be converted to renewable energy generation or alternative uses.

Source: ADB

The need to scale up

ETM has the potential to be scaled up to other parts of Asia and the Pacific, as well as Latin America and Africa and to be the largest carbon reduction model in the world

Ultimately, retiring 50% of the coal fleet in ETM's three pilot phase countries (Indonesia, the Philippines, and Viet Nam) would reduce CO2 emissions by 200 million tons annually, the equivalent of taking 61 million cars off the road.

ADB is working with DMCs and key partners to ensure ETM is a replicable and scalable mechanism that can be successfully adjusted and adopted in various regions and contexts.

Source: ADB

Summary

There is no single solution for meeting impactful climate goals in developing Asia.

Appropriate policy measures will need to account for variations in geography, climate, sector, and electricity market characteristics.

They will also require long-term planning, learning from other countries, and learning-by-doing to prepare the electricity market for a highly renewable world.

References

Azhgaliyeva and Mishra (2021) [Feed-in Tariffs for Financing Renewable Energy in Southeast Asia](#), *Wiley Interdisciplinary Reviews: Energy and Environment* e425

[ADB ETM](#)

[ADB Energy Transition Mechanism Explainer: How ETM Will Support Climate Action in Southeast Asia](#)

[ADB What People are Saying About the Energy Transition Mechanism \(ETM\)](#)

[ADB Japan Announces \\$25 Million for ADB-Led Energy Transition Mechanism in Southeast Asia](#)

[ADB Building a Scalable and Sustainable Energy Transition Mechanism \(ETM\) for Southeast Asia: Partnership Launch](#)

[ADB Launch of the Partnership for Energy Transition Mechanism \(ETM\)](#)

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