

Griffith Asia-Pacific Strategic Outlook 2025

Transforming challenges
into opportunities for
sustainable leadership

Edited by Christoph Nedopil and Gloria Ge





About the Griffith Asia Institute

Griffith Asia Institute (GAI) is an internationally leading partner for an inclusive, sustainable and prosperous Asia-Pacific. We build capacity and create positive impact through partnerships in sustainable economics and business, politics, international relations, security, and inclusive development. Founded more than 25 years ago, GAI has 130 members and is the largest institute of Griffith Business School at Griffith University.

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About this publication

The *Griffith Asia-Pacific Strategic Outlook* is a publication of the Griffith Asia Institute, Griffith University, Queensland, Australia. This collection of policy briefs serves as a platform for disseminating initial research outcomes pertaining to sustainable development within the Asia-Pacific region. The findings, interpretations and conclusions expressed in this paper are those of the author(s) and should not be attributed to Griffith University or affiliated organisations. For more information, email gai@griffith.edu.au.

Please cite as: Nedopil, Christoph and Ge, Gloria (eds), 2025, *Asia-Pacific Strategic Outlook 2025: Transforming challenges into opportunities for sustainable leadership*, Griffith Asia Institute, Griffith University, Brisbane.
DOI: [10.25904/1912/5790](https://doi.org/10.25904/1912/5790)

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Cover design: Jill Moriarty

Acknowledgements





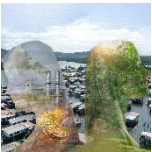

We are grateful to all those who contributed to the development of this publication. Your support, insights, and encouragement have been invaluable.

A special thank you to Meegan Thorley for her leadership and guidance, which have been instrumental in steering this project forward. We also extend our appreciation to Jill Moriarty for her creative expertise in designing and shaping the publication.

To the individuals and organisations who shared their time, feedback, and support along the way—your contributions have made a meaningful impact, and we sincerely thank you.



CONTENTS

| | | |
|---|--|----|
| | Foreword | i |
| | Executive summary | ii |
| | | |
|  | 1 China in Asia in 2025 – a reliable rock in a stormy sea | 1 |
| | | |
|  | 2 Geopolitics, non-traditional security and political dynasties in Southeast Asia | 14 |
| | | |
|  | 3 Living with uncertainty in Pacific island countries | 24 |
| | | |
|  | 4 Reimagining disability: Is inclusion a macroforce that will shape Asia and the Pacific for the next 20 years? | 36 |
| | | |
|  | 5 Time to develop an Asia-Pacific Green Development Agenda | 48 |
| | | |
|  | 6 Rethinking fiscal policy to finance SDGs in South Asia | 67 |
| | | |
| | Acronyms and abbreviations | 75 |
| | Contributing authors | 77 |

FOREWORD



I am delighted to introduce the 2025 edition of the Griffith Asia Pacific Strategic Outlook. Once again, this publication continues to offer a comprehensive analysis of the Asia-Pacific region's pivotal role in global development, with a particular focus on its significance for Australia. Developed by the Griffith Asia Institute, a globally leading institute within Griffith Business School, this compendium provides incisive perspectives on the multifaceted issues shaping the region's strategic landscape.

The Asia-Pacific region is poised to play a pivotal role as a driver of global change in the decade ahead. The strengths of the region—economic dynamism, geopolitical significance, tech leadership and innovative capacity—are not to be understated. At the same time, the region faces enormous challenges. Intensifying forces of great power competition and economic volatility coupled with leadership transitions alongside the ongoing impacts of climate change and an expanding profile of crime and security challenges, continue to undermine stability and security at regional and local levels.

With deep and enduring ties to Asia and the Pacific, Australia has a stake in the long-term prosperity, security and stability of the region. It is essential that we continue our efforts to understand, consider and engage the themes and issues shaping the contemporary Asia-Pacific neighbourhood, and our place in it.

As so, this 2025 Strategic Outlook takes its cue, providing timely and insightful analysis of the complex dynamics at play in the region. It highlights regional developments of significance: from China's evolving role across Asia to the impact of geopolitical shifts in Southeast Asia and the challenges of economic resilience in the Pacific. These highlights are complemented by a discussion of emerging themes including, inclusion as a macroforce, the imperative for a green development agenda, and the need to rethink fiscal policy for sustainable development in South Asia.

Each chapter offers key perspectives and actionable insights that invite policymakers, business leaders and scholars to engage with the region's rapidly evolving landscape. The 2025 Griffith Asia Pacific Strategic Outlook is designed not only to inform but also to empower decision-makers with the tools needed to navigate the complex realities of the Asia-Pacific region in an era of uncertainty.

What sets this publication apart is its collaborative foundation. The 2025 edition features co-authors from esteemed organizations across the region, including UN ESCAP, the Council on Energy, Environment and Water (India), the Cambodian Institute for Cooperation and Peace, the International Labour Organization, and Harvard Kennedy School. Such partnerships ensure a diversity of perspectives and reinforce the real-world impact of the research presented.

Griffith University is committed to fostering informed dialogue and scholarship on global issues of significance. I offer my thanks to all those who have contributed to the insights contained in this 2025 Strategic Outlook, and trust that the publication will inspire meaningful discourse and action in support of regional cooperation towards a more prosperous, equitable, and sustainable future.

Professor Caitlin Byrne

Pro Vice Chancellor (Business)
Griffith Business School

EXECUTIVE SUMMARY

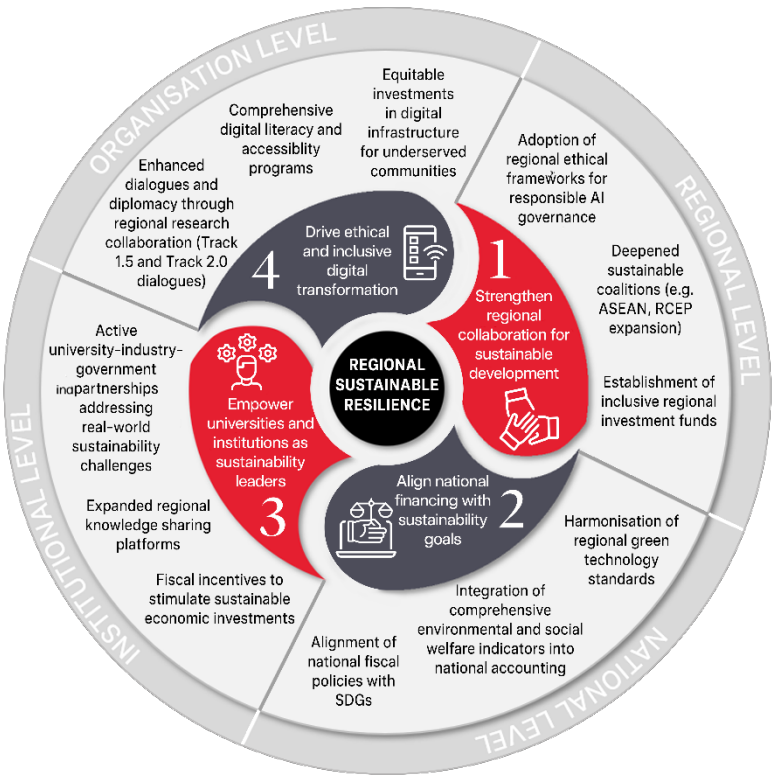
Gloria Ge, Dian Tjondronegoro and Christoph Nedopil

There is no time to waste. As we finalised the 2025 Griffith Asia Pacific Strategic Outlook (GAPSO), Brisbane faced Cyclone Alfred's imminent threat and uncertainty—the city's first cyclone forecast in over five decades. Although Alfred's unpredictable trajectory spared most of Queensland from direct destruction, it brought record rainfall and widespread power outages. More than just a severe weather event, Cyclone Alfred is a stark symbol of the broader vulnerabilities faced across our region and the world. It highlights three critical lessons: in times of uncertainty, preparation, resilience, and a clear strategic direction are vital. Rather than waiting passively or responding only after crises unfold, our communities and leaders must embrace proactive preparedness, grounded firmly in reality.

Similarly, the global landscape in 2025 is defined by unprecedented volatility across geopolitical, economic, and environmental dimensions. Rapidly shifting power dynamics, driven by inconsistent leadership in the United States, have shaken confidence in international governance and cooperation. In Europe, aggressive climate action plans are unfolding amid economic and political tensions, while evolving US-China relations send ripples of uncertainty across the entire Asia-Pacific, fuelling economic anxiety, particularly among ASEAN nations.

Yet, beyond this volatility, we must be clear: the fundamental goals of improving lives, generating shared wealth, and protecting nature as the foundation of our existence remain unchanged, no matter where we live. The physics of climate change—which already negatively or severely impacts more than 80 per cent of people in Asia and the Pacific—does not change by executive order. Wealth does not become more inclusive simply by offering chainsaw-wielding billionaires “productivity gains” through the slashing of environmental and social protections.

The journey toward achieving sustainable development goals (SDGs) may have become more complex, and there must be no doubt that the US has been lost as a partner in this endeavour at least for the coming years. Nevertheless, the compass guiding our journey remains clear, and we must seize this unique opportunity to strengthen Asia-Pacific leadership in sustainable development. There is no time to waste. In this context, GAPSO, produced collaboratively by the Griffith Asia Institute and regional partners, provides in-depth, up-to-date analyses and practical recommendations for policymakers, development practitioners, and scholars seeking actionable pathways to sustainable development. The six chapters of this Outlook bridge theoretical discussions with practical applications, each authored by experts uniquely positioned to elucidate the critical dynamics shaping the Asia-Pacific's future.



Recommended actions

Drawing explicitly on insights from the six chapters, we propose actionable recommendations for immediate regional implementation:

ACTION 1 | RAPIDLY STRENGTHEN REGIONAL COALITIONS OF THE WILLING FOR PEACEFUL AND SUSTAINABLE COLLABORATION (REGIONAL POLICY LEVEL)

- ▶ Lesson from China in Asia 2025 (Nedopil & Dong): China's increasing influence—marked by strategic investments and renewable technology leadership—can stabilise or destabilise regional dynamics. Immediate regional collaboration is essential to harness opportunities while protecting regional autonomy.
- ▶ Lesson from Southeast Asia Geopolitics (Haefner & Po): Non-traditional security threats and geopolitical volatility highlight the need for cohesive regional partnerships explicitly committed to collective sustainability, equity, and resilience.

Immediate recommendations:

- Deepen and extend existing regional coalitions, like RCEP and ASEAN. Such existing regional coalitions and alliances are already institutionalised with a foundation of trust (which enables coalition partners to weather volatility better). Expand these coalitions with willing partners (i.e., like the ASEAN plus 3 plus Australia (and possibly plus EU and Gulf Cooperation Council (GCC)) and thematically to explicitly include green technology, sustainability and equity objectives.
- Strengthen understanding of all regional initiatives and their ambitions, including the Shanghai Cooperation Organization (SCO), BRICS, and the Belt and Road Initiative (BRI), to foster synergies and strategic collaboration. A deeper engagement with these frameworks can enhance policy coherence, leverage shared resources, create long-term stability by balancing economic growth with social and environmental priorities, and reduce uncertainty and risks associated with competing interests.
- Embed inclusive and environmentally sustainable development in overseas investment, trade, and development support more explicitly. Strengthening coordination among nations can establish shared sustainability standards, mitigate negative externalities, and ensure that outward economic activities contribute to long-term prosperity for both investors and host countries.
- Establish regional sustainable development funds to provide credit or credit enhancement mechanisms for accelerated decarbonisation and a just green transition. These funds can support emerging economies in financing clean energy projects, green infrastructure, and social programs that mitigate the impacts of climate change while ensuring economic inclusivity.
- Enhance regional economic self-sufficiency and regional-specific approaches to create a more resilient and interconnected regional economy by promoting intra-regional trade, diversifying supply chains, and investing in critical industries such as renewable energy and digital infrastructure. Strengthening economic cooperation among Asian nations can reduce dependence on external markets and mitigate the impact of global disruptions.
- Establish practical regional standards on green technologies (e.g., hydrogen, steel) and inclusive economic practices to drive regional integration and sustainable economic opportunities. Aligning regulatory frameworks and fostering joint research and development initiatives can accelerate the adoption of sustainable solutions, ensuring that economic growth is both environmentally responsible and widely beneficial.

ACTION 2 | EMBED SUSTAINABILITY AND INCLUSIVE WELFARE EXPLICITLY IN NATIONAL STRATEGIES AND NATIONAL ACCOUNTING (NATIONAL LEVEL)

- ▶ Lesson from Fiscal Policy in South Asia (Hossain & Islam): Linking macroeconomic policies to the Sustainable Development Goals (SDGs) and Paris Agreement is essential for equitable transitions to net-zero economies.
- ▶ Lesson from Pacific Island Uncertainty (Dirou, Forau & Sharma): Localised strategies explicitly grounded in Pacific values enhance resilience. External economic interventions must reflect local social and ecological realities.

Immediate recommendations:

- Implement Integrated National Financing Networks that are aligned explicitly to SDGs and reduce non-aligned government spending by ensuring that public and private financial flows prioritise sustainable investments. This approach enhances fiscal efficiency, promotes long-term resilience, and ensures that national development strategies are effectively advancing environmental and social goals.
- Integrate social and environmental welfare indicators in national accounting in addition to more traditional GDP measures to provide a more comprehensive view of economic progress. By tracking well-being, ecological health, and social equity alongside economic output, policymakers can make more informed decisions that support holistic and sustainable growth.

ACTION 3 | EMPOWER UNIVERSITIES AND INSTITUTIONS AS PRACTICAL AGENTS OF CHANGE (INSTITUTIONAL LEVEL)

- ▶ Lesson from Inclusion as Macroforce (Tjondronegoro, Kendall, Hunter & Mayer-Besting): Inclusion, particularly of disabled communities, acts as a powerful accelerator of innovation and productivity, fundamentally shaping resilient societies.
- ▶ Lesson from Pacific Island Uncertainty (Dirou, Forau & Sharma): Strengthening local policy-making capabilities and institutions grounded in the local context is essential for resilience and sustainable prosperity.

Immediate recommendations:

- Strengthen and establish Track 1.5 and Track 2 dialogues with regional research and innovation hubs focused on trust building, actionable standard setting, knowledge sharing and capacity building related to green transition, inclusive employment, Indigenous climate adaptation solutions and AI ethics.
- Improve integration of universities and other knowledge partners into domestic and regional policy-making processes and regional dialogues, providing a neutral platform for sensitive but necessary discourse on climate strategies, technological governance, and inclusive development.
- Proactively incentivise and fund academic-industry-government collaborations that specifically target real-world sustainability challenges, harnessing regional expertise and fostering shared knowledge foundations grounded in mutual respect and cooperation.

ACTION 4 | ACCELERATE ETHICAL AND INCLUSIVE DIGITAL TRANSFORMATION (ORGANISATION LEVEL)

- ▶ Lesson from China's Technological Advancements (Nedopil & Dong): Rapid technology advances (AI, telecommunications) offer strategic economic opportunities yet risk entrenching inequalities if not managed inclusively.
- ▶ Lesson from Asia-Pacific Green Development Agenda (Nedopil et al): Technological innovation must explicitly address environmental challenges and equitable resource use.

Immediate recommendations:

- Establish regional dialogues on standard setting for enforceable ethical AI and digital solutions addressing equitable healthcare, education, sustainable agriculture, and inclusive economic participation.
- Support financing and capacity building to enable rural and underserved communities to upskill digital literacy and equitable infrastructure, ensuring that technological advances serve as engines of inclusion rather than drivers of inequality.

We acknowledge the diversity and complexity of global, regional, and national economics, societies, and ecosystems. This underscores the importance of rigorous evaluation and analysis of key regional and thematic developments, which are presented in this year's GAPSO.

Regional highlights

"China in Asia in 2025 – a reliable rock in a stormy sea?" authored by Christoph Nedopil (Griffith Asia Institute) and Jean Dong (Harvard Kennedy School). In this chapter, the authors emphasised that understanding China's evolving role in the Asia-Pacific region requires a nuanced approach that balances risks and opportunities. Their analysis centres around four key areas: China's growing global influence, its leadership in the green transition, technological advancements, and economic trajectory. China's increasing influence is marked by strategic investments and diplomatic efforts, which can stabilise or destabilise regional dynamics. Simultaneously, its significant investments in renewable energy technologies position China as a major player in global sustainability efforts, offering opportunities for collaboration with other Asian economies. Rapid advancements in technologies like AI and telecommunications enhance China's global competitiveness but also pose challenges related to technological dominance and security. Although China's economic growth is moderating, its focus on sustainable development continues to impact regional economic dynamics. A balanced understanding of China's role is essential for developing effective strategies and seizing emerging opportunities in an increasingly unpredictable global environment.

"Geopolitics, non-traditional security and political dynasties in Southeast Asia" authored by Andrea Haefner (Griffith Asia Institute) and Sovinda Po (Center for Southeast Asian Studies). This chapter explores five key trends shaping Southeast Asia and the broader Asia-Pacific region from 2025 to 2028 and beyond: geopolitics and foreign policy, public health challenges, the resurgence of political dynasties, economic transitions, and non-traditional security threats at sea. Addressing these developments is essential for achieving sustainable, inclusive growth and prosperity across the region, accelerating progress for all populations, and creating a more economically vibrant subregion.

"Living with uncertainty in Pacific island countries: Where to turn?" authored by Peter Dirou (Griffith Asia Institute), Luke Forau (Central Bank of Solomon Islands) and Parmendra Sharma (Griffith Asia Institute). This chapter highlights the inherent uncertainties in Pacific island countries (PICs) and how global megatrends exacerbate these challenges. Policymakers in PICs face the complex task of balancing population protection and provision, often relying on external support that may not align with local interests. To address this, external partners must shift their approach, focusing on their responsibilities to PICs and assuming more of the financial risks associated with island life. Strengthening the PIC agency requires developing local policy-making capabilities that reflect Pacific values and contexts. The 2024 Nobel Prize in Economic Sciences underscores the importance of understanding how institutions impact prosperity. Therefore, there is a need for PIC policymakers to be trained in economic thinking that aligns with Pacific values, institutions, and policy challenges.

Thematic spotlights

"Reimagining disability: Is inclusion a macroforce that will shape Asia and the Pacific for the Next 20 years?"

authored by Dian Tjondronegoro (Griffith Asia Institute), Elizabeth Kendall (Griffith Inclusive Futures), Shawn Hunter (Griffith Asia Institute) and Elena Mayer-Besting (UN ESCAP). In this chapter, the authors emphasise that inclusion is not merely a peripheral concern but a powerful macroforce capable of accelerating or undermining regional social and economic progress. They argue that prioritising the inclusion of people with disabilities in development strategies is not only a moral imperative but also a strategic necessity, as it will contribute to more resilient and equitable societies. This is particularly relevant in the Asia-Pacific region, given its diverse population and significant socio-economic disparities. Inclusion fosters innovation and productivity by ensuring that all individuals have access to opportunities, resources, and education. Consequently, its status as a macroforce makes inclusion even more critical to the region's future than the identified megatrends.

"Time to develop an Asia-Pacific green development agenda" authored by Christoph Nedopil (Griffith Asia Institute), Dhruba Purkayastha, Hemant Mallya, Kavita Vij, Nitin Bassi and Shuva Raha (Council on Energy, Environment and Water, India). The Asia-Pacific region confronts critical environmental challenges, including climate change, biodiversity loss, and resource depletion, while driving global economic growth. To address these issues, the authors in this chapter advocate for a comprehensive Asia-Pacific Green Development Agenda. This agenda should leverage the region's strengths—such as biodiversity, technological innovation, and renewable energy—to tackle poverty, inequality, and unsustainable resource use. A strong regional voice is essential for navigating shifting global dynamics and balancing mineral production with environmental concerns.

"Rethinking fiscal policy to finance SDGs in South Asia" authored by Mohd Avi Hossain (International Labour Organization) and Yan Islam (Griffith Asia Institute). The authors argue that it is essential to link macroeconomic policy to the global development agenda, as outlined by the SDGs and the Paris Agreement on climate action. They further illustrate a plethora of regional contexts of South Asia with some country-level practices in which the macroeconomic policy framework can be tethered to the SDGs and the Paris Agreement. Their discussion highlights the linkages between macroeconomic policy, decent jobs, social protection, and the transition to a 'net zero' economy by 2050 in a just and equitable manner.

Conclusion: Full circle—from uncertainty to proactive resilience

The experience of Cyclone Alfred provided an unambiguous lesson: uncertainty and unpredictability are inevitable, but passivity in their face is not an option. The Asia-Pacific region, like Brisbane, cannot afford to wait or rely passively on traditional global leadership but must embrace proactive resilience. This includes accepting a new reality both of geopolitics and the laws of physics driving climate change, strengthening regional collaboration to better prepare for a new reality and having a clear compass guided by common regional goals such as inclusivity, equity and stewardship, many of which are expressed and formalised in the SDGs.

In practical terms, this means immediately strengthening coalitions on the regional level explicitly committed to various aspects of sustainable development, reshaping productivity to genuinely lift every member of society, empowering institutions practically, and rapidly adopting inclusive technological innovations. Despite volatility, the Asia-Pacific region remains poised for transformative sustainable advancements. Rapid investments in renewable energy infrastructure, ethically guided artificial intelligence, inclusive economic frameworks, and resilient supply chains demonstrate a tangible capacity to respond effectively to instability. As such, Australia—together with regional partners—must take decisive leadership and act as a proactive steward of sustainable development, regional cooperation, and environmental integrity.

We present the 2025 Griffith Asia Pacific Strategic Outlook as your essential companion—offering clarity, urgency, and actionable insights to navigate today's complex realities. May GAPSO's outlooks help reinforce your confidence in our collective ability to shape a future guided by common sustainable development objectives, committed passionately to regional wellbeing, and resilient enough to thrive through uncertainty.



Australia's role in transforming challenges into Asia-Pacific sustainable leadership

As the region grapples with intensifying geopolitical tensions, climate disasters, and economic instability, Australia must take decisive action to secure its future and strengthen regional resilience. The US is reshaping global trade, climate change is accelerating humanitarian crises, and a technology race particularly in AI is risking to exacerbate inequalities if done badly. Australia has a critical opportunity to take a leadership role in the action plans identified in this year's GAPSO—ensuring its own as well as its neighbours' stability and prosperity in an increasingly volatile Asia Pacific.

1. Strengthen Regional Collaboration for Sustainable Development

- Deepen partnerships with ASEAN and Pacific nations to promote economic resilience, inclusive growth, and green technology integration.
- Engage with regional initiatives like RCEP and better understand the impacts of the Belt and Road Initiative (BRI) to drive sustainable investment and supply chain security.
- Establish regional sustainable development funds to support climate adaptation and green infrastructure.

2. Align National Financing with Sustainability Goals

- Implement Integrated National Financing Networks explicitly linked to relevant sustainable development goals, ensuring government spending prioritises communities' long-term welfare.
- Incorporate welfare indicators beyond GDP that address environmental and social welfare measures.
- Strengthen fiscal policies to incentivise private-sector investment in renewable energy and decarbonisation.

3. Empower Universities and Institutions as Sustainability Leaders

- Support Track 1.5 and Track 2 dialogues to facilitate research-based policy solutions for climate adaptation, AI ethics, and inclusive employment particularly also with politically sensitive partners to build trust, understanding and long-term collaboration opportunities.
- Strengthen partnerships between universities, policymakers, and industry to drive innovation in green technology and resilience strategies.
- Provide targeted funding to research addressing climate challenges in the Asia-Pacific region.

4. Drive Ethical and Inclusive Digital Transformation

- Establish ethical AI and digital governance frameworks to ensure equitable access to technology in sectors like healthcare, education, and agriculture.
- Invest in digital literacy programs and infrastructure for underserved communities to bridge economic and social divides.
- Leverage Australia's technological capabilities to support regional partners in sustainable digital development.



China in Asia in 2025: A reliable rock in a stormy sea?

Christoph Nedopil and Jean Dong



INTRODUCTION

We are living in an era of constant surprises and shifting power dynamics. From Trump's political resurgence and abrupt US trade shifts to the unravelling of global alliances, disruption has become the new normal.

China, too, has delivered seismic shocks, upending assumptions about its economic trajectory, technological ambitions, and global influence. Once a powerhouse of growth, it now faces sluggish consumer demand, deflation, and a deepening real estate crisis. Yet, at the same time, it is driving breakthroughs in AI—with DeepSeek challenging US dominance by producing open-source models that rival top Western AI systems at a fraction of the cost.

The question is no longer whether disruptions will happen, but how to interpret them—and seize opportunities. Just as evaluating a company requires weighing both assets and liabilities, understanding China demands a balanced view of risks and opportunities. This report takes an Asia-Pacific perspective, providing a strategic, holistic view of China's evolving role. Four key issues define the opportunities and challenges of understanding China: its growing global influence, green transition, technological advancements, and economic trajectory. How the region navigates these complexities—grounded in sustainable development—will determine whether it fosters peace and prosperity or faces rising tensions and instability.



CHINA'S INTERNATIONAL CLOUT AND CHALLENGES

As the Trump administration aims to reshape trade, investment, security, and sustainable development governance with the world, is China emerging as the preferred partner for Asia, the Pacific, and beyond? Has the US "isolationism will help Beijing" by enabling stronger partnerships with nations disillusioned by erratic US leadership as noted by Western analysts?¹

In last year's Griffith Asia Pacific Strategic Outlook, we highlighted China's expanding—and often underreported—influence in mini-lateral and multi-lateral forums. This has been evident in its leadership role across key platforms such as the Shanghai Cooperation Organization (SCO), the Belt and Road Initiative (BRI), the Global Development Initiative (GDI), the Regional Comprehensive Economic Partnership (RCEP) and BRICS. China's institutionalisation of its global power in these alternative multilateral forums—outside Western influence—continued to accelerate in 2024. Under Russia's 2024 BRICS chairmanship, the bloc expanded significantly, welcoming Egypt, Ethiopia, Iran, and the UAE at the 16th BRICS summit. In a move that surprised many Western observers, UN Secretary-General Guterres attended and underscored BRICS' growing role in global cooperation.² Indonesia officially joined BRICS in January 2025, while Nigeria and Belarus are now on track for full membership, signal the bloc's expanding influence. Meanwhile, the SCO took a major step by admitting Belarus—the first European nation to join.³

China has bolstered bilateral ties across the Asia-Pacific. With Vietnam, it announced two new railway lines to boost trade, which surged nearly 20% in 2023-2024 to surpass \$200 billion.⁴⁵ China and Indonesia held their inaugural Senior Official Meeting (2+2 SOM) discussing counterterrorism cooperation.⁶ In December 2024, a high-level dialogue between Japan and China eased some tensions, leading to relaxed visa rules for Chinese tourists and an agreement to hold the Japan-China Security Dialogue, despite ongoing tensions in the South China Sea and Fukushima radioactive water release issue⁷. China also engaged with the Pacific nations, hosting five heads of state (Samoa, Fiji, Nauru, Solomon Islands, and Vanuatu) on separate occasions in Beijing.⁸ Finally, in January 2025, China mediated a ceasefire agreement in Myanmar, supporting both local and its own border security and economic interests.⁹

China has escalated military and "grey zone" operations. Clashes between the Chinese Coast Guard (CCG) and Philippine ships in the South China Sea resulted in what officials called the "most violent" and "most dangerous"

encounters, forcing a Filipino withdrawal from the Sabina Shoal.¹⁰ It also escalated military operations around Taiwan, simulating significant military engagement with large-scale drills like "Joint Sword-2024B" involving the People's Liberation Army and the CGG.¹¹

Looking ahead to 2025, US-China relations may, paradoxically, improve as Beijing tailors its approach to Trump's deal-making tendencies over ideological conflicts. Meanwhile, China will present itself as a reliable partner to regional and global allies, emphasising its peacemaker role in Myanmar while avoiding US-sensitive conflicts like Israel-Gaza. Multilaterally, China will deepen its influence, using the fifth Belt and Road Forum and 2025 APEC Summit as global litmus tests. It will also fill US vacuums in UN institutions, strengthening its global leadership. However, this diplomatic outreach will not slow China's military assertiveness. It will continue fortifying the South China Sea, making territorial opposition more costly, while testing US responses through "grey zone" operations—blending coercion with calculated restraint.

RECOMMENDED ACTIONS

RECOMMENDATION 1:

Establish clear red lines on sovereignty

Establish clear and enforceable boundaries against China's territorial ambitions to protect national sovereignty and self-determination. This approach should go beyond national security to uphold the legitimate self-governance rights of affected nations, countering China's narratives of Western dominance while mitigating risks posed by shifting US territorial policies.

RECOMMENDATION 2:

Enhance multilateral engagement

Strengthen forums such as RCEP and APEC as key platforms for multilateral cooperation that represent more balanced interests in the Asia-Pacific region. Meanwhile track and analyse China's engagement at multilateral, mini-lateral, and bilateral levels —across trade, investment, defense, aid, standards, and trade barriers — to inform effective responses.

RECOMMENDATION 2:

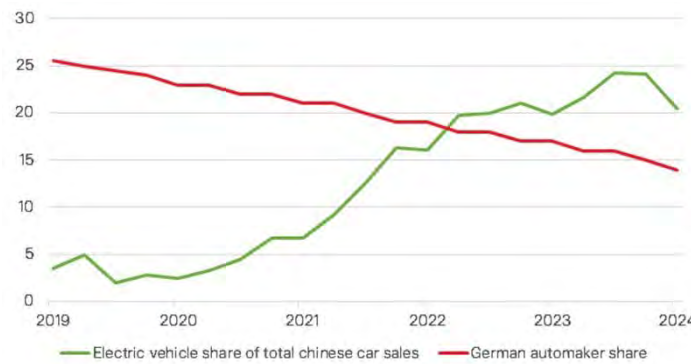
Foster smart collaboration

Leverage China's ambition to expand its multilateral and mini-lateral engagement to encourage greater cooperation on climate change, inclusive growth, and peacekeeping. Strengthen collaboration with Chinese policymakers, businesses, and researchers to drive meaningful actions.

GREEN DEVELOPMENT

China continued to solidify its leadership in various green technology. The developments in EVs and renewable energy have likely received most attention (also noted in our last year's report), supported by ongoing technological dominance, stabilising costs from stricter manufacturing standards and reduced export rebates. To counter Chinese dominance, import restrictions have been put in place, such as Brazil's increased tariffs on photovoltaic modules (9.6% to 25%) and Europe's tariffs on EV imports (the US has also closed loopholes in solar panel imports). Nevertheless, Chinese leadership in EVs has allowed BYD, a Chinese manufacturer, to surpass Tesla as the world's largest EV producer in deliveries in Q4 2024, while German automakers lost nearly half their Chinese market share over the past five years (26% to 14%) due to missed EV transitions (see Figure 1).¹²

Figure 1: German Automakers are losing out in China's EV Shift¹³



Source: Authors

Importantly, China also invests in other green technologies, accelerating global competition and providing economic and green transition opportunities, foremost green hydrogen, green steel, and transition minerals.



Workers in an automobile factory in Beijing, China. (iStock)

CHINA'S GREEN HYDROGEN OPPORTUNITY

China, the world's largest hydrogen producer and consumer,¹⁴ accounts for a third of global production, with demand exceeding 33 million tons annually.¹⁵ It also leads in alkaline electrolyser production, holding 50% of global capacity. However, hydrogen production remains fossil fuel-dominated (80.3%) and industrial byproducts-based (18.5%), with green hydrogen at less than 0.1%. Expanding green hydrogen is crucial for China's carbon neutrality goals, especially in chemicals, steel, and heavy transport. High costs and limited infrastructure pose challenges.

To address this, China's National Development and Reform Commission (NDRC) and National Energy Administration issued the Hydrogen Energy Plan (2021-2035).¹⁶ By 2025, China aims to produce 100,000–200,000 tons of green hydrogen annually and deploy 50,000 hydrogen fuel cell vehicles (HFCVs). By 2030, renewable hydrogen should support decarbonisation, with a greater role targeted by 2035. Regional plans complement national efforts. Inner Mongolia and Gansu aim for over 1 million tons of renewable hydrogen annually by 2025, surpassing national goals but still only reaching about 5% green hydrogen share. Infrastructure projects, including Sinopec's 400-km hydrogen pipeline and a proposed 737km line in Hebei, address supply-demand mismatches. Sinopec plans a 6,000-km hydrogen network by 2050, with demand expected to reach 100–130 million tons by 2060, mostly from green hydrogen.¹⁷ Policies have spurred \$10.33 billion in hydrogen investments and price reductions. China's largest green hydrogen complex supplies at 35 yuan/kg (\$4.86/kg), nearing diesel competitiveness for trucking.¹⁸

However, China still depends on imports, particularly from Japan and South Korea, for critical technologies like fuel cells, storage, and refuelling stations. Geopolitical tensions and tech transfer restrictions could slow progress, but collaboration opportunities in green hydrogen remain.

CHINA'S GREEN STEEL EXPANSION

By 2024, China had installed electric arc furnace (EAF) to produce green steel with a capacity of 151 million tonnes per annum (mtpa)¹⁹ and had approved an additional 7.1 million tonnes capacity in the first half of 2024²⁰. This capacity is theoretically equivalent to the combined steel production of the US and Japan in 2023 and about 15% of China's total steel production in 2024 (up from 10.1% in 2023²¹). With decreasing steel demand (set to decline by 20% or more)²² and a rapidly aging steel manufacturing base (78% of China's steel assets will need to be retired or refinanced by 2030), China has a unique window for accelerating its transition to low-carbon steelmaking technologies.

At this time, however, coal-based steel remains more cost effective²³. To succeed in the green steel transition, carbon prices over US\$50 per ton of CO2 (currently the carbon price is about US\$15 per ton of CO2 in China and US\$86 in the EU) and green hydrogen price below US\$2.80 per kg are needed as well as substantial capital investment of at least CNY1.6tn (USD220bn) by 2050 to build out capacity²⁴. To address these concerns, Hebei

province, which accounts for 11% of global steel production, has released credible guidelines for transition finance in the iron and steel industry in 2024²⁵, aiming to catalyse green investments. Further in support of China's green steel transition are two carbon price developments:

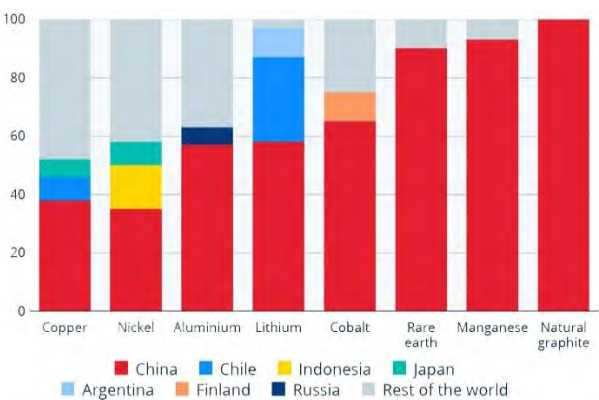
- the EU's Carbon Border Adjustment Mechanism (CBAM) which puts a 6 per cent tax on steel as early as 2026, which will rise to as much as 21 per cent in 2034 according to estimates by investment bank Goldman Sachs,²⁶
- China's inclusion of steel into its national emission trading system (ETS) from 2024 onwards.²⁷

Further challenges, such as a lack of available scrap materials necessary to produce steel without carbon has left parts of installed EAF capacity underutilised²⁸. Finally, with various Asian countries having a vested interest in exporting steel (such as Korea and Japan), steel importing countries have opened 25 anti-dumping investigations against Chinese steel exporters in 2024, the most since 2016, challenging China's role as (green) steel exporter²⁹.

CHINA'S CRITICAL MINERAL DOMINANCE

The race towards securing minerals and processing capacity continues to accelerate with multiple minerals being key ingredient for batteries, solar power and other aspects relevant for the green transition. China's dominance in critical mineral mining and processing has become both envied and a source of geo-strategic competition. China managed to control approximately 80% of natural graphite production and 60% of mined magnet rare earths in 2024³⁰. China dominates the refining and processing stages producing 99% of battery-grade graphite, over 60% of lithium chemicals, 40% of refined copper, over 80% of refined magnet rare earths, and 70% of refined cobalt³¹ (see Figure 2). China's investments in critical minerals abroad hit record highs in 2023³², targeting markets like Indonesia and Australia.

Figure 2: China's role in minerals production in 2023³³



Source: UNCTAD, OECD

This dominance in critical mineral processing has enabled China to undercut competitors, boosting its commercial appeal and deepening global reliance on its exports. In response, the US, EU, and other nations are pursuing strategies to reduce dependency on Chinese supply chains. Some countries are also restricting Chinese investments in critical minerals; for example, Australia recently ordered China-linked entities to divest their shares in rare earths developer Northern Minerals³⁴.

RECOMMENDED ACTIONS

RECOMMENDATION 1:

Identify collaborative opportunities in green technology

Engage indepth research to better identify trends and opportunities in green technology that allow for collaboration rather than head-on competition in areas where China has a technological or other competitive lead (e.g., in hydrogen).

RECOMMENDATION 2:

Facilitate green trade partnerships

Implement export-enabling policies to support collaboration in green technologies and products, such as Australia supplying green hydrogen or green ammonia for China’s decarbonisation efforts.

RECOMMENDATION 3:

Balance national security and sustainable investment policies

Improve understanding and policy making for Chinese investment to balance national security concerns with environmental and social governance (ESG) standards across supply chains, including demand-side regulation of green technologies.



Hydrogen storage tanks at Sinopec’s 260MW Kuqa green hydrogen project, the world’s largest, in Xinjiang, China.(Sinopec)

TECHNOLOGY –
MOVING (FAR)
BEYOND MADE IN
CHINA 2025

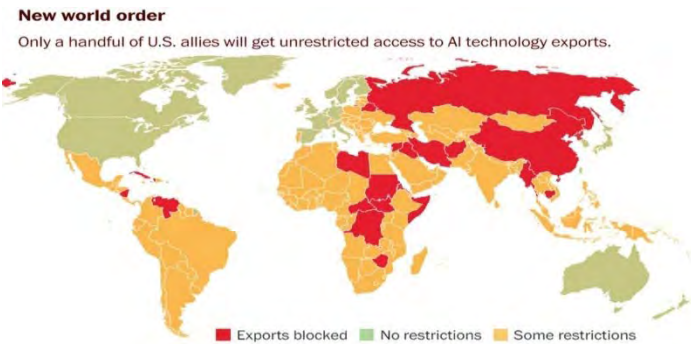
As the country’s Made in China 2025 concludes this year, its results can largely be deemed a success.³⁵ China continues to accelerate its economic transformation toward a more sustainable, innovation-driven growth model with a focus on “new productive forces”—backed by \$1.6 trillion in annual investments (equivalent to Australia’s GDP) into advanced industries, education, research, and policy. Beyond green technologies, three key advancements are reshaping China’s competitive edge: artificial intelligence, semiconductors, and digital payment solutions—driven by intensifying global competition and the rise of new sectors like the ‘low-altitude economy’.

ARTIFICIAL INTELLIGENCE AND CHIPS

Since 2017, the technology competition between the US and China has escalated, marked by tariffs, export controls, and market access restrictions. This conflict centres on gaining dominance in critical future technologies, particularly artificial intelligence (AI) and semiconductors.

Both China and the US view AI as a cornerstone of their economic dominance and a critical pillar of national security, whereas most other regions have yet to develop leading AI models. Accordingly, both nations have taken various measures to hinder each other’s progress. Since June 2024, the Chinese government has introduced a series of regulations to safeguard its rare earth supplies, covering mining, smelting, and trading activities while reaffirming state ownership of these vital resources³⁶. On January 13, 2025, the Biden administration announced unprecedented export controls on advanced computer chips and technologies critical to AI projects. The policy includes quotas on GPU sales to most countries (see Figure 3), with a key focus on targeting Chinese efforts to bypass previous restrictions imposed over the past two years.³⁷

Figure 3: Map of countries experiencing access restrictions for United States AI technology



Source: Commerce Department



A doctor in Wuhan, Hubei province, uses a smart CT assessment system developed by YITU Healthcare to treat COVID-19 patients. (China Daily)

Investments in AI development have surged in line with national ambitions. A leading state-backed investment firm, China International Capital Corporation (CICC), estimates that China's AI industry is projected to invest over 10 trillion yuan (approximately US\$1.4 trillion) in developing the technology over the next six years from 2024³⁸. Meanwhile, on January 21, 2025, the Trump administration announced the \$500 billion Stargate Project, calling it "the largest AI infrastructure project in history." Just a day earlier, the Chinese AI model DeepSeek R1 was launched, built at a fraction of the cost of previous models (estimated at around US\$6 million). DeepSeek's R1 model reportedly matches or surpasses OpenAI's ChatGPT-4 on key benchmarks³⁹, showcasing China's rapid advancements despite US export restrictions.

The rapid development of Chinese AI has reignited debates over US chip export controls. Critics argue these restrictions inadvertently accelerate China's domestic innovation, as evidenced by DeepSeek's development. China has demonstrated an ability to overcome obstacles like limited access to top-tier chips through efficiency gains or by compensating for lower-quality hardware with increased quantity⁴⁰. This raises new considerations about the effectiveness and unintended consequences of US chip export controls. On the positive side, the release of China's low-cost, open-source model could enable other countries, including Asia's emerging economies, to develop their own LLMs more effectively, fostering global innovation. However, China's narrowing AI gap may intensify US concerns over its AI rivalry with China.

Looking ahead to 2025, tech competition between China and the US is expected to intensify, further raising barriers to innovation and hindering technological collaboration between the two nations. As this divide deepens, nations caught in the middle will likely face mounting pressure to navigate a delicate balance. For instance, in 2023, South Korea, a key US ally in Asia, saw its reliance on China grow for five of the six critical raw materials required for chip manufacturing⁴¹. Major firms such as Toyota, SK Hynix, Samsung, LG Chem, and SK On remain vulnerable due to their dependence on Chinese supply chains and manufacturing.⁴² The mere threat of supply chain disruptions could discourage Japan and South Korea from fully aligning with the US in a tech war

against China. While the full impact of the Biden administration's export controls remains uncertain pending reassessment by the Trump administration, the potential consequences could be far-reaching—nearly two dozen NATO states and India, a key Asian partner, are currently affected by these new restrictions.

DE-DOLLARISATION THROUGH RMB INTERNATIONALISATION AND BRICSPAY

Amid rising trade tensions and efforts to reduce reliance on the US dollar, China has been central to developing BRICS financial systems, particularly through BRICS Pay and RMB-based settlements. In 2023, China's Cross-Border Interbank Payment System (CIPS) processed RMB 123.06 trillion (\$17.09 trillion), a 27.27% year-on-year increase. The RMB surpassed the yen as the 4th most used global payment currency, with 92% of China-Russia trade now settled in yuan or rubles. Countries like Brazil, Argentina, Iraq, and Pakistan increasingly accept yuan, with some using it for Russian transactions to bypass Western sanctions. By mid-2024, RMB accounted for 53% of China's cross-border transactions, up from 40% in 2021⁴³. China has also expanded bilateral RMB swap lines to 40 countries.

Trade agreements and BRICS partnerships support RMB adoption, particularly through BRICS Pay, which seeks to establish a cross-border payment alternative to SWIFT⁴⁴. However, internal divisions within BRICS, highlighted at the 2024 summit, pose challenges.

Despite these advances, RMB's global role remains limited, with just 2.5% international usage in 2023, far below China's 19% share of global GDP and 14.2% of trade. Capital controls and limited convertibility hinder wider adoption. While RMB's regional influence will likely grow, significant financial reforms are needed for it to challenge the dollar or euro globally.

Asia-Pacific decision-makers should prepare for RMB's growing role in trade and finance while managing risks from its limited convertibility and geopolitical tensions. Diversifying settlement options, strengthening regional financial cooperation, and maintaining flexibility in currency policies will be crucial to balancing opportunities with resilience.

CHINA'S LOW-ALTITUDE ECONOMY

China's low-altitude economy, covering activities within 1,000 meters above ground, is expanding rapidly due to advances in drone technology, eVTOL aircraft, and smart airspace networks. Driven by breakthroughs in batteries, 5G, and computing, the sector is projected to reach 1 trillion yuan (\$137 billion) by 2025 and surpass 3 trillion yuan by 2030, with drones alone contributing over 1 trillion yuan.⁴⁵

Recent developments highlight this momentum. China's largest cargo drone, capable of carrying 2 metric tons, completed its first flight in Sichuan, aiming to improve logistics efficiency. Meanwhile, a helicopter taxi service between Kunshan and Shanghai could revolutionise urban travel.⁴⁶

Government initiatives are accelerating growth. In December 2024, the National Development and Reform Commission (NDRC) established a Low-Altitude Economy Development Division to formulate strategies and policies⁴⁷. Since 2020, the Civil Aviation Administration of China (CAAC) has sanctioned 13 national drone logistics pilot zones. The 2024 "Interim Regulations on Unmanned Aircraft Flights" further aim to streamline sector development⁴⁸. More than 30 provinces have now incorporated the low-altitude economy into their policy agendas, focusing on research, manufacturing, and infrastructure⁴⁹.

Despite rapid expansion, significant challenges remain. Airspace management and safety are critical as integrating low-flying vehicles into existing traffic systems poses regulatory and technical hurdles. Business models and regulatory frameworks are still evolving, creating uncertainty for investors and operators. Infrastructure development lags, with a need for better ground-based flight services. Coordination between low-altitude and traditional air traffic remains complex, requiring sophisticated protocols.

To sustain growth, China must balance innovation with robust regulatory frameworks, ensuring safe integration of low-altitude vehicles while fostering investment and infrastructure development.

EXAMPLES OF SIGNIFICANT DEVELOPMENTS IN THE LOW-ALTITUDE ECONOMY

EHang:

- On November 8, 2024, conducted the maiden flight of its EH216-S autonomous eVTOL in Bangkok, Thailand⁵⁰.
- In November 2024, successfully tested solid-state lithium batteries in its EH216-S, increasing flight endurance by 60-90%⁵¹.

Xpeng Aeroht:

- In September 2024, announced plans to start mass production and deliveries of its modular flying car in 2026, priced at no more than RMB 2 million (\$280,000)⁵².

Shanghai:

- On December 20, 2024, established Shanghai Low-altitude Economy Industry Development Co Ltd with a capital of RB 900 million (\$123.3 million)⁵³.



Autonomous driverless aerial vehicle. (Shutterstock)

RECOMMENDED ACTIONS:

RECOMMENDATION 1:

Accelerate AI adoption in the Asia-Pacific

Invest in AI capacity-building to ensure regional economies benefit from AI-driven advancements in education, healthcare (especially in remote areas) and e-commerce, avoiding the risk of being left behind.

RECOMMENDATION 2:

Enhance financial preparedness amid RMB internationalisation

- Strengthen research capabilities to understand the implications of RMB's expanding role in global trade and finance.
- Encourage Asia-Pacific partners to diversify currency exposure beyond the US dollar in response to shifting financial dynamics.
- Explore alternative payment systems like CIPS and multi-central bank digital currency projects (e.g., mBridge) to enhance financial resilience.

RECOMMENDATION 3:

Develop a collaborative framework for a low-altitude economy:

- Establish joint regulatory working groups with China to create harmonised policies for low-altitude economic activities.
- Invest in infrastructure and workforce development, including flight service networks and specialised education programmes, to position the region as a leader in low-altitude technologies.

ECONOMY

Despite headwinds, China has continued to expand its economic and policy influence in the region in 2024. It has expanded its economic engagement in Asia with more than USD 20 billion in investment and construction contracts including in new technology sectors such as renewable energy and electric vehicles production. It expanded trade dependencies, where Asian economies' share of Chinese imports rose from 15% in 2013 to 21% ten years later⁵⁴. Yet, China's economy is undergoing significant challenges in terms of economic growth both domestically due to government debt, trade, state-owned capitalism, and uncertain investment outlooks as well as internationally in its trade relations

UNDERSTANDING CHINA'S DOMESTIC ECONOMIC CHALLENGES – FROM DEBT TO STATE CAPITALISM

China is tackling mounting local government debt with a \$840 billion refinancing plan, aiming to cut hidden debt from \$2 trillion in 2023 to \$320 billion by 2028⁵⁵. While debt has historically fuelled growth, inefficient allocation and the lingering effects of past stimulus measures—especially from the 2008 financial crisis—have left local governments burdened. The struggling real estate sector, a key revenue source for local authorities, has exacerbated the problem.⁵⁶

In 2025, China is expected to adopt an expansionary fiscal policy to counter weak domestic demand. However, much of Beijing's stimulus remains focused on industrial upgrades and infrastructure rather than household consumption.⁵⁷ This risks worsening factory overcapacity and deflation while failing to stimulate broader economic activity.

State-owned enterprises (SOEs) and government-backed funds are playing an even larger role in China's economy. The 2024 Third Plenum reinforced the state's commitment to using SOEs for innovation and investment, with policymakers pushing SOEs to drive breakthroughs in key technologies⁵⁸. Government-controlled funds, including those managed by major state-owned banks, have increased investments in venture capital, aiming to counter the withdrawal of US private equity⁵⁹. However, inefficiencies and concerns over misallocation of capital persist, raising doubts about long-term economic efficiency.⁶⁰

China's real estate market continues to decline, with home prices in first-tier cities falling 9.4% in 2024, and second- and third-tier cities experiencing similar drops⁶¹. In response, the government has introduced policies such as reduced downpayment requirements (from 25% to 15%) and state-backed purchases of unsold homes⁶². However, these measures have yet to revive confidence in the sector.

Investment challenges extend beyond housing. While stock markets showed modest gains in 2024, performance remained weak by global standards. To stabilise markets,

China's central bank injected liquidity through a \$70 billion swap facility for securities firms and a \$42 billion relending programme for share buybacks. Additionally, Beijing directed state-owned insurers and the national social security fund to invest \$13.7 billion in stocks.^{63,64}

Deflationary pressures remain a significant concern, driven by weak consumer demand and excess supply⁶⁵. The consumer price index fell 2% over three years⁶⁶, prompting the government to expand fiscal and monetary support. Efforts to boost consumption include trade-in subsidies for cars and electronics⁶⁷, visa-free travel policies, and long-delayed acceptance of foreign credit cards on Alipay and WeChat Pay⁶⁸.

As China navigates these structural challenges, its debt strategy, state-driven economic model, and investment climate will be central issues at the March 2025 Two Sessions meeting.

TRADE

Beyond the domestic economy, trade remains a critical focus for China's economy in 2025. A weakening yuan enabled Chinese manufacturers to secure overseas buyers in 2024, offsetting weak domestic demand by consistently lowering prices. This strategy contributed to a record \$992 billion trade surplus in 2024, a 21% increase from the previous year (see Figure 4)⁶⁹. However, this surplus highlights vulnerabilities, including strained trade relationships and overreliance on external demand.

Figure 4: Export Volume Growth: China versus Rest of the World



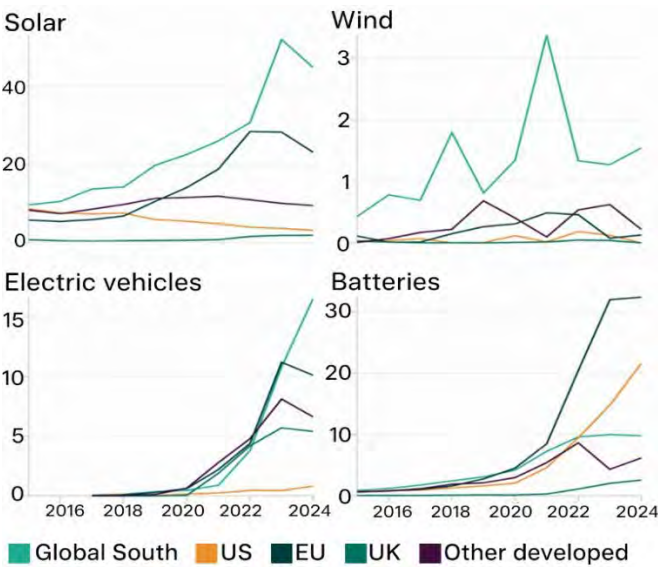
Source: BradSetser/Michael Wellandt [cfr.org/blog/setser](https://www.econofact.com/blog/setser)

The Economist Intelligence Unit predicts a 20-percentage-point increase in the effective tariff rate on Chinese exports to the US under the Trump administration, potentially leading to a 20% drop in China's exports to the US and reducing its GDP growth by around 0.6 percentage points between 2025 and 2027⁷⁰. China is expected to respond with non-tariff measures and modest tariff hikes on US agricultural and energy commodities, avoiding a tit-for-tat approach due to its large trade surplus and the economic risks of broader

tariffs⁷¹. At the same time, new analyses reveal that the Chinese economy has become less dependent on the US as an import market (only 15% of its exports)⁷², particularly for its modern industries like solar, wind, electric vehicles, and batteries, rendering tariffs less relevant for China's exports⁷³ (see Figure 5).

Figure 5: China's exports of new technologies to different regions shows low US dependence

Annual Figures 2015-2024 in billions of USD



Source: Centre for Clean Air, CREA, 2025⁷⁴

An interesting development is China's elimination of tariffs on goods from countries classified as the world's least developed, starting in December 2024. This move aims not only to strengthen diplomatic ties with China but also to explore new markets and bolster the multilateral trade system, possibly as a countermeasure to the current US administration's approach to trade.⁷⁵



RECOMMENDED ACTIONS:

RECOMMENDATION 1:

Establish a Regional Infrastructure Investment Fund

Leverage China's massive local debt refinancing efforts, Asia-Pacific nations should seize this opportunity to establish a joint regional infrastructure investment fund. This fund would leverage China's expertise in infrastructure development while providing alternative investment avenues for Chinese capital. It could focus on critical regional projects in renewable energy, smart cities, and digital connectivity, aligning with China's technological priorities while benefiting the broader Asia-Pacific region.

RECOMMENDATION 2:

Strengthen RCEP

With China reducing its dependence on the US market and eliminating tariffs for least developed countries, Asia-Pacific nations should push to deepen RCEP integration into a more comprehensive economic zone. This means going beyond tariff reductions to harmonising regulations, strengthening regional supply chains, and facilitating the free flow of goods, services, and skilled labour.

A stronger RCEP would position the Asia-Pacific as a unified economic powerhouse, reducing dependence on external markets while ensuring that China remains a key player without becoming the dominant force. By enhancing regional economic self-sufficiency, member nations can increase their influence and competitiveness in global trade.

RECOMMENDATION 3:

Launch a Regional Technology Alliance

To counterbalance China's state-driven approach to technological advancement, Asia-Pacific countries should form a bold Regional Technology Alliance. By pooling resources and talent in AI, quantum computing, and biotechnology, the alliance would create a dynamic innovation ecosystem—both collaborating with and challenging China's technological ambitions.

RECOMMENDATION 4:

Create a unified Asia-Pacific consumer market strategy

As China struggles with deflationary pressures and seeks to boost domestic consumption, Asia-Pacific nations should develop a unified strategy to penetrate the Chinese consumer market. This plan should involve coordinated marketing campaigns, streamlined export processes, and the development of region-specific products tailored to Chinese consumer preferences. Additionally, Asia-Pacific economies must leverage collective bargaining power to demand reciprocal market access, pushing China to open up China's service sector and e-commerce platforms to regional businesses.

CONCLUSION

We are living in an age of surprises, where both China and the US are reshaping the global economic, technological, and geopolitical landscape, creating both risks and opportunities. These shocks are not isolated—they signal deeper structural shifts in global power, competition, and influence. In this environment, the real challenge is not just keeping up, but staying ahead—recognising patterns, understanding their impact, and leveraging them strategically. While the Asia-Pacific is well-versed in managing US relations, China remains a more complex and ambiguous challenge. China is a

paradox—how one perceives it depends on the lens and distance of observation. A distant view can lead to bias and oversimplification, while a closer examination often reveals a more nuanced reality. For Asia-Pacific nations, developing deeper China expertise is no longer optional—it is essential. They must cultivate agile, evolving perspectives, foster stronger connections within China, and build firsthand understanding of its complexities. A proactive, informed strategy—grounded in accurate assessments and direct engagement—will enable them to manage risks, seize opportunities, and shape outcomes in a rapidly shifting landscape.



Workers on a copper foil production line for electronic lithium batteries in Jiangxi Province.(Shutterstock)

NOTES AND REFERENCES

- 1 Xuetong, Y. (2024, December 20). Why China Isn't Scared of Trump. *Foreign Affairs*. <https://www.foreignaffairs.com/united-states/why-china-isnt-scared-trump>
- 2 BRICS Summit: Guterres underscores bloc's role in boosting global cooperation | UN News. (2024, October 24). United Nations. <https://news.un.org/en/story/2024/10/1156086>; Guterres, A. (2024, October 24). Secretary-General's remarks to the 16th BRICS Summit [as delivered] | United Nations Secretary-General. United Nations. <https://www.un.org/sg/en/content/sg/statement/2024-10-24/secretary-generals-remarks-the-16th-brics-summit-delivered>
- 3 SCO, BRICS seen as unique platforms for participation in major regional projects. (2025, January 19). Belta. <https://eng.belta.by/society/view/sco-brics-seen-as-unique-platforms-for-participation-in-major-regional-projects-164706-2025/>
- 4 P Pavlicevic, D. (2024, August 14). China's railway diplomacy on high speed in Vietnam | East Asia Forum. East Asia Forum. <https://eastasiaforum.org/2024/08/14/chinas-railway-diplomacy-on-high-speed-in-vietnam/>
- 5 Việt Nam-China trade exceeded \$205 billion in 2024. (2025, January 25). Vietnamnews.Vn. <https://vietnamnews.vn/economy/1690687/viet-nam-china-trade-exceeded-205-billion-in-2024.html>
- 6 Rakhmat, M. Z. (2024, August 16). The China-Indonesia 2+2 Dialogue: A Diplomatic Milestone or a New Set of Challenges? The China-Global South Project. <https://chinaglobalsouth.com/analysis/the-china-indonesia-22-dialogue-a-diplomatic-milestone-or-a-new-set-of-challenges/>
- 7 Yang, W. (2024, December 26). Japan seeks better ties with China ahead of second Trump term. Voice of America. <https://www.voanews.com/a/japan-seeks-better-ties-with-china-ahead-of-second-trump-term/7915120.html>
- 8 Paik, K. (2025, January 15). Looking Back: A Review of the Pacific in 2024. Center for Strategic & International Studies (CSIS). <https://www.csis.org/analysis/looking-back-review-pacific-2024>
- 9 China says it brokered a ceasefire between Myanmar army and an ethnic rebel group | AP News. (2025, January 21). AP. <https://apnews.com/article/myanmar-ceasefire-china-84fe105c209be4fc482a04628733e4c5>
- 10 Robles, R. (2025, January 2). Why 2024 was the 'most violent, dangerous' point in Philippine-China ties. South China Morning Post. <https://www.scmp.com/week-asia/politics/article/3293073/why-2024-was-most-violent-dangerous-point-philippine-china-ties-and-whats-next>
- 11 Green, E. (2024, October 23). China's Joint-Sword B exercise: A calculated follow-on. IISS. <https://www.iiss.org/online-analysis/online-analysis/2024/10/chinas-joint-sword-b-exercise-a-calculated-follow-on/>
- 12 Ren, D. (2025, January 3). BYD's fourth-quarter EV output beats Tesla as world's No 1. South China Morning Post. <https://www.scmp.com/business/china-evs/article/3293269/byd-overtakes-tesla-worlds-largest-maker-pure-electric-cars-fourth-quarter>
- 13 Data: Zhang, C., & Wilkes, W. (2024, October 14). VW, BMW and Mercedes Are Getting Left in the Dust by China's EVs. *Bloomberg.Com*. <https://www.bloomberg.com/news/features/2024-10-14/bmw-mercedes-and-volkswagen-bmw-mbg-vow-evs-struggle-to-compete-in-china>
- 14 Dellatte, J. (2023, April 28). *Global Green Hydrogen Policy: China, A Giant Biding Its Time*. Institut Montaigne. <https://www.institutmontaigne.org/en/expressions/global-green-hydrogen-policy-china-giant-biding-its-time>
- 15 Li, T., Liu, W., Wan, Y., Wang, Z., Zhang, M., & Zhang, Y. (2022). *Opening China's Green Hydrogen New Era*. Rocky Mountain Institute (RMI). <https://rmi.org/insight/chinas-green-hydrogen-new-era/>
- 16 National Development and Reform Commission (NDRC). (2022, March 29). *China maps 2021-2035 plan on hydrogen energy development*. https://en.ndrc.gov.cn/news/pressreleases/202203/t20220329_1321487.htm
- 17 (Li et al., 2022)
- 18 Martin, P. (2024, March 15). *China's largest green hydrogen refuelling station is selling H2 at a seventh of the cost of the fuel in California*. Hydrogeninsight.Com. <https://www.hydrogeninsight.com/transport/chinas-largest-green-hydrogen-refuelling-station-is-selling-h2-at-a-seventh-of-the-cost-of-the-fuel-in-california/2-1-1613409>
- 19 Climate Bonds Initiative (CBI). (2024a). *Financing the decarbonisation of China's steel industry: Technology, policy, and instruments*. Climate Bonds Initiative (CBI). https://www.climatebonds.net/files/reports/cbi_china_steel_report_24_01a.pdf
- 20 China approves 7.1 million tonnes of new EAF-based steel capacity in first half of the year – News – GMK Center. (2024, July 11). GMK. <https://gmk.center/en/news/china-approves-7-1-million-tonnes-of-new-eaf-based-steel-capacity-in-first-half-of-the-year/>
- 21 (Climate Bonds Initiative (CBI), 2024a)
- 22 Xie, Y., & Gemmell, K. (2025, January 20). China Steelmakers Head for More Production Cuts as Demand Sags. *Bloomberg.Com*. <https://www.bloomberg.com/news/articles/2025-01-20/china-s-steelmakers-must-make-deeper-cuts-to-align-with-demand>
- 23 Green Steel Economics—China Factsheet. (2024, July 25). *Transition Asia*. <https://transitionasia.org/green-steel-economics-china-factsheet/>
- 24 (Climate Bonds Initiative (CBI), 2024a)
- 25 Climate Bonds Initiative (CBI). (2024b, July 12). *A green steel decade for China: Hebei province's new transition finance guidelines are great!* – Cnedopil@gmail.com—Gmail.

- 26 Ng, E. (2024, February 14). *EU to blunt China's edge on steel exports with world's first carbon tax*. South China Morning Post. <https://www.scmp.com/business/china-business/article/3251965/eu-blunt-chinas-edge-steel-aluminium-exports-proposed-carbon-tax-could-reach-21-goldman>
- 27 Despite design inefficiencies in the Chinese ETS (i.e., the lack of a carbon cap entails a lack of carbon credit scarcity and thus undermines the market characteristics), this sends an important signal and provides financial incentive for the sector to decarbonise. Patel, A. (2024, September 23). *Explainer: China's carbon market to cover steel, aluminium and cement in 2024*. Carbon Brief. <https://www.carbonbrief.org/explainer-chinas-carbon-market-to-cover-steel-aluminium-and-cement-in-2024/>
- 28 Zhang, J. (2024, August 29). *China's latest steel capacity swap move not enough to curb industry expansion*. S&P Global Commodity Insights. <https://www.spglobal.com/commodity-insights/en/news-research/latest-news/metals/082924-chinas-latest-steel-capacity-swap-move-not-enough-to-curb-industry-expansion>
- 29 Gemmell, K., Xie, Y., & Lin, A. (2024, November 17). *Chinese Steel Exports Are Booming But Here's Why That Won't Last*. Bloomberg.Com. <https://www.bloomberg.com/news/articles/2024-11-17/chinese-steel-exports-are-booming-but-here-s-why-that-won-t-last>
- 30 *Global Critical Minerals Outlook 2024 – Analysis*. (2024, May 17). IEA. <https://www.iea.org/reports/global-critical-minerals-outlook-2024>
- 31 Cooper, K. (2024, September 30). *A deep dive into China's role as "critical mineral monolith"—Mine | Issue 145 | October 2024*. https://mine.nridigital.com/mine_oct24/china-critical-mineral-monolith
- 32 Bindman, P. (2023, August 21). *China doubles down on overseas investment in critical minerals*. Energy Monitor. <https://www.energymonitor.ai/sectors/industry/weekly-data-china-seeks-to-extend-its-critical-minerals-dominance-with-overseas-investment-surge/>
- 33 *Infographic: China Leads Critical Minerals Production*. (2024, July 31). Statista Daily Data. <https://www.statista.com/chart/32748/top-countries-processing-critical-minerals>
- 34 *Update on divestment order—Northern Minerals Limited (ASX:NTU)*. (2024, September 2). <https://www.listcorp.com/asx/ntu/northern-minerals-limited/news/update-on-divestment-order-3078999.html>
- 35 Brooks, S., & Fang, J. (2025, January 21). *Trump found Xi's "Made in China" plan "insulting" but it worked anyway*. ABC News. <https://www.abc.net.au/news/2025-01-22/made-in-china-2025-a-success-despite-us-tariffs/104816206>
- 36 Mak, R. (2024, December 16). *Breakingviews—US-China tech war will hold Asian allies hostage*. Reuters. <https://www.reuters.com/breakingviews/us-china-tech-war-will-hold-asian-allies-hostage-2024-12-16/>
- 37 Vynck, G. D., & Dou, E. (2025, January 13). *Biden's sweeping new AI export controls cover most of the world*. Washington Post. <https://www.washingtonpost.com/technology/2025/01/13/ai-export-controls-chips-china/>
- 38 *China's AI industry could see US\$1.4 trillion in investment in 6 years, executive says*. (2024, September 9). [South China Morning Post]. https://finance.yahoo.com/news/chinas-ai-industry-could-see-093000369.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlmNvbS8&guce_referrer_sig=AQ
- 39 *How a top Chinese AI model overcame US sanctions*. (2025, January 24). MIT Technology Review. <https://www.technologyreview.com/2025/01/24/1110526/china-deepseek-top-ai-despite-sanctions/>
- 40 *Chinese AI is catching up, posing a dilemma for Donald Trump*. (n.d.). *The Economist*. Retrieved February 5, 2025, from <https://www.economist.com/leaders/2025/01/23/chinese-ai-is-catching-up-posing-a-dilemma-for-donald-trump>
- 41 Hyun-woo, N. (2024, September 27). *Korean chipmakers' reliance on Chinese raw materials deepens*. The Korea Times. <https://www.koreatimes.co.kr/www/tech/2025/02/133383248.html>
- 42 (Mak, 2024)
- 43 Corbett, D. (2024, October 31). *Establishing New Financial Frameworks: BRIC by BRIC*. Chinaobservers. <https://chinaobservers.eu/establishing-new-financial-frameworks-bric-by-bric/>
- 44 Gift, M. (2024, October 28). *The BRICS currency conundrum: Weighing the pros and cons of a unified monetary system*. APRI. <https://afripoli.org/the-brics-currency-conundrum-weighing-the-pros-and-cons-of-a-unified-monetary-system>
- 45 Chen, Q., Lei, T., & Tao, M. (2025, January 20). *China's low-altitude economy expected to reach 1 trillion yuan in market size in 2025—Global Times*. Global Times. <https://www.globaltimes.cn/page/202501/1327231.shtml>
- 46 Woo, R. (2024, August 12). *China trials cargo drones, air taxis as low-altitude economy gains speed*. Reuters. <https://www.reuters.com/world/china/china-test-flies-biggest-cargo-drone-low-altitude-economy-takes-off-2024-08-12/>
- 47 Chen, M. (2024, December 29). *China sets sights on low-altitude economy to drive 2025 growth with special unit*. South China Morning Post. <https://www.scmp.com/economy/china-economy/article/3292646/china-launches-low-altitude-economy-unit-drive-2025-growth>
- 48 Wu, Y., & Interesse, G. (2024, July 24). *China's Low-Altitude Economy: Why its Investment Outlook is Bright*. China Briefing News. <https://www.china-briefing.com/news/chinas-futuristic-industries-investment-prospects-in-the-emerging-low-altitude-economy/>
- 49 Zhu, W. (n.d.). *High hopes for low-altitude economy*. Chinadailyhk. Retrieved February 5, 2025, from <https://www.chinadailyhk.com/hk/article/599568#High-hopes-for-low-altitude-economy-2024-12-05>
- 50 *EHang | EH216-S Pilotless eVTOL Completes Debut Passenger Flights in Thailand, with Flights Tests and Commercial Operations Forthcoming*. (2024, November 8). EHang. <https://www.ehang.com/news/1130.html>
- 51 Chua, A. (2024, November 15). *EHang completes eVTOL test flights with solid-state lithium batteries*. Flight Global. <https://www.flightglobal.com/aerospace/ehang-completes-evtol-test-flights-with-solid-state-lithium-batteries/160764.article>

- 52 Zhang, P. (2024, September 3). Xpeng Aeroht aims to start delivering modular flying car in 2026 for less than \$280,000. CnEVPost. <https://cnevpost.com/2024/09/03/xpeng-aeroht-to-start-delivering-modular-flying-car-2026/>
- 53 New company established in Shanghai to propel low-altitude economy. (2024, December 24). Shanghai Hongqiao International CBD. http://en.shhqcbd.gov.cn/2024-12/24/c_1059269.htm
- 54 Varma, S., & Toh, S. Y. (n.d.). *Asia Economic Monthly: China taps Asian demand*. Nomura Connects. Retrieved February 5, 2025, from <https://www.nomuraconnects.com/focused-thinking-posts/asia-economic-monthly-china-taps-asian-demand/>
- 55 Cheng, E. (2024, November 8). China announces \$1.4 trillion over five years to tackle local governments' hidden debt. NBC News. <https://www.nbcnews.com/news/world/china-announces-14-trillion-five-years-tackle-local-governments-hidden-rcna179269>
- 56 Pettis, M. (2022, April). *The Only Five Paths China's Economy Can Follow*. Carnegie Endowment for International Peace. <https://carnegieendowment.org/china-financial-markets/2022/04/the-only-five-paths-chinas-economy-can-follow?lang=en>
- 57 China's economy meets official growth target, but many feel worse off. (2025, January 21). Reuters. <https://www.reuters.com/world/china/chinas-economic-growth-surpasses-forecasts-stimulus-push-2025-01-17/>
- 58 Zhang, J., & Nedopil, C. (2024, July 28). *China's Third Plenary 2024: Key takeaways of a high-significance meeting for green growth and China's overseas engagement*. Griffith Asia Institute. <https://blogs.griffith.edu.au/asiainsights/chinas-third-plenary-2024-key-takeaways-of-a-high-significance-meeting-for-green-growth-and-chinas-overseas-engagement/>
- 59 Feng, D., & Wei, H. (2024, August 31). *China Expands Role of State Bank-Backed Equity Investors to Aid Tech and Innovation—Caixin Global*. <https://www.caixinglobal.com/2024-08-31/china-expands-role-of-state-bank-backed-equity-investors-to-aid-tech-and-innovation-102231840.html>
- 60 Yue, Y. (2025, January 23). *In Depth: Venture Capital in China Flounders as State Takes Over (Part 2) – Caixin Global*. Caixin Global. <https://www.caixinglobal.com/2025-01-23/in-depth-venture-capital-in-china-flounders-as-state-takes-over-part-2-102282746.html>
- 61 Niu, M., & Han, W. (2024, September 18). *China's Property Price Slide Continues as Number of Unsold Homes Hits New High—Caixin Global*. Caixin Global. <https://www.caixinglobal.com/2024-09-18/chinas-property-price-slide-continues-as-number-of-unsold-homes-hits-new-high-102237301.html>
- 62 Asia Investment Strategy Team. (2024a, October 1). *Is this time different in China?* | J.P. Morgan Private Bank US JP Morgan. <https://privatebank.jpmorgan.com/nam/en/insights/markets-and-investing/is-this-time-different-in-china>
- 63 Zhou, L. (2025, January 22). *New plan to boost long-term investment in stock market*. China Daily. <https://www.chinadaily.com.cn/a/202501/22/WS6790d91fa310a2ab06ea8aa9.html>
- 64 Wu, Y., & Han, W. (2025, January 23). *China to Pump \$13.7 Billion of Insurance Funds into Stock Markets—Caixin Global*. Caixin Global. <https://www.caixinglobal.com/2025-01-23/china-to-pump-137-billion-of-insurance-funds-into-stock-markets-102282808.html>
- 65 Shen, S., & Zhen, S. (2025, January 14). *China's retail investor sours quickly on stocks*. Reuters. <https://www.reuters.com/markets/asia/chinas-retail-investor-sours-quickly-stocks-2025-01-14/>
- 66 Rosen, D., Wright, L., Smith, J., Mingey, M., & Quinn, R. (2024, December 31). *After the Fall: China's Economy in 2025*. Rhodium Group. <https://rhg.com/research/after-the-fall-chinas-economy-in-2025/>
- 67 Huang, J. (2025, January 3). *China Expands Consumer Subsidies to Electronics to Spur Spending*. WSJ. <https://www.wsj.com/economy/china-expands-consumer-subsidies-to-electronics-to-spur-spending-5f39ea73>; Shen, J. (2024, November 4). *Breakthroughs and prospects of trade-in deals for consumer goods* [China Daily]. <https://www.chinadaily.com.cn/a/202411/04/WS6728232ba310f1265a1cb2d7.html>
- 68 Ant Group Sees 300% Rise in International Users Adopting Mobile Payment in China in 2024. (2024, September 6). <https://www.businesswire.com/news/home/20240905209405/en/Ant-Group-Sees-300-Rise-in-International-Users-Adopting-Mobile-Payment-in-China-in-2024>
- 69 Zhang, E., & Cash, J. (2025, January 13). *China exports accelerate amid trade tensions, imports surprise*. Reuters. <https://www.reuters.com/world/china/chinas-export-growth-quickens-amid-trade-risks-imports-surprise-2025-01-13/>
- 70 *The Impact of US Tariffs on Chi The impact of US tariffs on China: Three scenarios*. (2024, December 17). Economist Intelligence Unit. <https://www.eiu.com/n/the-impact-of-us-tariffs-on-china-three-scenarios/>
- 71 ibid
- 72 Asia Investment Strategy Team. (2024b, November 25). *China Outlook: Can China make it in 2025?* | J.P. Morgan Private Bank Asia. JP Morgan. <https://privatebank.jpmorgan.com/apac/en/insights/markets-and-investing/china-outlook-can-china-make-it-in-2025>
- 73 Myllyvirta, L. (2025, January 9). *Why China's clean energy need not fear US tariffs*. Centre for Research on Energy and Clean Air. <https://energyandcleanair.org/why-chinas-clean-energy-need-not-fear-us-tariffs/>
- 74 (Myllyvirta, L., & Thieriot, H. (2025, January 9). *Why China's clean energy need not fear US tariffs*. Dialogue Earth. <https://dialogue.earth/en/energy/why-chinas-clean-energy-need-not-fear-us-tariffs/>
- 75 *China's economic and industry outlook for 2025*. (2025, January 2). Deloitte China. <https://www2.deloitte.com/cn/en/pages/about-deloitte/articles/deloitte-research-issue-95.html>



Geopolitics, non-traditional security and political dynasties in Southeast Asia

Andrea Haefner and Sovinda Po



IISPP
INSTITUTE FOR INTERNATIONAL
STUDIES AND PUBLIC POLICY

CENTER FOR SOUTHEAST ASIAN STUDIES

INTRODUCTION

Southeast Asia is at the crossroads of major global developments, with shifting geopolitical dynamics, economic transitions, and security challenges shaping the region's trajectory. As the world navigates an increasingly complex international landscape, Southeast Asia's strategic location, economic potential, and evolving political structures place it at the centre of global attention. Over the next few years, five key trends will play a decisive role in shaping the region: the intensifying geopolitical competition between the United States and China, public health challenges such as haze pollution, the resurgence of political dynasties, the adoption of electric vehicles, and non-traditional security threats at sea.

This paper discusses the key developments in the Asia-Pacific region with a specific focus on Southeast Asia that will influence the period between 2025 and 2028 and beyond. These five key trends will shape Southeast Asia and the wider Asia-Pacific region. Addressing these challenges will be crucial to ensuring a sustainable, inclusive, and economically resilient region capable of navigating the complexities of an evolving global order.



The Asian Tsunami of 26 December 2004 was one of Asia's worst natural disasters. It claimed an estimated 260,000 lives and displaced more than 1.7 million people in 14 countries. (ADB)

WHY SOUTHEAST ASIA MATTERS

Southeast Asia is a dynamic and diverse region comprising ten countries. Due to its strategic location, economic potential, and cultural values, Southeast Asia holds significant geopolitical, economic, and cultural importance beyond its region. Southeast Asia sits in close proximity to major powers (China and India), has a central maritime position along vital sea lanes, including the South China Sea and the Strait of Malacca, and is positioned as a focal point for geopolitical competition alongside traditional trading routes.

The Association of Southeast Asian Nations (ASEAN), as a block, boasts a rapidly growing and diverse economy, currently being the third-largest economy in Asia and the fifth-largest economy globally.¹ With a combined population of over 690 million people and a rising middle class, the region presents a massive consumer market.² Countries like Indonesia, Malaysia, Singapore, Thailand, and Vietnam have become key players in the global supply chain, attracting significant foreign direct investment.³ The economic success of Southeast Asia contributes not only to regional stability but also to global economic growth. ASEAN has emerged as a crucial regional bloc, fostering economic cooperation and acting as a bridge between major economies.

However, Southeast Asia remains prone to both traditional and non-traditional security risks, including disputes in the South China Sea, transnational issues such as terrorism, and public health crises and environmental impacts, including floods and droughts, deforestation, haze pollution, and climate change, which have far-reaching consequences for people and economies.

Addressing the below five key trends over the next few years is crucial in achieving a sustainable, inclusive, and economically prosperous subregion with the ability to accelerate growth and progress for all its population and beyond.

GEOPOLITICS AND FOREIGN POLICY: US-CHINA RIVALRY IN THE MEKONG SUBREGION

While the South China Sea disputes are central regarding geopolitics in Southeast Asia, the Mekong subregion has been increasingly at the centre of a heated rivalry between the big powers—the US and China.⁴ Comprised of the five mainland countries in Southeast Asia, namely Vietnam, Laos, Myanmar, Cambodia and Thailand, and China itself, the region shares the mighty Mekong River that flows from the Tibet Plateau to the Mekong Delta in Vietnam. For Beijing, its southern neighbours have both economic and strategic significance, including a direct land route to the whole of Southeast Asia and important maritime trade access to and from the world. For the US, the region has an increasingly strategic importance, with Thailand having been its strategic ally since the Cold War and Vietnam, despite their antagonism during the Cold War and ideological difference, having increasingly become its strategic partner in the fast-changing global politics. Most importantly, as the Mekong become increasingly a locus of China's ever-growing influence and assertiveness, the US's special attention to the region was growing to curb China's influence that threatens its interests. The zero-sum game and securitisation of the rivalry are among the primary factors that risk escalating in the region and effectively threaten peace and economic development in the region and beyond.⁵

The US-China rivalry presents opportunities and challenges for the countries in the region. China, with its focus on infrastructure development and connectivity in Southeast Asia, has expanded its economic footprint southward, especially through the Belt and Road Initiative (BRI). It finances mega infrastructure projects such as the high-speed rail system that connects China's Kunming to Laos and, in the future, further down to Singapore through Thailand and Malaysia. This also includes one of the most recent controversial projects, the Funan Techo channel, a 180 km China-backed channel in Cambodia linking the Mekong River to the Gulf of Thailand, likely impacting already fragile ecosystems and livelihoods.⁶ China's trade volume in the subregion was \$416.7 billion in 2022, up 5 percent from the previous year.⁷

The US's total trade of goods with the subregion is less than 50 per cent of that of China, standing at \$156.3 billion in 2022, though it represents a 30 percent rise from the previous year.⁸

Nevertheless, the US remains a major trade partner for countries in the region, such as Vietnam, Cambodia, and Thailand, with huge trade deficits. The Mekong countries have welcomed renewed US commitment and additional funding to the Mekong region, with the US having gradually increased aid to Vietnam, Cambodia, Laos and Myanmar from \$380 million in 2015 to almost \$520 million in 2022.⁹ However, whether that translates into viable alternatives to Beijing's massive trade and investment in the Mekong region and growing influence over smaller countries, such as Laos and Cambodia, remains to be seen as the Lancang Mekong Cooperation Special Fund makes it hard for ASEAN countries to turn away from China.¹⁰

This is particularly the case with Trump 2.0 creating significant uncertainty for the region with Trump 2.0 likely being as destabilising as during his first term as his nationalist and populist focus to correct trade deficits may result in his administration targeting trade deficits with major trade partners such as Vietnam.¹¹ The impact of Trump 2.0 is already visible in Southeast Asia in early 2025 due to a 90-day freeze of US Aid, including hundreds of millions of dollars being paused across healthcare, food and education programs alongside for example the Southeast Asia Program and the Energy, Water and Sustainability Program at the Stimson Center, focusing on the Mekong River and broader security issues.¹²

The US administration's anti-China stand may result in mounting pressure for the Lower Mekong countries to take sides, making small countries such as Cambodia and Laos even more vulnerable. Even worse, for democrats, it can be bad news, as Trump's America-First approach likely focuses on correcting trade deficits instead of supporting democratic reforms. Likewise, transnational crimes in the region continue unabated as the two powers place primary attention on strategic and political interests at the expense of cooperation required to address such criminal activities.¹³ The outlook for a more prosperous and peaceful region should be prioritised by all partners, especially China and the US.

RECOMMENDED ACTIONS

RECOMMENDATION 1:

Strengthen dialogue and cooperation

Increase dialogue and negotiations to tackle key challenges such as transnational crime besides focusing on strategic and political interests.

RECOMMENDATION 2:

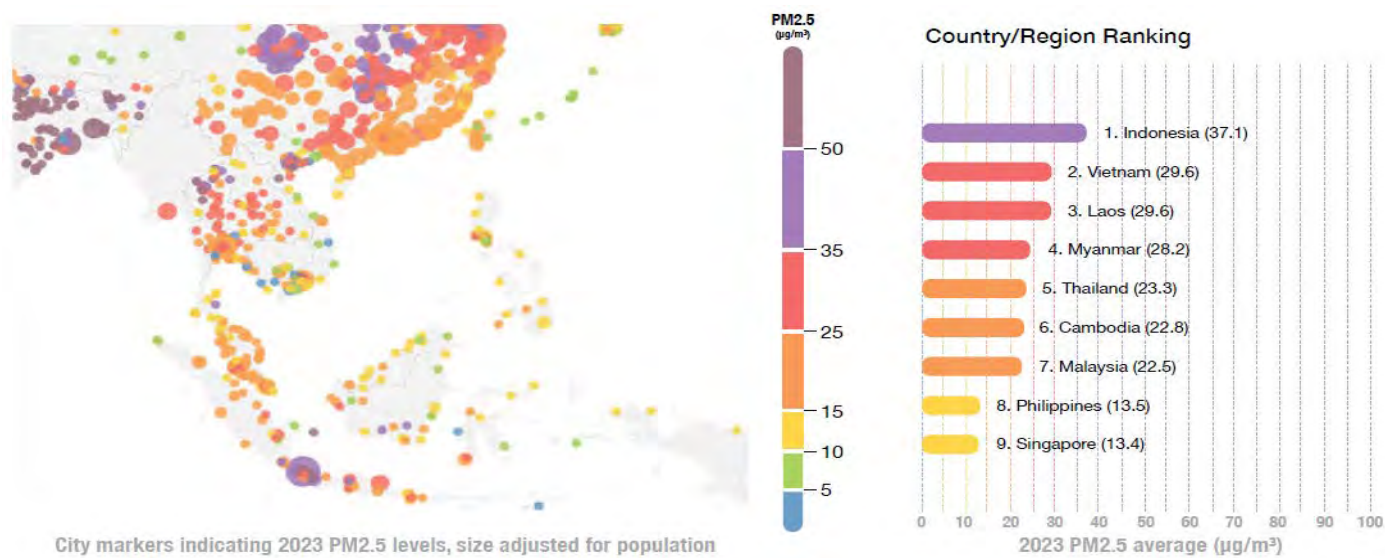
Promote regional prosperity and stability

Advocate for a prosperous and peaceful region benefiting all economies and people.

PUBLIC HEALTH CHALLENGES: HAZE POLLUTION

Southeast Asia faces various public health challenges, including the threat of infectious diseases and haze pollution.¹⁴

Figure 1: Southeast Asia IQAir Report 2023



Source: 2023 World Air Quality Report, p. 15.

This upward trend peaked in 2023 before it started to ease again. In 2023, Indonesia experienced a significant surge in wildfires, with the total area burned being 1.16 million hectares, a fivefold increase compared to 2022, which is largely attributed to the El Nino phenomenon leading to prolonged dry conditions across the region.¹⁷ In 2021, fires burned 353,222 hectares of land, up nearly 16 per cent from 296,942 hectares of land that burned during the whole of 2020.¹⁸ Despite 2023 being the worse year for forest fires, the outlook for 2024 and 2025 is better as El Nino was dissipating and transitioning to a neutral phase or La Nina.¹⁹



Haze blankets the main business district in Jakarta, Indonesia. (AP)

The fires that cause haze in southern Southeast Asia are mainly located in Indonesia and, to a lesser extent Malaysia and the Golden Triangle border areas of Thailand, Laos and Myanmar and legal land clearing in Thailand.¹⁵ Haze severely disrupts regional economies by reducing productivity and tourism, causing spikes in emergency medical spending. A new wave of fires began in 2019 when Indonesia registered 66,000 fire alerts after the country went through the worst year in 2015 with a record 110,000 alerts.¹⁶

Transboundary haze impacts the economy of countries in the region as it exposes healthcare problems, ecological damage, and a vicious cycle of poverty. In Indonesia, human activities are responsible for 98 per cent of all fires, primarily due to social and cultural factors, including 'slash and burn' agricultural practices.²⁰ Impacts on human health are significant. For instance, low air quality in Indonesia in 2023 impacted almost 30 million people in the Jakarta Metropolitan Area for more than half of the year.²¹ Similarly, millions of children in hotspot areas were subject to air pollution, which led to school closures and lost learning opportunities. Besides health, the wildfires and related smog also impacted transportation (flights, shipping and road travel), and tourism while increasing the production of ozone, acid rain, and greenhouse gases, reducing quality of life, biodiversity and plant photosynthesis by obstructing solar radiation.²²

Regional responses have emerged since the mid-1980s; however, frequent fires in recent years are seen as strong evidence of the failure of the mechanism, a lack of the countries' commitment, and self-interest politics at the national level in favour of addressing haze.²³ The first Roadmap toward a transboundary haze-free ASEAN by 2020 was adopted, having mixed results with a 2nd Roadmap for a haze-free region by 2030 being adopted in 2022 to sustain commitment to regional solutions to the problem.²⁴ One of the positive achievements of the region is incremental institutional change through 'layering' and 'conversion' by additional new institutions and activities, such as the Conference of Parties and

various sub-committees to support the implementation of the agreement, put in place to coordinate regional activities to address transboundary haze and other associated activities.²⁵

Despite this development, questions remain about the well-understood challenges posed by the ASEAN way of non-interference and respect for sovereignty. It is then left to respective countries to adopt legal frameworks, such as Singapore's Transboundary Haze Pollution Act and the capable state to enforce it. Similarly, Indonesia's new President Prabowo Subianto's commitment to balance economic growth and environmental protection is required to control transboundary haze in years to come.

Climate change presents additional challenges as extreme weather would mean dryer temperatures, which can be associated with fires and haze. Moreover, by expanding the government's efforts beyond reforming agricultural and firefighting practices, responses should include protecting the country's wetlands and peatlands to reduce the risk of wildfires.²⁶ At the 25th Sub-regional Ministerial Steering Committee on transboundary haze pollution on 3 July 2024 in Bangkok, Thailand, regional leaders noted the rising risks of fires contributed by El Nino conditions and a positive Indian Ocean Dipole (IOD). A positive outlook for a haze-free ASEAN will depend greatly on the additional capacity and resources needed to achieve all objectives. In the meantime, questions over the ASEAN way continue to be relevant. Moreover, calls for the member states to adopt appropriate legal measures as exemplified by Singapore's Transboundary Haze Pollution Act to incentivise corporates to do their part and **effective implementation is growing louder, ultimately requiring strong political commitment to balancing economic development with social and environmental health.**

RECOMMENDED ACTIONS

RECOMMENDATION 1:

Enhance wetland and peatland protection

Additional support to protect the country's wetlands and peatlands to reduce the risk of wildfires through the governments and international partners, particularly through technical assistance, capacity building, and emergency responses.

RECOMMENDATION 2:

Strengthen multilevel governance

Closer collaboration and stronger leadership among all levels of governments, including local, district, province, national and regional levels.

RECOMMENDATION 3:

Boost regional cooperation for haze mitigation

Stronger collaborative efforts and networks across the region to implement key instruments such as the Sustainable Use of Peatland and Haze Mitigation in ASEAN and Measurable Action for Haze-Free Sustainable Land Management in Southeast Asia.

RESURGENCE OF POLITICAL DYNASTIES

Autocratic rule is not a new phenomenon in Southeast Asia. Yet, the resurgence of political dynasties is surprisingly unfolding as the region is experiencing continued democratic backsliding. In the Freedom House Index, the Philippines is partly free whereas Cambodia, Brunei, and Laos are not free. Brunei and Laos are persistently autocratic states. Brunei is the only absolute monarchy in the region, under the rule of the Sultan as head of state and highest religious and political authority, with no accountability to the parliament.²⁷ Broader democratic backsliding in Southeast Asia, particularly in Cambodia, Thailand, and Myanmar is accompanied by a resurgence of ruling dynasties in politics, particularly in Cambodia, Laos, Thailand and the Philippines.

In 2024, Thailand saw the reinstatement of the Shinawatra family as Paetongtarn Shinawatra, 37, the youngest daughter of the two-term Thai prime minister Thaksin Shinawatra, was appointed Prime Minister after the court ordered the termination of Prime Minister Srettha Thavisin. Her Pheu Thai party managed to form a government after the strong conservative forces standing in the way of the reformist youth and middle class under the Move Forward Party, who won the majority vote in the 2023 election.

At the same time, Hun Sen, who had ruled Cambodia for almost four decades, handed power over to his eldest son, Hun Manet. Hun Sen's rule has been known for high levels of corruption and expanded patronage aimed at consolidating his rule and continued harsh repression. Manet's rule is at best the continuity of the autocratic rule that Cambodia has seen under his father.

In Laos, the appointment of Sonexay Siphandone marked a power transition from the older generation to the next. Siphandone is from a powerful political clan whose father, Khamtay Siphandone, was a former prime minister and state president in the 1990s.²⁸ Laos's change of guard is not necessarily providing hope for major changes in the economy or political spheres; it is rather another episode of a long tradition of clan-based power transfer.²⁹

The Philippines also saw a comeback of the Marcos clan as Ferdinand Marcos Jr, son and namesake of the former dictator Ferdinand Marcos, became president in 2022, 36 years after his father Ferdinand Marcos was ousted by people's power for his autocratic rule. A year after being elected as President of the Philippines, Marcos Jr., despite being praised for his stronger stand over the country's claim in the South China Sea and softer stand in its relationship with the US, falls short of stopping drug-related killings and fails to hold his predecessor accountable. Press freedom has improved, ranking the Philippines 132 out of 180 countries in 2023 compared to 147th the previous year though it slipped back again one spot to 134th in 2024.³⁰



President-elect Ferdinand "Bongbong" Marcos Jr. was sworn in as the 17th president of the Philippines.

In many ways, the dynastic power transition represents authoritarian continuity rather than a democratic opening. Associated democratic regression leads to the economic downturn as it tends to bring unskilled people to key positions of power or to instability that can potentially alienate investors, including those from China as in the case of Myanmar's civil conflict and Thailand's underperformed economy vice a vice its investment potential.³¹ The election of Marcos Jr is believed to be partly associated with growing support for illiberalism and hence continuity from Duterte to Marcos, which is not necessarily novel, as Southeast Asia's lack of democratic consolidation has been linked to a lack of popular and elite support of liberalism.³² Impunity is yet another great enemy of democratic progress in the region, as seen in the election of Marcos Jr. as a continuity of the violence of the previous administration, leading to a gradual autocratic style of governance and, indeed, rule of law.³³ Furthermore, increasing authoritarianism in Southeast Asia states has implications for ASEAN, impacting its ability to promote democracy and address regional crises such as Myanmar's civil war, which is in many ways reinforced by the organisation's long-standing principle of non-interference in internal affairs.³⁴ Likewise, growing authoritarianism brings the region closer to China as they seek political and financial support and more broadly hinders transparency and inclusive and sustainable development.

RECOMMENDED ACTIONS

RECOMMENDATION 1:

Improve justice systems and rule of law

Strengthen judicial frameworks to reduce corruption and uphold legal integrity.

RECOMMENDATION 2:

Safeguard freedom of speech and media

Reinforce media independence and free expression to counter democratic backsliding.

RECOMMENDATION 3:

Expand international support for institutional resilience

Increase collaboration with global partners, such as Australian Aid, to foster strong institutions and the rule of law.

ECONOMIC
TRANSITION: THE
ADOPTION OF
ELECTRIC VEHICLES

Electric vehicles (EVs), also called battery electric vehicles, consist of many types of automobiles, such as PHEV (Plug in Hybrid) and BEV (Battery Electric Vehicles)³⁵. EVs are widespread in the Southeast Asian market and have seen an increase of 3.88 per cent in sales. EVs are expected to have an estimated market volume of 7,958 million USD by 2029, coupled with 168.40K unit sales in the EV market. Notably, the revenue for the ASEAN market is expected to reach 6,798 million USD by 2025.³⁶ This number aligns with Southeast Asia's ambition of becoming a major EV production hub after China.

The architecture and development of countries in SEA are diverse, and so is the status of EV adoption. Thailand holds the largest share of the EV market at 78.8 per cent, supported by Chinese automakers, followed by Indonesia with an 8 per cent market share.³⁷ Thailand focuses on four-wheeler EVs, targeting wealthier buyers, while Indonesia primarily markets two-wheelers to attract less affluent consumers. Vietnam is the only ASEAN country with a market share of EVs of about 7 per cent with its domestic-based Vinfast. Singapore, Malaysia, and the Philippines are known as slow movers. Meanwhile, little data indicates significant growth of EVs in Cambodia, Myanmar, and Laos.

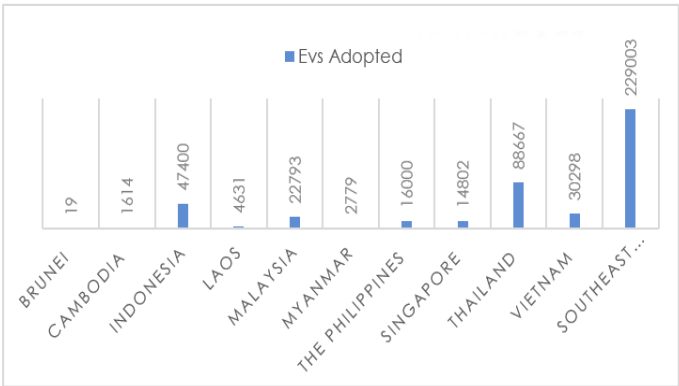
The leading brand for EVs in ASEAN is BYD, with demand and supply playing an important part in Southeast Asia's EV adoption.³⁸ The domestic market potential, the availability of charging stations, financial incentives for end-users, and key EV policies are key driving factors impacting the sale of EVs in each country. Practically, Thailand has been bringing in more EV types to provide more options for consumers, securing up to 16 units per EV charging point and 1.66 kW per EV charging capacity. Thailand is also maintaining a clear government financial incentive of providing subsidies of up to 100k THB along with reducing tax. Further, a well-established supply chain, robust logistical support for export systems, and policy incentives specially provided to EV manufacturers, coupled with strong government plans, are additionally compelling factors that help explain the rapid growth of Thai EV manufacturing.

Despite the driving forces, particularly in Thailand, the market for EVs in SEA is constrained. This is largely due to the constraints of EV adoption and production, trade protectionism, and sustainability concerns.³⁹



A hydrogen fuel cell-powered car at the Toyota booth at the GIIAS exhibition Tangerang Regency, Banten, Indonesia. (Shutterstock)

Figure 2: Number of EVs in Southeast Asia



Source: Extracted from Electric Vehicles - ASEAN | Statista Market Forecast.

RECOMMENDED ACTIONS

RECOMMENDATION 1:

Establish incentives for EV production

Develop regulations, guidelines, and policies that encourage a diverse and competitive electric vehicle (EV) manufacturing sector, fostering innovation and investment.

RECOMMENDATION 2:

Facilitate regional collaboration on EV development

Strengthen partnerships across countries to share best practices and lessons learned from leading Southeast Asian markets, particularly Thailand and Indonesia, to accelerate EV adoption and industry growth.

NON-TRADITIONAL SECURITY THREATS AT SEA

The maritime domain, in addition to the land route, is pivotal to world trade. Unfortunately, criminal groups also exploit sea routes for their criminal activities. In this sense, non-traditional security threats remain a long-standing concern for countries across the globe, especially in Southeast Asia. Accounting for 15 per cent of total volumes of global trade, sea lines of Southeast Asia have faced challenges, mainly due to piracy and armed robbery impacting shipping and trade.⁴⁰



Piracy attack underway in Rayong Port, Thailand. (ReCAAP)

Piracy is a serious challenge for Southeast Asia, where pivotal trade routes like the Strait of Malacca keep goods flowing across the globe. Piracy often negatively impacts the commercial shipping industry and fisheries globally. On a regional scale, trade and tourism are often deterred by those piracy activities.⁴¹ Pirates on smaller scales are local fishermen or traders who use piracy to enhance their income through targeted attacks or robberies. On a larger scale, organised pirates usually use violence in addition to having more resources, ambition, and sophistication; they also broaden their attacks.⁴² Data from the Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia Information Sharing Centre (ReCAAP ISC) showcases that incidents of piracy and armed robbery against ships in Southeast Asia have increased notably to 100 incidents in 2023, which has increased compared to 2022.⁴³ In 2024, there were around 116 incidents and the human costs, such as the seafarer and seafarer's family rendered from piracy, are also pricey and often overlooked.⁴⁴

Key victims and affected groups in piracy include shipping companies, insurance firms, local governments, and international maritime forces, all of whom share the cost of combating piracy.⁴⁵

Weak law enforcement remains a primary factor enabling piracy in the region. Various strategies have been implemented to address this challenge, including the establishment of control centres, enhanced information sharing, capacity-building programs, monitoring efforts, and coordinated patrols. Strengthening legal frameworks and fostering regional cooperation through initiatives like ReCAAP have been critical in connecting stakeholders and coastal states to improve maritime security. However, continued investment in these efforts is necessary to curb piracy's growing threat effectively.⁴⁶

In addition to piracy, the rising threat of cyberattacks on maritime infrastructure is an alarming concern. Ships and port facilities are major concerns, where ports' equipment, shore-side corporate networks, and vessels' operation systems are vulnerable to attacks and are the targets, as emphasised by the ASEAN Maritime Outlook.⁴⁷ Specific challenges also exist for individual countries. Cambodia, which has a sea border with its neighbouring countries, specifically Thailand and Vietnam, faces challenges due to unclear borders, often leading to tensions between the nations. Similarly, Cambodia and Vietnam's maritime discomforts, rendered by the French colonial administration, led to national grievance, especially over the case of Koh Tral/Phu Quoc.⁴⁸ Malaysia and Indonesia have an ongoing issue over oil-rich areas, particularly the Ambalat dispute⁴⁹, while Malaysia also has a maritime dispute with Singapore on the Sabah dispute.⁵⁰

Illegal, unreported, and unregulated (IUU) fishing further adds to Southeast Asian maritime challenges. Cambodia, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam experienced more than USD 6 billion loss caused by IUU fishing. Indonesia and Vietnam are the largest victims,

experiencing damage of 3 billion USD and 1.6 billion USD, respectively with key factors including overfishing, weak fisheries enforcement management, inability to regulate the operations of vessels, lack of alternative employment opportunities for those displaced from fishing, disputed boundaries, and floating seafood market fuelling IUU.⁵¹⁵² Addressing these multifaceted challenges requires a collective and coordinated effort by all actors, including state, non-state, and regional organisations.

RECOMMENDED ACTIONS

RECOMMENDATION 1:

Enhance law enforcement and security measures

Strengthen law enforcement agencies through control centres, information exchange, capacity training, monitoring, coordinated patrolling, and reinforced legal frameworks.

RECOMMENDATION 2:

Bolster regional cooperation against maritime crime

Strengthen the *Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP)* by fostering stronger connections among key stakeholders and coastal nations.

RECOMMENDATION 3:

Combat overfishing through better regulation and alternatives

Improve fisheries enforcement, regulate fishing vessels, and create alternative employment opportunities to reduce overfishing and support sustainable marine ecosystems.

CONCLUSION

Southeast Asia is a rapidly growing region with immense potential, driven by its young population, increasing digitalisation and connectivity, and a thriving culture of innovation and entrepreneurship. As a bloc, ASEAN is the world's fifth-largest economy. Given its strategic geopolitical position, developments in Southeast Asia have far-reaching implications beyond the subregion, making it essential to monitor its progress.

As the region continues to evolve, its role in shaping the Asia-Pacific region and beyond will become even more evident. Addressing the five key trends (geopolitics and foreign policy, public health, resurgence of political dynasties, economic transition, and non-traditional security at sea) and highlighting recommendations over the next few years is important. This will be crucial for Southeast Asia in achieving

a sustainable, inclusive, and economically prosperous subregion with the ability to accelerate growth and progress for its population and beyond.

Overall, ASEAN should focus on investing in research and development in the areas of public health prevention and crisis readiness, green technology and legal international best practices regarding maritime management. ASEAN should also invest in building more capacity of workers in the key trend areas and explore joint financing mechanism that enables ASEAN to invest in the five highlighted areas while supporting resilient institutions, transparency and the rule of law. This will be crucial for Southeast Asia in achieving a sustainable, inclusive, and economically prosperous subregion with the ability to accelerate growth and progress for its population and beyond.

NOTES AND REFERENCES

- 1 ASEAN. 2022. *Investing in ASEAN 2023*. Available at <https://asean.org/wp-content/uploads/2022/12/investment-report-2023.pdf>.
The authors would like to thank Dr Sreang Chheat for his research assistance linked to this chapter.
- 2 IMF. 2024. "Population", *World Economic Outlook*. October 2024, Available at <https://www.imf.org/external/datamapper/LP@WEO/VNM/IDN/PHL/MMR/MYS/KHM/LAO/THA/SGP/BRN/SEQ>.
- 3 ASEAN. 2020. *ASEAN Investment Report 2020–2021: Investing in Industry 4.0*. Available at <https://asean.org/wp-content/uploads/2021/09/AIR-2020-2021.pdf>.
- 4 Haefner, A. and Po, S. 2024. 'Development outlook: Exploring the opportunities of Southeast Asia', *Griffith Asia Pacific Strategic Outlook 2024*. Available at https://www.griffith.edu.au/_data/assets/pdf_file/0037/1935/928/GAPSO2024-policy-brief-Development-outlook-exploring-the-opportunities-of-Southeast-Asia.pdf.
- 5 Lampton, David M. 2024. 'Big Power Securitization, Industrial Policy, and Ideological Trends: Implications for U.S.–China–Southeast Asia Cooperation', in *The Asia Foundation. U.S.–China–Southeast Asia Relations: Challenges and Opportunities for Regional Cooperation*. Carnegie Corporation of New York. pp. 11–18.
- 6 Chen, Leopold. 2025. 'Cambodia's China-backed canal on Mekong may threaten 'fragile ecosystems''. *Mynews*, 13 January 2025, https://www.scmp.com/news/china/science/article/3294420/cambodia-china-backed-canal-mekong-may-threaten-fragile-ecosystems?module=perpetual_scroll_0&pgtype=article.
- 7 Xinhua. 2023. *Trade between China, Mekong countries hits 416.7 bln USD in 2022*. 24 March. https://english.www.gov.cn/news/international/exchanges/2023/03/24/content_WS641d00d0cc6d0f528699dc094.html.
- 8 US Department of State. 2021. *Mekong–U.S. Partnership and the Friends of the Mekong: Proven Partners for the Mekong Region: Fact Sheet*. <https://www.state.gov/the-mekong-u-s-partnership-and-the-friends-of-the-mekong-proven-partners-for-the-mekong-region/>.
- 9 RFA. 2025. 'Freeze to US aid hits Cambodia, Laos and Myanmar hard'. *Radio Free Asia*. 29.01.2025. <https://www.rfa.org/english/laos/2025/01/29/southeast-asia-us-funding-freeze-impacts/>.
- 10 Haefner, A. 2020. 'Duelling diplomacy over Southeast Asia's most important river'. *The Interpreter*. 20 October 2020. Available at <https://www.lowyinstitute.org/the-interpreter/duelling-diplomacy-over-southeast-asia-s-most-important-river>.
- 11 Foerster, Marco. 2024. Op–Ed: Trump 2.0 will benefit Vietnam—But only if trade surpluses avoid populist backlash. *Vietnam Briefing*. 15 November. <https://www.vietnam-briefing.com/news/op-ed-trump-2-0-will-benefit-vietnam-but-only-if-trade-surpluses-avoid-populist-backlash.html/>.
- 12 RFA. 2025.
- 13 International Crisis Group, 2023. *Transnational Crime and Geopolitical Contestation along the Mekong*. Asia Report No. 332. Brussels, Belgium.
- 14 Haefner and Po. 2024.
- 15 Varkkey, Helena. 2021. *The Forests for the Palms: Essays on the Politics of Haze and the Environment in Southeast Asia*. Singapore: ISEA–Yusof Ishak Institute; Tjo, Hansen. 2024. 'ASEAN haze framework misses the Indonesian forests for the trees'. *East Asia Forum*. 08 December. <https://eastasiaforum.org/2024/12/08/asean-haze-framework-misses-the-indonesian-forests-for-the-trees/>.
- 16 Sakinah, H Ummu; Hamzah, Hidayah and Hanifah, Mirzha. 2019. *Intense Forest Fires threaten to derail Indonesia's progress in reducing deforestation*. World Resources Institute. 7 October. <https://www.wri.org/insights/intense-forest-fires-threaten-derail-indonesias-progress-reducing-deforestation#:~:text=Intense%20Forest%20Fires%20Threaten%20to,Reducing%20Deforestation%20%7C%20World%20Resources%20Institute>.
- 17 United Nations Office for Disaster Risk Reduction. UNDRR. 2024. *Global Assessment Report on Disaster Risk Reduction 2024: Forensic Insights for Future Resilience, Learning from Past Disasters*. Geneva: UNDRR.
- 18 Hans, J. 2021. 'Indonesia's new epicentre of forest fires shifts away from Sumatra and Borneo'. *News Mongabay*, 29 December. <https://news.mongabay.com/2021/12/indonesias-new-epicenter-of-forest-fires-shifts-away-from-sumatra-and-borneo/>.
- 19 ASEAN. 2024. *Media Release of the Nineteenth Meeting of the Conference of the Parties to the ASEAN Agreement on Transboundary Haze Pollution (COP–19)*, 18 December 2024. <https://asean.org/media-release-of-the-nineteenth-meeting-of-the-conference-of-the-parties-to-the-asean-agreement-on-transboundary-haze-pollution-cop-19/>.
- 20 United Nations Office for Disaster Risk Reduction. UNDRR. 2024. *Global Assessment Report on Disaster Risk Reduction 2024: Forensic Insights for Future Resilience, Learning from Past Disasters*. Geneva: UNDRR.
- 21 Ibid.
- 22 Ibid.
- 23 Rahayu, S. 2020. 'Effectiveness of Transboundary Haze Pollution in Handling Smoke Haze Cases in Southeast Asia'. *International Journal of Business, Economics and Law*, Vol. 23, Issue 1.
- 24 Varkkey, Helena. 2024. 'Borderless Haze Threatens Southeast Asia'. *The Diplomat*. 11 January. <https://thediplomat.com/2024/01/borderless-haze-threatens-southeast-asia/>.
- 25 Charusombat, Phurida. 2022. 'ASEAN Cooperation on Transboundary Haze Pollution: The Perspective of Institutional Incremental Change'. *Journal of Environmental Information Science*. Vol. 2022. No. 2.
- 26 Simpkins, Alex, et al. 2024. *The Impacts of El Nino go far beyond water*. World Resources Institute. 2 May. <https://www.wri.org/insights/impacts-el-nino-beyond-water#:~:text=Coffee%20production%20in%20Indonesia%20declined,systemic%20interventions%20will%20be%20>.
- 27 Croissant, A. 2022. *Comparative Politics of Southeast Asia*, Springer.
- 28 Hutt, David. 2023. 'New Lao PM inherits multiple poison chalices'. *Asia Times*. 2 January. <https://asiatimes.com/2023/01/new-lao-pm-inherits-multiple-poison-chalices/>.
- 29 Ibid; Kingsbury, Damien. 2016. *Politics in Contemporary Southeast Asia: Authority, Democracy and Political Change*. Taylor & Francis Group. pp. 42–52.
- 30 Ratcliffe, Rebecca. 2023. 'A year of Marcos Jr: how a dictator's son has changed the Philippines'. *The Guardian*. 30 June. <https://www.theguardian.com/world/2023/jun/30/a-year-of-marcos-jr-how-a-dictators-son-has-changed-the-philippines>; Ferreras, Vince Angelo. 2024. 'PH slips to 134th in the World Press Freedom Index 2024'. *GMA Integrated News*. 4 May.
- 31 Kurlantzick, Joshua. 2023. *The State of Democracy in Southeast Asia is Bad and Getting Worse*. Council on Foreign Relations. 14 August. <https://www.cfr.org/article/state-democracy-southeast-asia-bad-and-getting-worse>

-
- 32 Blackwood, Kate. 2023. *Philippines study analyses Marcos family return to power*, Cornell Chronicle. <https://news.cornell.edu/stories/2023/03/philippine-study-analyzes-marcos-family-return-power>
- 33 Iglesias, Sol. 2022. 'Violence and Impunity: Democratic Backsliding in the Philippines and the 2022 Elections, Perspective'. *Pacific Affairs*. 95(3), September.
- 34 Poole, A. 2023. *The More Things Change: Elections and Authoritarianism in Southeast Asia*. Australian Institute of International Affairs. 30 August. <https://www.internationalaffairs.org.au/australianoutlook/the-more-things-change-elections-and-authoritarianism-in-southeast-asia/>
- 35 US Department of Energy, *How do all-electric cars work?*. Available at <https://afdc.energy.gov/vehicles/how-do-all-electric-cars-work>
- 36 Statista, *Electric Vehicles – ASEAN*. Available at <https://www.statista.com/outlook/mmo/electric-vehicles/asean>. This data does not take into consideration the 5 per cent inflation rate.
- 37 Direkudomsak, W, 03 July 2024. *EVs in ASEAN Thailand vs Indonesia: Leading and Rising EV Production Hub*. Available at <https://www.krungsri.com/en/research/research-intelligence/evs-in-asean-2024>
- 38 Ibid.
- 39 Rose, E, 2024. *Keys to Success: Southeast Asia's Drive to EV Adoption*. Available at <https://www.partnershipsforinfrastructure.org/newsroom/keys-success-southeast-asias-drive-ev-adoption>
- 40 Vo, XV. *Maritime security challenges in Southeast Asia*. Institute for Southeast Asian Studies . Available at [https://www.grips.ac.jp/cms/wp-content/uploads/2024/04/Maritime%20Security%20Challenges%20in%20Southeast%20Asia%20\(Vo%20Xuan%20Vinh\)%20.pdf](https://www.grips.ac.jp/cms/wp-content/uploads/2024/04/Maritime%20Security%20Challenges%20in%20Southeast%20Asia%20(Vo%20Xuan%20Vinh)%20.pdf)
- 41 Whitman, S and Suarez, C. 2012. *The Root Causes and True Costs of Marine Piracy*. Marine Affairs Program Technical Report #1. Dalhousie University. Available at: <http://marineaffairsprogram.dal.ca/Publications>
- 42 Ibid.
- 43 Chinvanno, A and Anantasirikiat, S, 31 July 2024. *Maritime security: emerging challenges and their implications for ASEAN*. Available at <https://isc.mfa.go.th/en/content/maritime-security-emerging-challenges-asean?cate=5f204a5928600c531517cb75>
- 44 Ibid.
- 45 Whitman, S and Suarez, C. 2012. *The Root Causes and True Costs of Marine Piracy*. Marine Affairs Program Technical Report #1. Dalhousie University. Available at: <http://marineaffairsprogram.dal.ca/Publications>
- 46 Liss, M. 2023. 'Piracy and Armed Robbery in Southeast Asia: The Need for a Fresh Approach'. *The Diplomat*. Available at <https://thediplomat.com/2023/05/piracy-and-armed-robbery-in-southeast-asia-the-need-for-a-fresh-approach/>
- 47 Chinvanno, A and Anantasirikiat, S. 2024. *Maritime security: emerging challenges and their implications for ASEAN*. Available at <https://isc.mfa.go.th/en/content/maritime-security-emerging-challenges-asean?cate=5f204a5928600c531517cb75>
- 48 Bong, C. November 21 2023, *Assessing Cambodia's maritime governance capacity: priorities and challenges*. Available at <https://amti.csis.org/assessing-cambodias-maritime-governance-capacity-priorities-and-challenges/>
- 49 Parameswaran, P. 2023. 'Malaysia-Philippines Sabah Dispute'. *The Diplomat*. Retrieved from <https://thediplomat.com/tag/malaysia-philippines-sabah-dispute/>
- 50 Ibid.
- 51 Malik, A, 16 November 2022. *IUU fishing as an evolving threat to southeast Asia's maritime security*. Available at <https://amti.csis.org/iuu-fishing-as-an-evolving-threat-to-southeast-asias-maritime-security/>
- 52 Asia-Pacific Economic Cooperation Fisheries Working Group, 2008. *Assessment of Impacts of Illegal, Unreported and Unregulated (IUU) Fishing in the Asia-Pacific*. APEC Secretariat. Available at https://www.apec.org/docs/default-source/Publications/2008/11/Assessment-of-Impacts-of-Illegal-Unreported-and-Unregulated-IUU-Fishing-in-the-AsiaPacific/08_fwg_iuu_fishing_assessmt.pdf

3

Living with uncertainty in Pacific island countries: Where to turn?

Peter Dirou, Luke Forau and Parmendra Sharma



INTRODUCTION

A phrase that captures the reality of daily life in Pacific Island countries (PICs) is "living with uncertainty", with regular political upheaval, periodic civil unrest, and the human and physical cost of natural disasters as major contributors to that uncertainty. In the closing weeks of 2024 alone, a severe earthquake struck Port Vila in Vanuatu only days after the prime minister dissolved the parliament and called for a snap election in January 2025. The prime minister of Tonga resigned in the face of a no-confidence vote. Earlier in the year, a state of emergency was declared in New Caledonia in the face of damaging pro-independence rioting, and hundreds of lives were lost in a catastrophic landslide in the Papua New Guinea highlands in May 2024. Regular motions of no confidence in the prime minister defined the political year in Papua New Guinea; a similar threat hung over the Solomon Islands' government,¹ and the Fijian Government grappled with tensions between the three coalition partners, internal dissent, and divided public opinion on the need for a proposed constitutional review.

International megatrends add another layer of uncertainty. The UN Economic and Social Commission for Asia and the Pacific (ESCAP) identifies three megatrends²—climate change, demographic shifts, and digitalisation—that will impact living standards and threaten to increase poverty in the absence of active public policy to address those threats.³ PICs would add a fourth megatrend to this list—geopolitical rivalries—as great powers and their allies seek to both protect their interests and gain influence in the region,⁴ alongside uncertainties surrounding the impact of a Trump presidency of the US on international affairs and a growing membership and strategic influence of BRICS countries.

Responding to these uncertainties is challenging, but the challenges are magnified by the contested terrain of national life in PICs. PIC policymakers have to navigate contests on multiple fronts: between national sovereignty and the international legal order; between regionalism, minilateralism, and multilateralism; and even between Pacific Island Forum (PIF) members. There are also associated contests of policy prescription and the intellectual ideas that inform policy—contests within PICs, between PICs and PIF, and between PICs and international financial organisations and other multilateral and bilateral development partners. These contests are invariably played out in the fields of economics and finance, but public debate on how the rules of mainstream economics and finance can be adapted to respond to the uncertainties of daily life and PIC national life is minimal.

This policy brief aims to elevate the importance of that debate and encourage an intellectual contest on economic and financial approaches that are PIC-centric. Such a contest will confront tensions between domestic economic policy and rights-based or development-based approaches; between individualist, market-based approaches or communitarian approaches trying to preserve PIC values and culture; between state and private provision of goods and services, finance and investment; and between the merits of foreign aid and foreign borrowing and building local financing capabilities.

Any PIC policy discussion also needs to disentangle the interests being served through any policy advice, including external advice. The position adopted in this chapter is an acceptance of the importance of deepening Pacific agency over issues that directly impact their daily lives while acknowledging that the scale of uncertainty limits that agency and also limits the agency of PICs as a collective. But there is no point advocating for a Pacific agency in the absence of a Pacific-centric approach to economics and finance. The task for policymakers is to align the tools of economics and finance with PIC policy imperatives.

The advocacy of PIC-centric economics and finance is central to the work being undertaken by GAI's Pacific Islands Centre for Policy and Development (PICDPR), but the prompts for this chapter were more specific. One prompt was ESCAP's concern with the threat of increased poverty associated with megatrends and the consequent need to strengthen social protection mechanisms; these will need to be financed. Other prompts included the specific inclusion of an article related to banking in the recently agreed *Nauru-Australia Treaty*, and the recent decision of the Marshall Islands Government to establish a monetary authority in the Marshall Islands, even though the US dollar is the sole legal tender [pending legislation in February 2025; Bill introduced to parliament].

The body of the chapter explores the intersection of the megatrends with the prevailing uncertainties and the implications for economic and financial policies. The final section summarises the discussion, provides some broad recommendations to deepen the policy agency of individual and collective PICs, and identifies selected financial interventions that PIC development partners could make to support this objective. For PIC policymakers to be in a better position to deal with the uncertainties of PIC life, they need to be able to turn to the academic world to adapt mainstream theories to the reality of PIC life and to develop partners to bear more of the financial risks affecting those lives.

MEGATRENDS IMPACTING PACIFIC ISLAND COUNTRIES

Strengthening social protection frameworks to respond to the megatrends was the unifying theme in ESCAP's 2024 Social Outlook. This chapter takes a more fundamental approach in focusing attention on the financing of social protection frameworks and locating social protection financing within a wider discussion of the financial architecture in PICs. Working with the language of finance directs discussion to the nature of the risks, the instruments available for managing those risks, and which actors are relatively better placed to bear those risks.

The broad policy approach could be described as one of coping with uncertainty,⁵ as opposed to eliminating uncertainty and making sure that PICs are not left behind.⁶ Much of this uncertainty is radical;⁷ that is, these types of risk cannot be quantified and described through some form of probability distribution in the way that risks covered by insurance products can be quantified. This distinction is important to understanding the potential impact of the key megatrends on life in PICs, the type of policy response that is needed, and the implications for the way external actors engage with PICs.

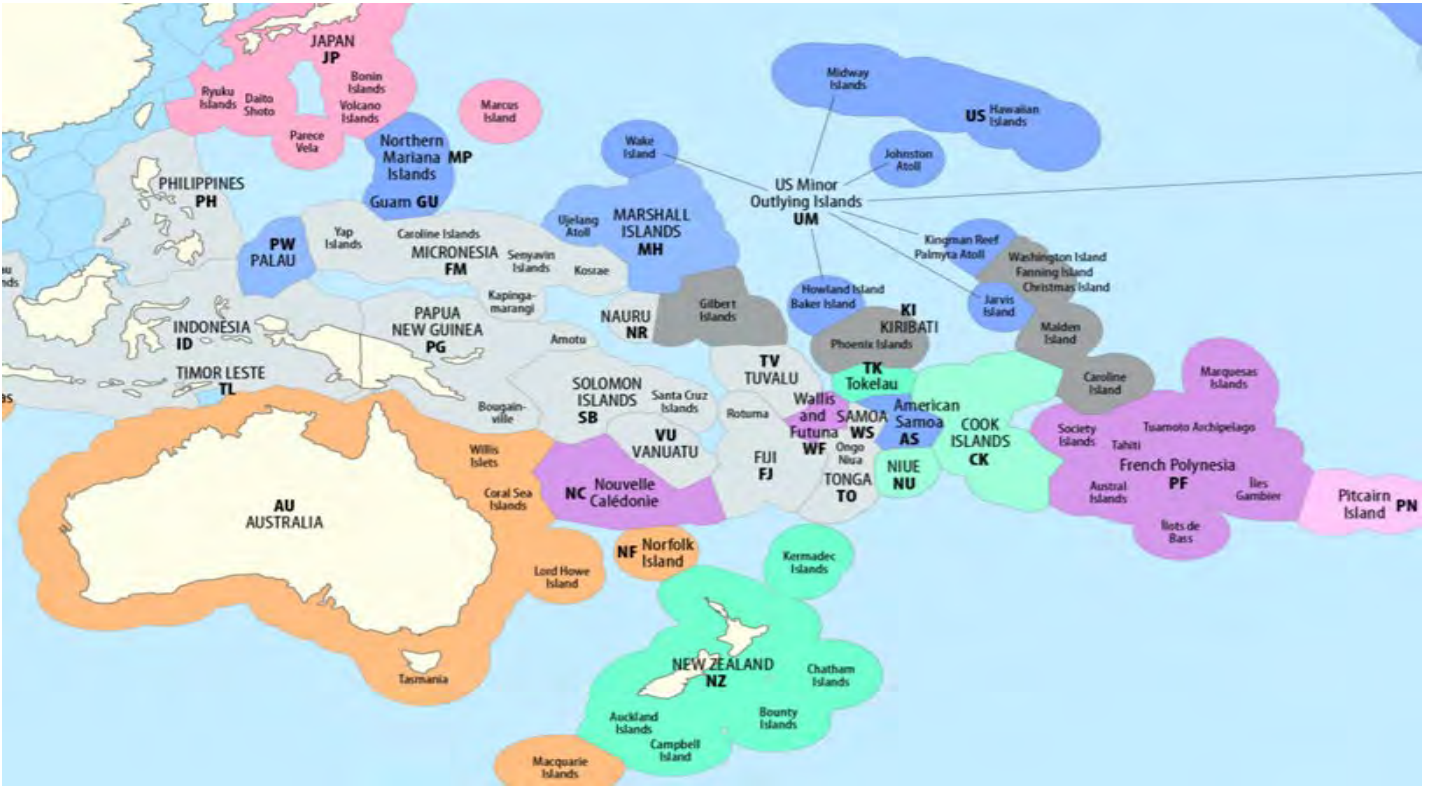
King and Kay note that the world of economics, business, and finance is not stationary: it is not governed by unchanging scientific laws. Individuals do not, and cannot, optimise in the changing world; rather, they find ways to cope and adapt. Improving the management of risk is an important part of any adaptation to uncertainty, and as North notes, institutional innovations that brought about a transformation into the risk management sphere have, historically, been critical to capital mobility.⁸

Any acknowledgement of the importance of capital mobility calls into question the level of financial sector development in PICs and the role of development finance institutions (DFIs). Distinguished development economist Paul Collier advocates for DFIs to provide more risk financing (and to be prepared to carry any losses that may occur) to accelerate the growth of local firms. Collier argues that DFIs, and development partners generally, need to see themselves as supporters of host countries, rather than saviours carrying their own agendas and value systems.⁹

GEOPOLITICAL RIVALRIES

As foreshadowed in GAI's 2024 *Strategic Outlook*, maintaining Pacific agency and regional resolve was tested through 2024.¹⁰ PIF has expressed concern about the Blue Pacific Continent being a stage for geopolitical rivalry, but the battle for influence over PICs continues. As long as PIF cannot underwrite the security of individual PICs through any regional initiative, there is a strategic opportunity for the major actors in this rivalry to fill this void and win minds, witness the defence diplomacy initiatives of Australia, China, and the US,¹¹ and Australia's sport diplomacy initiatives.

Figure 1: The Pacific region



Source: [Western World Daily](#).

The Compact of Free Association agreements that the US renegotiated with the Federated States of Micronesia, the Marshall Islands, and Palau in 2024 and Australia's bilateral agreements with Tuvalu and Nauru in 2024 also highlight the limitations of regionalism in safeguarding the security of individual PICs. The Compact agreements are hybrid defence-economic security agreements, with the US Government guaranteeing to provide whatever defence capability is needed.¹² Similarly, the Australian agreements with Tuvalu and Nauru attempt to integrate economic, social, and defence considerations. The Australia-Tuvalu Falepili Union¹³ was signed in August 2024, and the *Nauru-Australia Treaty* was signed in December 2024. While both agreements are overtly in Australia's interest and have been criticised for increasing Australia's hegemony in the region,¹⁴ they are, at least, an attempt to integrate economic, social, and defence considerations important to Tuvalu and Nauru.¹⁵ The agreements attempt to protect against climate change and military threats and underpin the provision of essential services—education, health and other social services. A feature of the *Nauru-Australia Treaty* is the recognition of the importance of continued banking services to Nauru (and implicitly to all PICs) through a specific article on banking.¹⁶

Despite the attempts of the US and Australia to recognise local concerns, there is a major power imbalance, if only due to the US and Australia financially underwriting the agreements and the administrative demands placed on the beneficiary countries. More generally, as Keen and Sora note, geopolitical rivalries have been accompanied by increases in aid and wider interest in the region, but there has not been a corresponding increase in local capability to deal with this interest.¹⁷ "Increasing external engagement has intensified resource competition among government agencies, tiers of government, and between government and civil society" (p.6).¹⁸ This competition may seem to bring opportunities to domestic actors, but that competition could be described as development arbitrage, with the result that aid is not being directed to where it is most needed, blunting the development impact and weakening governance. There is a real risk that external support in the name of development, and badged as building resilience, may have the opposite effect and ultimately weaken states.

Geopolitical rivalries also limit the value of regional solutions: it is difficult to craft regional solutions that involve geopolitical rivals, and where any solution privileges one of these rivals, it increases the likelihood of a bilateral response from the other. The implementation of the Pacific Policing Initiative (PPI) in 2024 highlights this dynamic. The initiative builds on earlier efforts in policing cooperation undertaken through the Pacific Islands Chiefs of Police (PICP) since 1970,¹⁹ but it extends this cooperation to establish a capability to deploy at short notice at the request of any participating government,²⁰ including four countries that are not full members—American Samoa, the Commonwealth of the Northern Marianas, Guam, and Tokelau.

PIF leaders collectively endorsed the PPI at the August 2024 Leaders Forum,²¹ noting that the mechanism provided a regional capability while respecting national sovereignty by giving members "discretion to choose how they would contribute to and benefit from the three pillars identified in respect of national

sovereignty and in line with national priorities".²² While PPI "is a demonstration of the practical implementation of regionalism [through] the pooling of resources and expertise to enhance the region's overall capabilities",²³ it is not clear how much can be read into it as "an indication of the strength of Pacific regionalism".²⁴ Regional policing cooperation is not new, the initiative risks being branded as an Australian initiative that promotes Australia's interests under the guise of regional cooperation, and despite PIF leaders collectively endorsing PPI there were strongly worded reservations from several individual leaders concerned about an escalation of tensions between the US and China,²⁵ and warning against using PPI as a geopolitical response.²⁶

The timing of PPI's establishment and Australia's involvement is a response to China's support for Solomon Islands police during and after the civil unrest in 2021,²⁷ but it remains to be seen whether PPI will blunt China's direct support for Pacific policing. PPI is not an exclusive arrangement, and individual countries can continue to access Chinese policing support, as several PICs, including Fiji, Kiribati, Samoa, Tonga, and Vanuatu, are doing. A Chinese cloud lingered above the PPI launch: the Vanuatu prime minister announced continued Chinese support for police and security forces in Vanuatu on the same day as the Australian prime minister announced the establishment of the PPI centres of excellence. One of those centres will be located at the Samoa Police Academy, which was built by a Chinese contractor with Chinese government funding.²⁸



Workers from the Shaanxi Construction Engineering Group Corporation at the groundbreaking of the Samoa Police Academy. (Samoa Observer)

How PIF countries will achieve the maritime capability needed to secure a Blue Pacific without fragmenting the region is unresolved. PPI provides a precedent for an equivalent military capability, where the Eastern Caribbean's Regional Security System (RSS) offers a working model for pooling defence personnel and assets but under the direction of the government that has called on that military support.²⁹ PIF leaders are unlikely to support such a force, but that sentiment could change, including amongst the Melanesian Spearhead Group, as Kanak demands for independence fuel continuing unrest in New Caledonia.³⁰

The choices made will reflect financing constraints, even for larger PIF members. Australia has shown its hand by more aggressively moving to protect its defence interests, but it does expect support, particularly from New Zealand.³¹ New Zealand's defence policy has shifted under the current government, with an increased emphasis on interoperability with the Australian military and a willingness to explore the benefits of participating in AUKUS Pillar 2. Participation would potentially bring the benefit of access to advanced military technologies without compromising New Zealand's anti-nuclear position.³² The associated question concerns New Zealand's financial capability to be involved, given persistent fiscal constraints, consistently lower economic growth than Australia, and reliance on trade with China. Those considerations could well tilt the balance to protecting trade access rather than building regional defence capability.³³ How New Zealand resolves this dilemma will be watched closely by other PIF members, especially other signatories to the *South Pacific Nuclear Free Zone Treaty* (Rarotonga Treaty).

CLIMATE CHANGE

PICs "are at the frontline of the adverse impacts of climate change":³⁴ their oceanic territories cover around 20 per cent of the earth's surface. PIF leaders have long regarded climate change as the "single greatest threat to the livelihoods, security and well-being of the peoples of the Pacific",³⁵ and are unified in their efforts to protect their peoples against any adverse impacts and to have the developed world take greater responsibility for reducing and addressing the damage caused through greenhouse gas emissions, including through "timely access to scaled-up, effective and sustainable finance".³⁶ To get the developed world to accept this responsibility, PIF is relying on UN mechanisms to be effective.

In December 2024, the international climate change spotlight was on oral submissions to the advisory proceedings of the International Court of Justice (ICJ). The ICJ process started in April 2023 when the UN General Assembly requested an advisory opinion on the obligations of states under international law in respect of climate change.³⁷ The Court has also been asked to consider the legal consequences under these obligations where significant harm has been caused, particularly for small island developing states.³⁸

As important as the Court proceedings are, they are unlikely to bring the near-term change PICs are seeking, for two reasons. First, any advisory opinion of the Court will be issued against a backdrop of continued erosion of a rules-based international order; and second, ICJ advisory opinions are not binding unless "certain instruments or regulations provide that an advisory opinion by the Court does have binding force". Some subsequent action would be required of the UN to compel members to act. Pending that action, PICs would be relying on "the authority and prestige" of the Court and offending parties to act as if an advisory opinion had the sanction of international law.³⁹ Some countries argued that greater compliance with existing international agreements—

the United Nations Framework Convention on Climate Change (UNFCCC), the 1997 Kyoto Protocol, and the 2015 Paris Agreement⁴⁰—offered a greater chance of reducing greenhouse emissions. Australia favoured that approach in its written submission, pointing out that resorting to litigation would involve complex legal issues, such as demonstrating that states knowingly caused harm, factual proof of damage, and how compensation would be calculated.⁴¹

A month earlier, the spotlight was on the UN Climate Change Conference in Baku, Azerbaijan (COP29). That meeting, which had been labelled "The Finance Cop", was successful in securing increased commitments from developed countries for climate change-related financing in developing countries,⁴² the establishment of a UN carbon market, and the finalisation of the establishment of a Loss and Damage Facility.⁴³ Taking the gloss off those headlines are concerns over the US notification of withdrawal from the Paris Agreement and the cessation of financial commitments under UNFCCC,⁴⁴ unease surrounding the effectiveness of the COP process in general,⁴⁵ and continued reliance on public finance to meet the financing goals. For PICs, the reliance on public financing is even more pronounced. It remains to be seen whether governments in developed countries will have the fiscal capacity to meet their climate financing commitments alongside other demands on government revenues.



Residents run for shelter as a cyclone approaches. (Shutterstock)

The establishment of the Pacific Resilience Facility (PRF), originally championed by Dame Meg Taylor, "a custodian of regionalism",⁴⁶ during her term as Secretary General of PIFS (December 2014–May 2021) edged closer to a reality in 2024. Forum leaders reaffirmed their support for the Facility,⁴⁷ which will be Pacific-led and managed, and domiciled in Tonga. An establishment agreement will be discussed at the Special Economic Ministers Meeting in March 2025 and PIFS is aiming to have a PRF treaty ratified by September 2025.⁴⁸

PRF will focus on building resilience through grant funding of community projects underserved by large global climate funds and multilateral organisations. The Facility will not be reliant on debt financing as PIF members strive to avoid further increasing debt burdens and to shift the costs of climate change adaptation to the developed world. Proposals for initial community projects will be called in 2026.⁴⁹ PIF

leaders have targeted an initial capital of USD 500 million by January 2026, with a longer-term goal of USD 1.5 billion. Commitments to date are less than USD 200 million, with the largest commitments from Australia (AUD 100 million) and Saudi Arabia (USD 50 million).⁵⁰ Those targets are ambitious on their own and even more ambitious when positioned alongside pledges to fund competing global climate change finance initiatives.

The Pacific Catastrophe Risk Insurance Company (PCRIC) stands in contrast by being operational and offering a parametric insurance product. PCRIC is a successor to the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI), which was modelled on the Caribbean Catastrophe Risk Insurance Facility (CCRIF). The facility pools member country risk, diversifying risk to insurers and lowering operating costs. A parametric trigger allows for quick payouts in the event of a disaster. Through offering protection against lower frequency-high impact/high-cost events, and rapid settlement, this type of mechanism can supplement other post-disaster financing mechanisms.

While PCRIC attempts to address weaknesses in the design of the earlier PCRAFI, as with the proposed PRF, it is reliant on donor support to capitalise the entity and build balance sheet strength to absorb the insured risks. Currently, that donor group is small—Canada, Germany, Japan, the UK, and the US—as is the member pool—Fiji, Marshall Islands, Tonga, Samoa, and Vanuatu—both constraining the growth of the facility.⁵¹ Those constraints will have to be overcome for PCRIC to cover a wider range and larger monetary scale of catastrophes. Solomon Islands’ withdrawal from PCRAFI in 2007 when its claim to assist flood victims was not accepted still weighs on the Solomon Islands and other non-members of PCRIC.

If PICs are to be less reliant on partner governments capitalising Pacific climate finance institutions, then the

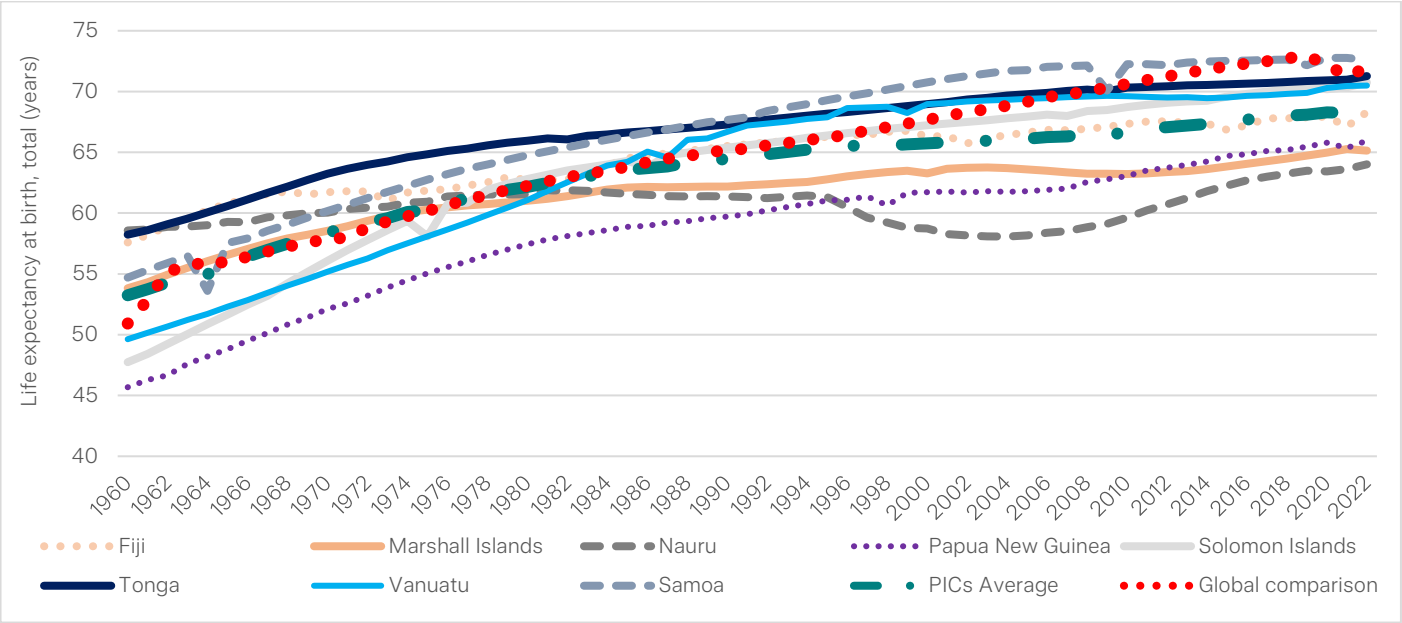
strategic implication is to develop domestic financial systems to access private pools of savings, both international and domestic. PCRIC could potentially be used to further this objective. Private sector parties have flagged their interest in adapting PCRIC (and its predecessor PCRAFI) country-specific models to build private insurance capability in PICs.⁵² PCRIC modelling could also provide a foundation for developing a Pacific catastrophe bond market. Catastrophe bonds are now an accepted disaster risk financing instrument in capital markets and could supplement other risk financing instruments. From an investor perspective, the instrument adds diversification to an international portfolio, and market participants have an incentive to build more detailed datasets and models, thereby reducing radical uncertainty to a more tractable problem that can be described through probability distributions.

Recourse to international fora and commitments moves the climate change financing discussion outside the boundaries of geopolitical rivalries. However, the possibility remains that it could be part of those rivalries because of the potential leverage major actors would gain from shouldering the burden of meeting that financing need. Developing private financing solutions will reduce that likelihood.

DEMOGRAPHIC CHANGE

The demographic profile of PICs is changing, as it is in the rest of the world. Life expectancy at birth has increased from 67 years in 2000 to 71 years in 2022,⁵³ and the proportion of the population in retirement is increasing. By 2050, 8 in 10 of the world’s retirees will be living in developing regions, including the Pacific region,⁵⁴ and retirement funds will be called on to play an increasingly important role in providing social protection to people in the retirement phase of their lives.

Figure 2: Life expectancy in the PICs



Source: [World Bank](#).

At first glance, PICs are well served, with some form of retirement scheme to be found in almost all PICs—either some form of the provident fund model or a social security administration scheme, as is the case in the north Pacific. The former are private schemes in that they are not part of the consolidated public balance sheet, while the latter are. In either case, the fund or scheme has to have the financial capability to meet continuing retirement payment obligations: both need to be underpinned by increased participation and increasing investment returns. But the ability of all funds to do so is currently compromised. The social security administration schemes of the north are defined benefit schemes with significant unfunded liabilities, and the private funds, which are typically defined contribution, are expected to compensate for underdeveloped social protection frameworks and underdeveloped financial systems. The problem manifests itself in three ways.

First, although existing PIC retirement funds are well-established, they are not part of a comprehensive retirement income policy. Retirement income frameworks in developed countries typically have three tiers—the first tier aims to provide basic financial support to protect against poverty; the second tier aims to increase the adequacy of retirement income; and the third tier aims to raise the income replacement rate.⁵⁵ Most PIC funds can be described as tier-two schemes—they are mandatory save-as-you-go schemes owned by their contributors. But in the absence of an effective tier one mechanism, they are providing a basic level of protection as well. Second, in some cases, retirement funds have been asked to cover the absence of adequate disaster risk financing mechanisms. Governments have directed funds to provide emergency financing through allowing early withdrawal of contributions, as happened in Fiji in the aftermath of Tropical Cyclone Winston in 2016 and Tropical Cyclone Yasa in 2020. Governments tend to regard the funds as a public entity, despite not being government-owned and hence not part of the consolidated public balance sheet. Both factors compromise the adequacy of retirement income and the severity of the impact depending on the age of the contributor and what proportion of accumulated contributions was withdrawn.⁵⁶

The third manifestation concerns the impact on investment returns. The financial management of these funds is affected whenever there are early returns, as funds need to have more liquid assets than otherwise would be the case with a consequent impact on investment returns. Some funds are also drawn towards providing other social services that PIC governments have underprovided—housing, health and education, for example—or to compensate for a general lack of credit from credit providers. Two contributing factors are the shortage of domestic investment opportunities and funds wanting to protect the current living standards of contributors. But there is a tension between owning finance providers that finance social finance and investing in a finance provider to boost long-term investment returns which build the wealth of contributors.

This distinction is sometimes blurred, as it was for the tier one and two roles of PIC funds, because financial services are underprovided within existing financial systems: the architecture of these systems is not fit for purpose. Underdeveloped PIC financial systems not only constrain economic development but also exacerbate existing strategic exposures. The task for

policymakers is to protect the long-term objective of underpinning retirement incomes while exploiting the long-term financing role these funds can play within the local and regional economies.

PIC retirement funds are an underestimated tool for financing Pacific development. Furthermore, they are a tool that increases Pacific agency. Retirement funds are hybrid social protection–finance mechanisms—their role is to provide a layer of social protection, but they act as financial institutions in discharging this role. Fund balance sheets must be structured accordingly in terms of asset mix, risk profile, liquidity, and predictability of income flows. They need long-term assets to match long-term liabilities of pensions and other retirement benefits.

Through pooling financial resources, individual funds can access a wider range of long-term investment possibilities within the region. This was the motivation for the establishment of the Pacific Islands Investment Forum (PIIF) in 2018. PIIF comprises 20 superannuation, provident, trust, and sovereign funds in 12 countries, serving AUD 1.6 million members⁵⁷ and with combined assets of around AUD 90 billion.⁵⁸ Infrastructure is an important asset class for retirement funds in developed countries, but PICs rely on funding from development partners to finance infrastructure investments. The CEO of the PIIF Secretariat captures PIIF's intention: "This is a trend we would like to see changed in the Pacific to enable our Pacific Funds to invest in Pacific Infrastructure."⁵⁹

If this long-term financing objective is to be realised, then policymakers need to address structural problems that are contributing to the underfinancing of PIC economies so that retirement funds can play their natural financing role. PIC development partners can also contribute to this objective through support that bolsters governments' ability to provide basic tier-one protection in preference to competing with local financial institutions. Donors have been assisting PIIF in developing as an entity and in developing a co-investment platform, and this support needs to continue, even if it means fewer loan opportunities for development partners. As was the case with climate finance, PICs need infrastructure financing mechanisms that share the risks of financing infrastructure between PICs and their development partners.

DIGITAL TRANSFORMATION

While not downplaying the opportunities offered by digital transformation, ESCAP was more concerned with the pressure that associated social dislocations—fewer employment opportunities for lower-skilled workers, for example—would put on social protection frameworks. This is less of a concern for PICs, given their industrial structure, and the focus is more on the opportunities on offer and how these transformations can improve connectivity and reduce the uncertainties of daily life. Internet availability and reliability have improved significantly, and increasing numbers of Pacific islanders can access Elon Musk's Starlink.⁶⁰ Even before factoring in the revolutionary impact of AI, improved connectivity can improve many aspects of island life, including core social services in health and education. To date, the focus in PICs has been on commerce and finance.

PIFS launched the Pacific E-commerce Initiative in 2018, and the *Pacific Regional E-commerce Strategy and Roadmap* was

endorsed by Forum trade ministers in 2021, following earlier country assessments.⁶¹ PIC development partners have also provided substantial support towards introducing digital finance innovations through identifying opportunities and policy considerations, as well as supporting the introduction of new financial products; the UN Capital Development Fund’s (UNCDF) Pacific Financial Inclusion Program is a prominent actor in this area.⁶²

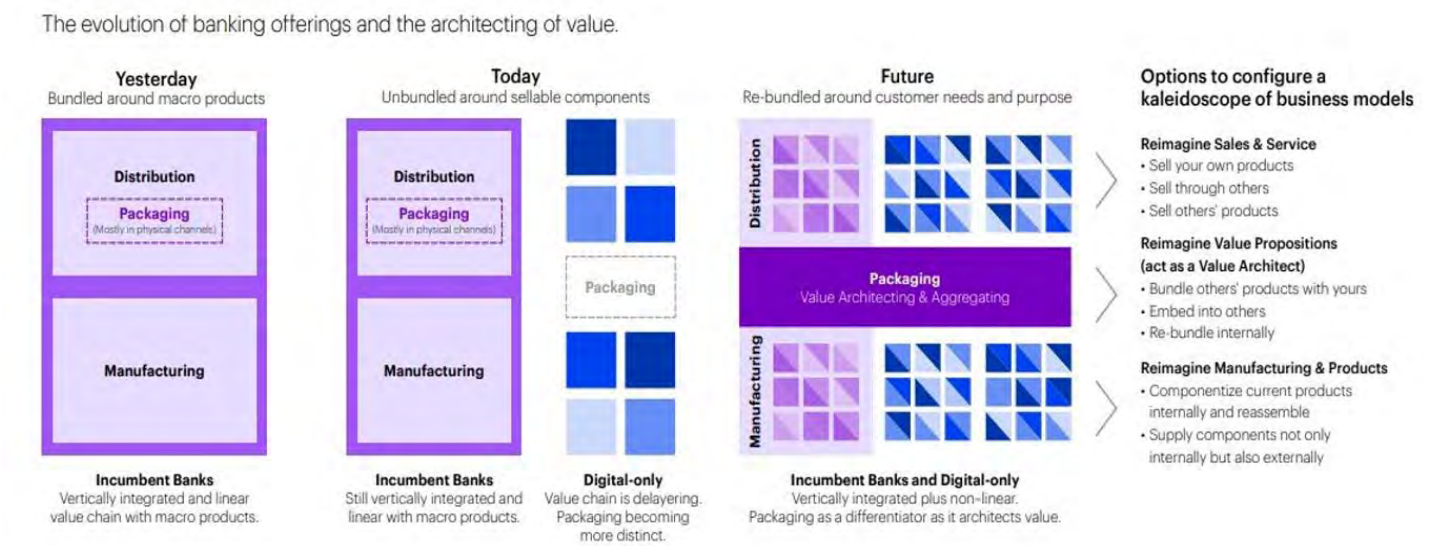


Starlink provided coverage for critical infrastructure, schools, and communities across Tonga following the tsunami in 2022. (Starlink)

Two fundamental challenges confront PIC policymakers if the opportunities for digital transformation are to be fully realised. First, the institutional framework, including the regulatory framework, has to support any digital transformation. Policymakers need a good understanding of costs and benefits and where they need to strike a balance between protecting consumers and incentivising providers. That point of balance may be different to that which exists with legacy technologies. The work of Acemoglu, Johnson, and Spence on the importance of institutions underscores this point.⁶³ The implication is that individual PICs have to have the necessary policymaking capabilities: regional initiatives can guide and support, but national policymaking is a national responsibility.

The second challenge concerns investment in new technologies and the financing of any investment. Digital solutions may overcome geographical constraints, but the scale of any business base will still be a factor in their implementation. The cost of investing in new technologies will be large relative to the business base, potentially constraining that investment, especially by smaller, local providers. The solution could lie in the modularisation of banking services—unbundling the multiple activities historically performed by banks into separate providers—and then rebundling around customer needs and purposes.⁶⁴ This would allow financial service providers to build scale through being able to offer specialist financial services across the region.

Figure 3: Modularisation of banking



Source: Accenture. [‘The Future of Banking: Time to rethink business models’](#)

Any lack of scale calls into question the role of government and development partners on ownership of new technologies, in incentivising private sector parties to take on the risk with implementing new technologies, and in financing these risks. PIC governments have a patchy record as owners of government enterprises, but there is a case when government ownership can provide additionality and can take on risk financing that private parties are not in a position to finance.⁶⁵ There is a risk that external financing from development partners—both grants and loans—comes at the cost of developing domestic financial systems, working against the PIC agency.

If PICs are to benefit widely from e-commerce initiatives, then these initiatives need a supporting digital finance infrastructure. Payment systems are being modernised to allow for new payment products and providers of payment services, as are clearing and settlement systems; however some smaller PICs are still reliant on checks and manual clearing of these checks. The more pressing issue, and one that affects a larger number of PICs, is the loss of corresponding banking relationships (CBRs). It is futile to talk of improving economic connectivity between PICs and countries outside the region if international payments cannot be made.

If unresolved, this issue threatens the economic viability of the countries affected and opens another front in the regional geopolitical contest. The search for a solution became more earnest in 2024 with the initial meeting of the Pacific Banking Forum (PBF), co-hosted by the Australian and US governments in Brisbane in July.⁶⁶ Earlier in the year, the World Bank and convened a meeting in Sydney to progress solutions to the region's CBR problem and in September the World Bank announced it would be working with PIFS and seven PICs to provide a clearing mechanism to maintain CBRs, initially through a temporary clearing house which would be succeeded by a permanent, commercially viable entity.⁶⁷ The participating countries are Fiji, Kiribati, the Marshall Islands, Samoa, Tonga, Tuvalu, and Vanuatu. PIFS will coordinate the development work and establishment of the clearinghouse in Suva. The World Bank is funding the project through its International Development Association (IDA) funding window.

Any permanent CBR solution will come with demanding AML/CFT requirements for participating countries; the weakness in those regimes is a major factor behind the loss of CBRs, and the need for PICs to strengthen these regimes is a feature of any discussion on Pacific finance, including at the PBF. It was also a feature of the *Nauru-Australia Treaty*, under which Australia support the protection of continued banking services in Nauru.⁶⁸ PICs already receive considerable technical assistance to strengthen AML/CFT frameworks, but it is not clear that individual PICs can maintain the capability required without ongoing assistance. The proposed CBR solution points to a way forward, with development partners taking on more of the risk of countries not being able to meet international AML/CFT standards.

A permanent CBR solution will also provide a more solid foundation for developing PIC banking systems, but regulatory frameworks need to change to support this objective. Regulators need to encourage new digital banking platforms, and the unbundling of financial services, especially where the sponsors are willing to address business financing needs and to provide banking services outside the main urban areas. The regulatory point of balance needs to be moved towards incentivising providers and away from protecting depositors through less restrictive entry and capital requirements. PIC regulators already have the agency to apply international prudential banking standards in a more proportionate manner, and this application needs to be supported by development partners: PIC regulators should not be applauded for compliance with international standards—standards that were not targeted at small banks in small countries—when their banking systems do not provide the credit needed to finance the domestic economy.

CONCLUSION

This chapter has highlighted the intrinsic uncertainties that characterise daily life in PICs and the way global megatrends are exacerbating these uncertainties. Policymakers continually grapple with balancing the imperatives of providing for and protecting their populations. External support is essential for both, but there are real tensions between the interests being served by that external support and the interests of PICs. The task for all is to align respective interests to reduce intrinsic uncertainties. The onus for achieving a closer alignment falls disproportionately on external partners. It will require an intellectual shift that emphasises external actors' responsibilities and duties to PICs and a corresponding operational shift to bear the financial costs of discharging those responsibilities: external actors must be prepared to finance a greater share of the risks—the uncertainties—of PIC life.

If strengthening the PIC agency is a genuine objective and Pacific islanders are to have greater influence over their domestic and international affairs, then policymakers need a capability that matches that aspiration. That capability is more than the application of some technical apparatus. It is the application of such apparatus to problems that affect a local population that brings its own value set to the trade-offs within any policy decision.

Universities are well-placed to further this objective. But engagements that raise awareness of Pacific life and greater visibility of Pacific academics, including in senior administrative roles are not enough. Curricula need to equip students with skillsets to provide relevant public policy advice. One of the capabilities needed is to be able to critically assess the applicability of mainstream advice in other countries. In addition to deepening public policy skills, university research can contribute to developing theoretical frameworks that have more explanatory power in the Pacific islands. The task is to teach an economics that can be used in PICs, as opposed to doing mainstream economics in PICs. Mainstream economics, through its emphasis on individualism and markets, does not capture the highly communitarian values and behaviours in Pacific islands life, as Ratuva notes in his advocacy for a turn to social economics and social solidarity.⁶⁹

Similarly, the importance of institutions has generally been neglected in the teaching and practice of economics. That is changing, and the importance of institutions to economic development is more widely accepted.

The 2024 Nobel Prize in Economic Sciences was awarded to Daron Acemoglu, Simon Johnson, and James A Robinson “for studies of how institutions are formed and affect prosperity”.⁷⁰ That work demonstrates that:

“There are vast differences in prosperity between nations. One important explanation for this is persistent differences in societal institutions. By examining the various political and economic systems introduced by European colonisers, Daron Acemoglu, Simon Johnson and James A. Robinson have been able to demonstrate a relationship between institutions and prosperity. They have also developed theoretical tools that can explain why differences in institutions persist and how institutions can change.”⁷¹

PIC policymakers cannot ignore the implications of this work, but they need to be equipped with academic training in ways of thinking with economics that are compatible with the values, institutions, and choices that confront Pacific island policymakers.

RECOMMENDATION 1

Encourage universities to contribute more actively to developing theoretical frameworks that enhance policymaking capabilities in PICs

1. Assess applicability of mainstream economic thinking to Pacific island contexts and identify alternative ways of thinking with economics that captures the communitarian values and behaviours in Pacific island life.
2. Critically examine the impact of PIC institutions on living standards and economic development to:
 - a. Identify where existing institutions constrain economic development and identify the dynamics of institutional change in PICs; and
 - b. Ensure that regulatory frameworks facilitate digital transformations and productivity increases, more generally.

The under-provision of finance is a longstanding problem in PICs and one that has severely constrained PIC economic development. Again, a Pacific-centric approach is needed. That approach requires a rethink of the institutional approach to finance and an acceptance that a lack of finance is the most important finance sector policy issue confronting PIC policymakers. Addressing this problem requires regulatory frameworks to be reset to tilt more towards incentivising credit providers than protecting depositors and investors, and to encourage the unbundling of financial services. It also requires PIC retirement funds to play a more active role in financing long-term domestic investments, including essential infrastructure and regional development.

This rebalancing needs to be supported by a proportional application of international standards to PICs and a rethinking of the nature of a financial regulator in PICs. Most PICs will

only be able to support a single financial sector regulator, and that regulator needs to be able to provide core central banking services—banker and fiscal agent of government and operator of the payments system—as well as regulating and supervising the entire financial system, not just the banking system.

PICs also need their development partners to re-appraise their financing modalities. External interventions should not compromise local financial sector development. If partners value PIC agency, then the sustainable route to that objective is through ensuring that external financial assistance does not blunt domestic financing opportunities and that governments do not carry heavy debt burdens. PICs need more risk finance to cope with the uncertainties of PIC life and external partners, potentially, can play a substantive role in providing that finance alongside PIC financiers.

RECOMMENDATION 2

Prioritise the development of financial systems to effectively meet domestic financing needs.

1. Rationalise the financing role of development partners to:
 - a. Reduce debt financing and increase risk financing, particularly for disaster risk finance; and
 - b. Generally, contribute to the development of domestic financial systems.
2. Ensure that the financial sector regulator in small PICs has a legal mandate to provide core central banking services and regulate the entire financial system.
3. Continue to build a co-investment platform for PIC retirement funds so they can pool investment funds to finance essential infrastructure.

Crafting and implementing PIC-centric economic and financial policies will require a shift in the way PIC external partners frame their engagements. The application of international standards needs to be more selective, with a corresponding emphasis on finding the level of proportionality that fits PIC contexts. Where there is less room to be selective—with AML/CFT standards, for example—then the cost of compliance needs to shift to external partners; it is in their interest to do so, and they are, relatively, in a much stronger financial position.

RECOMMENDATION 3

Employ a more selective application of international standards

1. International standards to be proportionately applied in PICs wherever possible.
2. Where proportionality increases the risks to external partners, then these partners need to finance the costs of PIC compliance.

NOTES AND REFERENCES

- 1 Lewis, L. (2024). 'The stories that excited and shook the Pacific in 2024'. *Pacific Waves*. Radio New Zealand. <https://www.rnz.co.nz/international/programmes/datelinepacific/audio/2018969408/the-stories-that-excited-and-shook-the-pacific-in-2024>
- 2 United Nations ESCAP. (2024). *Protecting our future today: Social protection in Asia and the Pacific*. Social outlook for Asia and the Pacific 2024. United Nations Economic and Social Commission for Asia and the Pacific. <https://socialoutlook.unescap.org/protecting-our-future-today-social-protection-asia-and-pacific>
- 3 The report covers 27 countries that are included in ESCAP's 27 countries of the ESCAP Social Protection Online Tool Simulator. Seven PICs were included—Cook Islands, Kiribati, Federated States of Micronesia, Marshall Islands, Palau, Tonga, and Vanuatu—but methodology does not differentiate between these countries, relying on general results for Oceanic islands.
- 4 In this chapter, PICs refers to sixteen countries—the full members of the Pacific Islands Forum, other than Australia and New Zealand.
- 5 King, M., & Kay, J. (2020). *Radical uncertainty: Decision-making for an unknowable future*. Hachette UK. See King M, Kay J. *Radical uncertainty: decision-making for an unknowable future*: The Bridge Street Press; 2021.
- 6 Collier, P. (2024). *Left behind: a new economics for neglected places*. Hachette UK.
- 7 King and Kay (2020).
- 8 North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge University. North reference on risk transformation.
- 9 Collier, P. (2024). p. 243.
- 10 Naupa A, Newton Cain T. 'Leaving nothing to chance: sustaining Pacific development beyond 2024'. In: Neodipil C, Ge G (eds). *Griffith Asia-Pacific Strategic Outlook 2024: Unlocking Asia Pacific's global leadership in sustainable development*.
- 11 See: Griffith Asia Institute. *Defence diplomacy in the Pacific*. <https://www.griffith.edu.au/research/business/asia-institute/pacific-hub/defence-diplomacy-in-the-pacific>; Wong P, Wells A. *Making Australia stronger and more influential through sport*. Joint media release 2 June 2024. <https://www.foreignminister.gov.au/minister/penny-wong/media-release/making-australia-stronger-and-more-influential-through-sport>.
- 12 Edel, C., & Paik, K. (2024). *The Compacts of Free Association, Congress, and Strategic Competition for the Pacific*. CSIS. <https://www.csis.org/analysis/compacts-free-association-congress-and-strategic-competition-pacific>.
- 13 Department of Foreign Affairs and Trade. *Tuvalu*. <https://www.dfat.gov.au/geo/tuvalu>.
- 14 Dreaver, B. (2023). *Serious questions over Australia-Tuvalu Union*. 1News. 13 November. <https://www.1news.co.nz/2023/11/13/barbara-dreaver-serious-questions-over-australia-tuvalu-union/>.
- 15 Article 1 (a) of the Nauru-Australia Treaty states that the purpose of the Treaty is to "reflect the Parties' unique and longstanding relationship and elevate it to an integrated economic, social and security partnership".
- 16 *Nauru-Australia Treaty*, Article 3. Article 3 of The Treaty provides: (1) Australia shall support Nauru to sustain the existing level of services and access to the international financial system. (2) For Australia to support sustainable banking services, Nauru shall strengthen its enforcement of and compliance with its financial regulatory framework. (3) Australia and Nauru shall jointly advocate for improvements in Nauru's banking accessibility and connectivity, including in international fora, as appropriate. Commonwealth Bank of Australia will commence banking operations in Nauru in 2025, replacing services currently provided by the Bendigo and Adelaide Bank, and banking services before Bendigo and Adelaide Bank. Reference Article 3 of Treaty.
- 17 Keen, M., & Sora, M. (2024). *Looking through a Pacific Islands lens: Access, accountability, and alignment in global engagements*. <https://www.lowyinstitute.org/publications/looking-through-pacific-islands-lens-access-accountability-alignment-global>
- 18 Ibid.
- 19 See Pacific Islands Chiefs of Police. <https://www.picp.co.nz/our-work>.
- 20 PPI has three pillars: Pillar 1—Regional Centres of Excellence—to enhance Pacific police capabilities through specialist training and operational support.; Pillar 2—the Pacific Police Support Group (PPSG) for rapid response across the region; and Pillar 3—the Pacific Policing Development and Coordination Hub – to train individuals in the PPSG, support the centres of excellence, and enhance donor coordination. See Prime Minister of Australia. Pacific leaders endorse Pacific Policing Initiative. 28 August 2024. <https://www.pm.gov.au/media/pacific-leaders-endorse-pacific-policing-initiative>.
- 21 Pacific Islands Forum. (2024). *Fifty-Third Pacific Islands Forum*. Forum Communiqué. https://forumsec.org/sites/default/files/202408/53rd%20Pacific%20Islands%20Forum%20Communiqu%C3%A9_FINAL.pdf
- 22 Pacific Islands Forum. (2024). *Joint Leaders' Statement - Pacific Islands Forum, Tonga*. <https://www.pm.gov.au/media/joint-leaders-statement-pacific-islands-forum-tonga>
- 23 Wyeth G. (2024). 'Pacific islands agree on \$270 million Pacific Policing Initiative'. *The Diplomat*. 29 August. <https://thediplomat.com/2024/08/pacific-islands-agree-on-270-million-pacific-policing-initiative/>.
- 24 Ibid.
- 25 Vallejera J. (2024). 'Policing the Pacific by the Pacific'. *Pacific Island Times*. Updated 12 October 2024. <https://www.pacificislandtimes.com/post/policing-the-pacific-by-the-pacific>.
- 26 Australian Broadcasting Commission. 'Pacific islands leaders endorse regional policing initiative in strategic victory for Australia'. ABC News. 28 August 2024. <https://www.abc.net.au/news/2024-08-28/vanuatu-melanesia-officials-warn-policing-could-block-china/104277614>.
- 27 Pacific Islands Forum. (2024). *Pacific Leaders Endorse Pacific Policing Initiative*. Media Release. <https://www.pm.gov.au/media/pacific-leaders-endorse-pacific-policing-initiative>. [Accessed January 15 2025]
- 28 Fox, L., & Dziedzic, S. (2024). 'Australia officially launches \$400 million Pacific Policing Initiative in Brisbane'. ABC News. 10 December 2024. <https://www.abc.net.au/news/2024-12-10/australia-opens-400-million-pacific-policing-initiative/104708312>. Support included four small patrol boats, 20 motorcycles and 20 cars.
- 29 Regional Security System. (2025). *Regional Security System Overview*. <https://www.rss.org.bb/about#overview>.
- 30 The Pacific Islands Forum.2024. *High level Forum Mission to visit New Caledonia*. <https://forumsec.org/publications/release-high-level-forum-mission-visit-new-caledonia>.
- 31 Minister for Foreign Affairs. (2024), *Joint press conference, Auckland, New Zealand*. <https://www.foreignminister.gov.au/minister/penny-wong/transcript/joint-press-conference-auckland-new-zealand>.
- 32 <https://www.defence.govt.nz/assets/publications/23-0195-Defence-Policy-and-Strategy-Statement-WEB.pdf>; <https://www.securityincontext.org/posts/what-you-should-know-about-new-zealands-potential-involvement-in-aukus-pillar-two>; <https://www.australiandefence.com.au/news/news/nz-defence-policy-review-under-scrutiny>
- 33 Hooton M. (2025). 'Fiscal policy will push New Zealand back to China – Matthew Hooton'. *New Zealand Herald*. 3 January 2025. <https://www.nzherald.co.nz/business/fiscal-policy-will-push-new-zealand-back-to-china-matthew-hooton/U40B2N77ERAMBEEUK2WPVE5EXQ/>.

- 34 Pacific Islands Forum Secretariat. (2022). *2050 strategy for the blue Pacific continent*. Suva (FJ). p. 8. <https://forumsec.org/sites/default/files/2023-11/PIFS-2050-Strategy-Blue-Pacific-Continent-WEB-5Aug2022-1.pdf>.
- 35 Pacific Islands Forum. (2018). *Boe Declaration on Regional Security*. <https://forumsec.org/publications/boe-declaration-regional-security>.
- 36 Pacific Islands Forum Secretariat, 2022. p. 8. <https://forumsec.org/sites/default/files/2023-11/PIFS-2050-Strategy-Blue-Pacific-Continent-WEB-5Aug2022-1.pdf>.
- 37 International Court of Justice. The General Assembly of the United Nations requests an advisory opinion from the Court on the obligations of States in respect of climate change. Press Release. Press release no. 2023/20: 19 April 2023. <https://www.icj-cij.org/sites/default/files/case-related/187/187-20230419-PRE-01-00-EN.pdf>.
- 38 International Court of Justice. *Request for an advisory opinion: obligations of states in respect of climate change*. <https://www.icj-cij.org/sites/default/files/case-related/187/187-20230412-app-01-00-en.pdf>.
- 39 International Court of Justice. *How the court works*. <https://www.icj-cij.org/index.php/how-the-court-works>.
- 40 See <https://unfccc.int/about-us/about-the-secretariat>. "The ultimate objective of all three agreements under the UNFCCC is to stabilise greenhouse gas concentrations in the atmosphere at a level that will prevent dangerous human interference with the climate system, in a time frame which allows ecosystems to adapt naturally and enables sustainable development."
- 41 International Court of Justice. *Obligations of states in respect of climate change (request for an advisory opinion)*. Written statement of Australia. 22 March 2024. Chapters 5–6. <https://www.icj-cij.org/sites/default/files/case-related/187/187-20240326-wri-02-00-en.pdf>.
- 42 <https://unfccc.int/news/cop29-un-climate-conference-agrees-to-triple-finance-to-developing-countries-protecting-lives-and>.
- 43 United Nations. Framework Convention on Climate Change. New collective quantified goal on climate finance. FCCCPA/CMA/2024/L.22. 24 November 2024.
- 44 Executive Office of the President. *Putting America first in international environmental agreements*. Executive Order 14162. 20 January 2025. <https://www.federalregister.gov/documents/2025/01/30/2025-02010/putting-america-first-in-international-environmental-agreements>.
- 45 Hanson I. 'The finance Cop' delivers fragile climate pledge, but leaves questions unanswered. *Global Trade Review*. 27 November 2024. <https://www.gtreview.com/news/sustainability/the-finance-cop-delivers-fragile-climate-pledge-but-leaves-questions-unanswered/>.
- 46 Comments by then-Fiji Special Envoy to the Pacific Islands Forum, Ratu Inoke Kubuabola, on completion of Secretary General Taylor's term. <https://forumsec.org/publications/forum-troika-leaders-farewell-custodian-regionalism-final-meet-dame-meg-taylor>.
- 47 Pacific Islands Forum Secretariat. Pacific Resilience Facility. Fact Sheet. https://forumsec.org/sites/default/files/2024-09/PRF%20FACT%20SHEET_0.pdf.
- 48 Pacific Islands Forum Secretariat. Pacific Resilience Facility on track to finalise establishment treaty. News release. 28 January 2025. <https://forumsec.org/publications/release-pacific-resilience-facility-track-finalise-establishment-treaty>.
- 49 Pacific Islands Forum Secretariat. Fact Sheet.
- 50 Pacific Islands Forum Secretariat. 53rd Pacific Islands forum communique. p. 5. https://forumsec.org/sites/default/files/2024-08/53rd%20Pacific%20Islands%20Forum%20Communique_FIN_AL.pdf.
- 51 Pacific Catastrophe Risk Insurance Company. Formation and history. <https://pcric.org/formation-and-history/>.
- 52 World Bank Group. Pacific catastrophe risk insurance pilot: from design to implementation: some lessons learned. July 2015. <http://documents.worldbank.org/curated/en/655341475523018949/Pacific-Islands-Pacific-Catastrophe-Risk-Insurance-Pilot-Program-Project>.
- 53 World Bank Group. Life expectancy at birth, total (years). World Bank. <https://data.worldbank.org/indicator/SP.DYN.LE00.IN?end=2022&locations=SB&start=1960&view=chart>.
- 54 Economic and Social Affairs. (2017). World Population Ageing. United Nations. https://www.un.org/en/development/desa/population/publications/pdf/ageing/WPA2017_Highlights.pdf.
- 55 OECD (1998). Maintaining prosperity in an ageing society; also see World Bank Group. Averting the Old Age Crisis: Policies to Protect the Old and Promote Growth. World Bank Policy Research Report. Washington, DC: Oxford University Press. 1994.
- 56 See Guo S, Narita F. *Self-insurance Against Natural Disasters: The Use of Pension Funds in Pacific Island Countries*. IMF working paper WP/18/155. April 2018 for a more detailed discussion of the policy implications.
- 57 The Pacific Islands Investment Forum. <https://www.pacificislandsinvestmentforum.com/>.
- 58 Etches M. 'Investment forum oversees assets of \$100b'. Cook Islands News. 9 November 2004. <https://www.cookislandsnews.com/internal/national/regional/economy/pacific-islands/investment-forum-oversees-assets-of-100b/>.
- 59 Pacific Islands Investment Forum. (nd). *A conversation with the Secretariat*. <https://www.pacificislandsinvestmentforum.com/feature/secretariat-damien-beddoes>.
- 60 <https://apibc.org.au/2025/starlink-approved-to-enhance-tongas-internet-access/>.
- 61 Pacific Islands Forum Secretariat. *Pacific E-commerce Initiative*. Pacific Regional E-commerce Strategy and Roadmap. <https://pacificcommerce.org/wp-content/uploads/2022/06/Regional-Ecommerce-Strategy-Roadmap.pdf>; see also Pacific E-commerce Initiative. *E-commerce Assessment December 2020*. <https://forumsec.org/sites/default/files/2024-03/REGIONAL-ECommerce-Assessment.pdf>.
- 62 See: UNCDF. *The Pacific Financial Inclusion Programme: Building the rails: expanding access to financial services in the Pacific*. 2022. <https://www.uncdf.org/article/7977/the-pacific-financial-inclusion-programme-building-the-rails-expanding-access-to-financial-services-in-the-pacific>; UNCTAD. Pacific Digital Economy Report 2024. Hunter S, Houghton L, Marshall A, Mi L. UNCTAD. *Shaping an environmentally sustainable and inclusive digital future. Digital Economy Report 2024*. <https://unctad.org/publication/digital-economy-report-2024>.
- 63 Acemoglu, D., & Robinson, J. (2008). *The role of institutions in growth and development* (Vol. 10). Washington, DC: World Bank.
- 64 Accenture. *The Future of Banking: Time to rethink business models*. <https://www.accenture.com/us-en/insights/future-banking-business-models>.
- 65 The Private Sector Development Initiative. (2020). *Government-Owned Banks: Their Role in Pacific Financial Systems*. <https://www.pacificpsdi.org/assets/Uploads/ADB-PSDI-GovernmentOwnedBanks-Web.pdf>.
- 66 The Treasury. Pacific Banking Forum outcomes statement. https://treasury.gov.au/sites/default/files/2024-07/p2024-552688_0.pdf.
- 67 World Bank Group. *World Bank works to ensure Pacific island countries stay connected to global financial system*. Press release no: 2025/013/EAP. <https://www.worldbank.org/en/news/press-release/2024/09/06/world-bank-works-to-ensure-pacific-island-countries-stay-connected-to-global-financial-system>.
- 68 Minister for Foreign Affairs. (2024). *Nauru-Australia Treaty*. <https://www.foreignminister.gov.au/minister/penny-wong/media-release/nauru-australia-treaty#:~:text=Through%20the%20treaty%2C%20Australia%20will,of%20Bendigo%20Bank%20next%20year>.
- 69 Chand, B. (2024). *Asia-Pacific Small States: Political Economies of Resilience*. Edited by Stephen Noakes and Alexander C. Tan. Pacific Affairs, 97(2), pp. 415–417.
- 70 The Nobel Prize. (2024). Daron Acemoglu – Facts. <https://www.nobelprize.org/prizes/economic-sciences/2024/acemoglu/facts/>.
- 71 Ibid.



Reimagining disability: Is inclusion a macroforce that will shape Asia and the Pacific for the next 20 years?

Dian Tjondronegoro, Elizabeth Kendall,
Shawn Hunter and Elena Mayer-Besting



ESCAP
Economic and Social Commission
for Asia and the Pacific

INTRODUCTION

Disability inclusion is not just a moral or social imperative—it is essential for the success of economic growth and development in the Asia-Pacific region. As nations navigate rapid demographic, technological, and environmental changes, an inclusive approach must be embedded in every aspect of policymaking and economic planning. Excluding people with disabilities from this process will not only undermine social progress but also limit the effectiveness of responses to major megatrends shaping the region's future.

People with disability are overrepresented amongst the poorest and most marginalised people globally,¹ disproportionately affected by health threats such as the COVID-19 pandemic² and increasingly at risk from the growing impacts of the ongoing climate crisis.³ The Asia-Pacific region is home to an estimated 700 million people with disability, nearly 1 in 6 citizens in the region, requiring that disability should be a prominent issue to be addressed in future.⁴

Achieving growth and development in the Asia-Pacific region is crucial for long-term economic stability and prosperity for all citizens, particularly people with disability, as it can lead to increased employment opportunities, better social services, improved infrastructure and accessibility, and greater access to assistive technology. However, for these benefits to be realised, policymakers and businesses must actively integrate disability inclusion into their strategies.

The region's future will be defined by the megatrends or long-term patterns that will shape our future economic, technological, and social systems. By understanding these long-term patterns, policymakers and businesses can adapt strategies that leverage emerging opportunities, address challenges, and ensure sustainable development. Disability inclusion is essential for the region as it will determine the success or failure of any responses to the megatrends. As Asia-Pacific nations increasingly navigate rapid demographic, technological, and environmental changes, an inclusive future will need to underpin and be embedded within each of these shifts. Inclusion is not just a peripheral concern but an overarching macroforce with the potential to accelerate or undermine social and economic progress across the region. Its status as a macroforce makes inclusion even more crucial to the region's future than the identified megatrends.

THE CURRENT SITUATION

Despite impressive economic growth in Asia and the Pacific over the past few decades, the region remains marked by high levels of inequality, particularly for people with disability. The region's richest 10 per cent control more than half of the total income and the gap between rich and poor, rural and urban, and between different ethnic and social groups continues to widen.⁵ These inequalities are further compounded by the region's insufficient efforts to address the unique challenges faced by people with disabilities, particularly in terms of accessibility and inclusion.

Regional efforts to address disability have not addressed persistent barriers to accessibility, employment, and social inclusion. Countries with weaker governance, economic instability, and deep-rooted stigma continue to face major challenges in ensuring disability rights and inclusion. Significant disparities remain, especially in rural areas where access to education, healthcare, and assistive technologies is limited. The inequalities are exacerbated by natural disasters that disproportionately impact people with disability, the lack of accessible evacuation plans, higher rates of both communicable and non-communicable diseases, a heightened risk of pandemics, such as COVID-19, and poorer healthcare access.⁶ These challenges are exacerbated by discriminatory attitudes, inadequate infrastructure and underrepresentation in policy and development discussions.⁷

Nevertheless, trends indicate slow but positive progress in policy frameworks, with more countries adopting disability-inclusive legislation and ratifying the UN Convention on the Rights of Persons with Disabilities (CRPD). While this is positive, policy adoption must be only a first step followed by effective implementation. Unfortunately, in many contexts, even where disability laws exist, policy implementation gaps often result in weak enforcement, limiting their impact. Similarly, although digital inclusion is improving with access to assistive technologies, implementation is inconsistent across countries and districts in the region.

As the region continues to work towards sustainable and inclusive growth, there is a critical need for greater focus on disability inclusion, ensuring that people with disability are fully integrated into the development agenda and that their rights and potential are recognised and supported. Investing in disability inclusion can reduce the long-term costs associated with inequality, such as increased reliance on social welfare programs and healthcare services;⁸ and, by ensuring equal access to both economic and social resources, policymakers can tap into a valuable pool of talent and innovation, driving economic growth and resilience for the whole society. Societies that are more inclusive of people with disability benefit from higher levels of productivity, as diverse workforces bring a range of perspectives and skills that contribute to better problem-solving and decision-

making.⁹ There is increasing recognition that people with disability bring unique strengths to society and diversify the workforce. For example, neurodivergent individuals may excel in in-demand fields such as big data analysis, entrepreneurship, innovation and creativity.¹⁰ As the global population ages – especially in Asia-Pacific, where demographic shifts are accelerating, ensuring that people with disability can fully participate in society is not only a moral imperative but a smart economic strategy for sustainable development.¹¹

Despite these trends, disability is still largely seen through a “deficit” mindset and often as the cause of additional burden (e.g., to provide accessible spaces or to address the health burdens of supporting impairments and chronic illness). Although disability inclusion can be viewed as an added cost, reframing it as a strategic investment can unlock its transformative potential as a driver of broader societal and economic progress.



Founded by Alina Alam (front row, second from right), Mitti Cafe runs a chain of cafes in India managed by persons with disabilities, many of whom come from low-income communities. (Image: Mitti Café Facebook)

THE ROLE OF MEGATRENDS

A megatrend is a collection of observable patterns of economic, social, or environmental activity that will transform the way people live in the foreseeable future. They are often concrete changes that can be tracked historically, are relatively predictable over time and can be harnessed in positive ways. There are six key themes of megatrends synthesised from five global trends reports published over the last decade covering current and emerging issues for the next two decades until 2040.¹² These megatrends focus on six themes (1) climate and energy, (2) health, (3) geopolitics, (4) digital transformation, (5) AI and automation, and (6) governance. Each of these trends is shaping the future in profound ways—climate and energy focus on the growing

need for sustainable solutions; health emphasises advances in healthcare and the challenges of aging populations; geopolitics highlights shifts in global power and relations; digital transformation reshapes economies through connectivity; AI and automation redefine labour markets, decision-making, productivity, and innovation; and governance examines how institutions adapt to these changes.

These key global megatrends that are expected to shape the world over the next two decades are shown in Table 1. The Table highlights how these trends align and diverge according to different analyses, providing insights into the common themes and challenges that are likely to drive future policy and innovation. By comparing these perspectives, the table also illustrates how different influential organisations approach critical issues like climate change, technological disruption, and geopolitical shifts. To guide the megatrends towards a sustainable future in the Asia-Pacific region, it is important to confront them from an inclusive foundation.

Table 1: Six global megatrend themes for the next two decades (2023–2040)

| Dimension of trends | CSIRO's seven megatrends (for the next two decades, 2043) ¹³ | ESPAS' game changers (global trends to 2030) ¹⁴ | OECD's global trend government innovations (2017) ¹⁵ | National Intelligence Council's global trends 2040. ¹⁶ | Ipsos global trends 2023 – six macroforces and key themes ¹⁷ |
|---------------------|--|---|---|---|---|
| Climate and energy | <p>Adapting to climate change: natural disasters and unprecedented climate events.</p> <p>Leaner, cleaner and greener: resource constraints, advanced recycling, and net-zero energy transition.</p> | <p>Save the planet: Climate-related decisions determine the future of economies and societies.</p> | <p>Case study on the use of innovative tools in extreme weather (forecasting, prediction, and detection of sandstorms) and disaster mapping (real-time floods)</p> | <p>Climate change effects are intensifying, with disproportionate impacts on developing and poorer regions. Urgency to reach zero green-house emissions.</p> | <p>Environmental emergencies: Climate change, the push for greener thinking and the risks of over development.</p> |
| Health | <p>The escalating health imperative: respond to health risks and improve health outcomes.</p> | <p>Health of life: improve ageing, such as morbidity compression to reduce the cost of age for health and long-term care. Radical healthcare policy choices to address obesity and stop smoking.</p> | <p>Case study for next-gen personalised services: the Wellbeing project</p> | <p>Major demographic shifts (global population growth slows and the world rapidly ages).</p> | <p>Societies in flux: ageing population, migration, greater diversity, identity fluidity, and life stage evolutions.</p> <p>Well-rounded and well-being: growing mental health crisis, health system inequality, health technology integration.</p> |
| Geopolitics | <p>Geopolitical shifts: growth of global trade, geopolitical tensions, and cybercrime.</p> | <p>Bold vision for humanity, reject violence and be ready to defend it, use defence as a main tool for conflicts at home and abroad</p> | <p>Case study on the use of blockchain technology for electoral processes to participate in a plebiscite on peace treaty.</p> | <p>Conflict-prone and volatile geopolitical environments and global economic trends, e.g., fragmentation and competition on economic, cultural, and political issues. Less likely leadership/ domination by one region/state.</p> | <p>Political splintering: plateau of globalisation, increased geopolitical conflicts, and inequality.</p> |
| Digital | <p>Diving into digital: the pandemic-induced rise of digitalised business, telework, telehealth, online shopping, and digital currency.</p> | <p>Shape the digital ethics, agile regulatory for ongoing race of digital leadership and innovation. Decisive actions to new technology and counter technology developments that undermine democracy and human rights.</p> | <p>Rethinking government's machinery (new materials, production tech and new ways of work), delivering innovations, such as digital services, preventative healthcare, internal mechanisms that enable innovations. Innovation tools are presented in case studies across themes.</p> | <p>Faster pace of innovations using technology that can offer solutions to problems.</p> | <p>"Tech-celeration" (technological advances is accelerating): pervasive and immersive tech, AI and quantum computing.</p> |
| AI and automation | <p>Increasingly autonomous: the explosion of AI discoveries and use.</p> | <p>Pre-empt disruption of automation to labour market by retraining</p> | <p>Pairing human knowledge with innovative tools, such as big data analytics, drones, and social networks.</p> | <p>Technology leads to rapid transformation and disruption of human capabilities and experiences, such as job displacements.</p> | <p>"Tech-celeration": increased automation and toll of technology.</p> |
| Governance | <p>Unlocking the human dimension: trust, transparency, and fairness in decision making, social, and environmental governance.</p> | <p>Protect democracy and our way of life: closing the gaps between citizens and their governments, strengthening law against populist erosion.</p> <p>Achieve equality of participation and opportunities for better preparedness to face future societal challenges.</p> | <p>Scaling government, redefining citizen-government boundaries (citizens as expert), next-gen service delivery, experimental (agile and adaptive) government to harness strategic investments.</p> | <p>Governments and institutions are increasingly strained due to less trust on meeting individual needs. People increasingly prefer like-minded groups.</p> | <p>Political splintering: rethinking institutions</p> <p>Inequalities and opportunities: employee power shift, generational wealth disparities, inflation impacts and different value structures.</p> |

Source: Authors.

INCLUSIVITY AS MACROFORCE: OPPORTUNITIES AND CHALLENGES FOR ASIA AND THE PACIFIC

The purpose of identifying these trends is to ensure that they can be addressed promptly through necessary policy reforms and facilitate better quality of life and resilience for all citizens. However, if inclusivity is left unaddressed or insufficiently considered in conceptualising the trends, policy responses will only further widen the gaps and barriers for people with disability across the region. Importantly, the impact of these gaps and barriers is not experienced equally. People with disability who also belong to other marginalised groups often face compounded disadvantages. For example, women with disability are particularly vulnerable to gender-based violence, which is known to increase during crises such as natural disasters, where accessibility barriers further limit their ability to seek safety and support.¹⁸ Similarly, people with disability from low-income backgrounds face heightened economic insecurity due to employment discrimination, inadequate social protections, and limited access to essential services.¹⁹ These intersecting inequalities mean that the risks associated with exclusion—whether in health, employment, or governance—are amplified for those at the crossroads of multiple marginalised identities. Without a deliberate intersectional approach to inclusion, policy responses risk reinforcing these disparities rather than addressing them, further entrenching systemic inequities. Therefore, inclusivity must underpin and be integrated into the conceptualisation of policies and mechanisms addressing these global megatrends so that we can create a future that is equitable and accessible for all.

A region's ability to navigate the identified megatrends over the next 20 years will depend on its commitment to inclusion as a macroforce. A macroforce is a deep, systemic driver that can shape entire societies, economies, and industries over long time horizons (often centuries or millennia). Macroforces have been discussed across various disciplines, including physics, economics, and sociology, in reference to core underpinning or overarching processes that affect entire structures, populations, and industries rather than being contained in their impact. They are high-level, abstract influences that may not be immediately visible but shape multiple megatrends and determine how systems develop over time and across places. At the turn of the century, Olsen (1999) speculated about four macroforces that would underpin the future—globalisation, the knowledge-based

economy, the quality demanded from service systems and the desire for improved well-being. These macroforces have altered the way society works across the world and have influenced how megatrends are harnessed or experienced in different countries.

Over the past few decades, the concept of inclusion has evolved from a niche social movement into a central pillar of policy-making, education, and corporate governance worldwide. The momentum for inclusivity has been driven by international legal frameworks, strong advocacy groups, and increased awareness of stark social inequalities. Inclusion for all citizens is now a macroforce worthy of considerable resistance from those who hold privileged positions in society. Systems seeking to benefit from the megatrends must facilitate the active participation of all parts of society, particularly people with disability. The experiences and needs of people with disability must be at the forefront of development to ensure equitable opportunities and civic engagement of all citizens. In contrast, the exclusion of people with disability—or any other group—from economic and social opportunities not only violates their human rights but also hinders the overall socio-economic progress of the region. Disability inclusion is inherent to the creation of an equitable and just society, particularly in the diverse and dynamic Asia-Pacific region, where people from varied cultural, ethnic, and socioeconomic backgrounds often struggle for equal access to opportunities and resources. Achieving inclusion is, therefore, both a moral imperative and a strategic necessity, essential for achieving positive outcomes from the other megatrends that impact the region.

The macroforce status of inclusion has not been acknowledged directly across the major trend documents. Instead, disability and inclusion are addressed only indirectly. For instance, CSIRO explores themes like demographic shifts and digital transformation, implicitly touching on inclusivity without explicitly referencing disability. Similarly, ESPAS and the OECD discuss broader societal and economic challenges, such as inequality and ageing populations, which could encompass disability inclusion but do not foreground it. The National Intelligence Council focuses on governance and inequality, implying but not explicitly addressing disability inclusion. Ipsos refers to diversity and social attitudes but does not make disability inclusion a central theme. However, concepts such as equity, fairness, and equality clearly underpin the various trends. The narrative refers to the known challenges of health system inequality and the significant health disparities for some segments of the population. It emphasises the importance of achieving equality of participation, calling for trust, transparency, and fairness in decision-making, protecting democracy, concerns about equity in public services and the impact of differing political ideologies. Economic inequalities are also referenced, including employment gaps, generational wealth disparities, and differential inflation impacts. A closer inspection of the megatrends confirms the overarching importance of inclusion within each megatrend.

CLIMATE AND ENERGY

Any attempt to adapt to the climate crisis in the Asia-Pacific region must accommodate those most vulnerable to the negative impacts of natural disasters and extreme weather events, including people with disability. In addition to being more likely to live in geographic regions that are prone to floods, cyclones, and fires, people with disability are often highly dependent on supply chains and human services that are immediately disrupted by natural disasters. This issue is particularly critical for Asia and the Pacific, the most disaster-prone region in the world, where increasing weather, climate, and water-related hazards intensify the risks faced by people with disabilities.²⁰ People with disability often face severe difficulties during and after disaster events, as accessibility and specialised support services are often not considered in disaster response plans.²¹ The importance of integrating accessibility into climate change adaptation efforts is now widely recognised. Yet, despite this awareness, many adaptation initiatives in the Asia-Pacific region still fail to address accessibility issues adequately. As the region becomes more vulnerable to climate-related disasters, adaptation policies must include specific provisions for people with disability to ensure their safety and resilience in the face of future climate challenges.

The drive toward living leaner, cleaner, and greener lives is an important trend for environmental protection and sustainability, especially as countries in Asia and the Pacific strive to meet net-zero emissions targets. However, this push for sustainability can significantly impact people with disability, particularly due to their unique needs and resource constraints. Many people with disability rely on disposable products such as straws, continence aids, and personal protective equipment, which may not be readily available through sustainable alternatives.²² In India, where millions of people live with disability, the lack of disposable sanitary products has been shown to exacerbate health risks and hinder participation in social and economic activities.²³ Efforts to build greener, more energy-efficient infrastructure—such as retrofitting buildings to reduce energy consumption or installing renewable energy systems—can inadvertently create new barriers for people with disability. In cities like Phnom Penh, Cambodia, where rapid urbanisation and infrastructure changes are ongoing, the eco-modification of transport systems has been found to increase costs or limit access to services for people with disability.²⁴



A disabled woman affected by floods is standing in front of a temporary shelter. (Shutterstock)

HEALTH

The escalating health imperative to reduce health risks and improve health outcomes is particularly relevant to people with disability in the Asia-Pacific region, who face additional health challenges and significant barriers to accessing healthcare. People with disability in this region experience disproportionately higher rates of chronic illnesses, such as diabetes, cardiovascular disease, and respiratory conditions, which require ongoing medical care and support. For instance, in countries like Thailand and Vietnam, people with disability are often unable to access essential healthcare services due to physical and social barriers, including inaccessible clinics and discrimination from healthcare providers.²⁵ In addition, in remote areas of countries such as India and Nepal, a lack of trained healthcare professionals and specialist services for people with disability further exacerbates health disparities.²⁶ These challenges are even more pronounced for women with disability, who often face compounded discrimination in healthcare settings, are less likely to have their health concerns taken seriously and are significantly underrepresented in medical research and policy planning.²⁷ Social and environmental factors, such as discrimination, poverty and lack of access to appropriate healthcare services, often prevent disability-inclusive health promotion initiatives from meeting the needs of this vulnerable group. By addressing the unique health requirements of people with disability through inclusive policies and improving access to services, we can enhance health outcomes not only for people with disability but also for society, fostering a more equitable and inclusive healthcare system in the region.



The United Nations Refugee Agency works with refugees living with disabilities in Thailand. (UNHCR)

GEOPOLITICS

Geopolitical shifts, such as the growth of global trade, armed conflicts, increasing tensions, and cybercrime, can have significant implications for people with disability in the Asia-Pacific region. For example, during times of conflict, such as the ongoing armed conflict in Myanmar, people with disability are disproportionately disadvantaged as access to essential services—such as specialised medical care and assistive devices—becomes disrupted. In many instances, people with disability face greater difficulty fleeing conflict zones due to mobility restrictions or lack of assistive devices such as specialised healthcare or equipment tailored to support their

needs.²⁸ Additionally, conflicts often lead to the breakdown of social and legal protections, increasing the risk of gender-based violence, which disproportionately affects women with disability who may already struggle to access justice and support services.²⁹ In some cases, conflicts can also limit access to critical healthcare facilities and trained professionals, exacerbating health challenges for people with disability.³⁰ Cybersecurity threats targeting digital infrastructures can jeopardise the privacy and security of personal medical and other data, leaving people with disability particularly vulnerable, especially as they often rely on digital services for essential support.³¹ The supply chains for goods and services, including medications and digital tools that people with disability rely on, can be severely disrupted by global instability. For example, during the COVID-19 pandemic, people with disability in many countries across the region experienced inadequate access to healthcare, exclusion from education, increased poverty, and significant levels of abuse associated with the response to this crisis.³²

DIGITAL

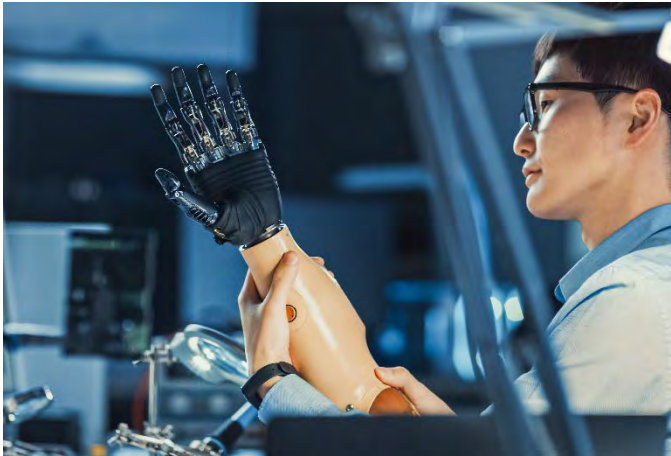
The dependence on digital services in the Asia-Pacific region has surged since the pandemic, with significant implications—both positive and negative—for people with disability. Advanced digital technologies can greatly enhance access to essential services, education, and economic opportunities but can also introduce new barriers if not designed with accessibility in mind. The expansion of remote work and telehealth in many Asia-Pacific countries has opened doors for greater workforce participation and healthcare access for people with disability. However, persistent disparities in digital infrastructure and affordability, particularly in developing economies, continue to shape who can benefit from these advances. Access to assistive technologies—such as screen readers, speech-to-text software, and adaptive hardware—remains highly uneven, with people with disabilities in rural and low-income communities more likely to face access barriers.³³ The reliance on online shopping and digital payment platforms has also grown, providing convenience and broader access to goods and services. Yet, these platforms often lack features that accommodate assistive technologies such as screen readers, captioning, and accessible web design.³⁴ As a result, many people with disability across the region face exclusion from the emerging digital economy. Expanding access to assistive technologies and ensuring that digital platforms are designed with accessibility in mind would not only enhance inclusion for people with disability but also unlock economic opportunities, foster workforce participation, and contribute to broader economic and societal benefits. Addressing this digital divide is crucial to ensuring equitable participation in the region's increasingly digital future.



Blind woman using a computer with braille display assistive device. (Shutterstock)

AI AND AUTOMATION

The explosion of artificial intelligence (AI) in the Asia-Pacific region has the potential to both empower and marginalise people with disability. On one hand, AI can be used as an assistive technology to enhance independence and quality of life. For example, AI-powered prosthetics, speech recognition, and communication devices are increasingly enhancing mobility and enabling easier participation in daily activities. In countries like Japan and South Korea, advanced robotics and AI assistive technologies are already being integrated into support services.³⁵ However, AI-powered decision-making systems, such as automated recruitment tools or facial recognition software, can perpetuate biases against people with disability if they are developed using non-inclusive or unrepresentative datasets. In many Asia-Pacific countries, where AI regulatory frameworks are still evolving, there is an urgent need to address these ethical concerns and ensure that AI systems are designed and implemented equitably. Failure to do so could exacerbate existing social inequalities and further marginalise people with disability in the region's rapidly advancing digital landscape.



A Japanese development engineer is testing a prosthetic robot arm. (Shutterstock)

GOVERNANCE

The final megatrend emphasises the human dimension of trust, transparency, and fairness in decision-making processes, particularly in social and environmental governance across the Asia-Pacific region. These principles are vital for ensuring that people with disability are included in all facets of society. In countries such as Australia, Japan, and New Zealand, transparent and inclusive governance frameworks have been established, with varying success, to support people with disability to participate actively in societal decisions and access the services that affect their lives. Some countries have implemented quota systems to promote employment opportunities for people with disability in government-owned enterprises and public sector institutions. For example, Bangladesh reserves 10 per cent of public sector jobs for people with disability, Nepal has a 5 per cent quota, and Cambodia mandates a 2 per cent allocation.³⁶ However, in many developing nations within the region, systemic barriers and deeply ingrained ableism often hinder such inclusion. Without deliberate efforts to prioritise equity, accessibility, and inclusion in decision-making—whether in urban planning, digital services, or healthcare policies—existing processes risk perpetuating exclusion. This leaves people with disability marginalised, unable to fully benefit from technological advancements and social developments. Addressing these governance gaps is crucial to creating an inclusive future where all individuals in the Asia-Pacific region can contribute, participate, thrive and realise the benefits of the megatrends.

CONCLUSION

The failure to prioritise people with disability in developmental frameworks not only undermines the principles of equality and justice but also has far-reaching negative implications for society as a whole. As we navigate a world shaped by significant megatrends, it is essential to recognise that the inclusion of people with disability is not merely rhetoric. Inclusion is a fundamental component of sustainable development. Excluding people with disability from conversations about policy and resource allocation marginalises them but also deprives society of their unique perspectives and contributions, which are known to drive innovation and resilience. Overlooking their inclusion will restrict our ability in the region to capitalise on the recognised megatrends.

Prioritising the inclusion of people with disability in development strategies is not just a moral obligation—it is a strategic necessity that will contribute to more resilient and equitable societies. This is particularly true for the Asia-Pacific region, given its rich diversity and significant disparities. Inclusion drives innovation and productivity by ensuring that all individuals have access to opportunities, resources, and education. By connecting inclusion, socio-

economic stability, and responsible management of the future, we can foster a more inclusive world where the rights and potential of all people are recognised and valued. Through this approach, Asia-Pacific countries can reduce poverty, enhance economic stability, and unlock greater well-being for their societies. Therefore, inclusion should become an overarching priority, viewed as the key to addressing the impact of the broader megatrends on the region and ensuring sustainable and equitable growth.

At Griffith University Inclusive Futures, our vision extends beyond Australia to envision an inclusive and healthy future for all in the Asia-Pacific—a world where disability is accepted and everyone can access the latest treatments, technologies, and opportunities to thrive with dignity.³⁷ Through our interdisciplinary approach, driven by people with disability, we address key challenges that hinder inclusion across diverse socio-economic and cultural contexts in the region. This work aligns with the goals of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), which is the most inclusive intergovernmental platform in the Asia-Pacific region. The Commission promotes cooperation among its 53 member States and nine associate members in pursuit of solutions to sustainable development challenges. ESCAP is one of the five regional commissions of the United Nations. The ESCAP secretariat supports inclusive, resilient and sustainable development in the region by generating action-oriented knowledge and providing technical assistance and capacity-building services to support national development objectives, regional agreements and the implementation of the 2030 Agenda for Sustainable Development. ESCAP also provides support to partners at the national level. ESCAP's national offer is rooted in and linked with the implementation of global and regional intergovernmental frameworks, agreements, and other instruments. Disability inclusive development is an important pillar of our work.

Historically, data about people with disability has been controlled by governments, institutions, and researchers, often without direct input from those most affected. This lack of transparency and accessibility reinforces epistemic injustice, where people with disability are excluded from shaping the narratives and decisions that impact their lives. The Data Values Project is an excellent global example that highlights the importance of shifting power in data systems to create a fairer data future. The project's Data Manifesto advocates for inclusive data governance that prioritises equity, participation, and shared benefit. By making disability data more open, participatory, and inclusive—through initiatives like citizen-generated data, co-designed research, and accessible reporting formats—people with disability and their representative organisations can advocate for evidence-based policies, challenge systemic inequalities, and drive more responsive and inclusive service design. Democratising disability data also enhances its validity, as it ensures that diverse lived experiences inform its collection, analysis, and application, ultimately leading to better outcomes for individuals and communities.

RECOMMENDED ACTIONS

RECOMMENDATION 1

Apply universal design principles

To create the required framework conditions in which the identified megatrends will lead to benefits for all of society, Asia-Pacific Governments must adopt a universal design approach to ensure that responses “can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability”.³⁸ Universal design principles make all policies more effective for everyone, not just people with disability. Inclusive structures, such as universal design, benefit everyone – ramps, for instance, support not only people with disability but also those using pushchairs, carrying heavy loads, or recovering from injuries. Policymaking based on universal design principles is most likely to be achieved when diverse stakeholders, including historically marginalised groups, are part of policymaking processes, including in decision-making roles. Although universal design is considered the best-in-class approach for inclusion, in the absence of its full implementation across all policy areas, dedicated measures focusing specifically on the inclusion of people with disability are needed. Policymakers have an important role to play to thoughtfully integrate intersectional inclusion and universal design across multiple policy domains, to ensure that the megatrends contribute to inclusion and positive developmental outcomes rather than further exclusion and discrimination.

RECOMMENDATION 2

Recognise intersectionality

The impact of exclusion is magnified and compounded for people with co-existing marginalised identities. For example, women with disability in the Asia-Pacific region face the added impact of gender-based discrimination in workplaces and limited access to resources to support their economic potential. The World Bank’s Women, Business, and the Law project estimates that only about 25 per cent of economies globally explicitly safeguard and support the rights of women with disabilities, further deepening these inequalities.³⁹ Young people with disability face difficulties in securing meaningful employment due to skills mismatches and limited opportunities. The poor and elderly people with disability are particularly at risk of exclusion.

RECOMMENDATION 3

Address the polycrisis

The convergence of multiple global megatrends—particularly climate change, health disparities, and geopolitical instability—has been termed a polycrisis, where overlapping crises exacerbate one another and create complex, often conflicting policy challenges. Policymakers can navigate this landscape by recognising and responding to the interconnections between these trends, such as how fossil fuel dependence and corporate interests contribute to environmental degradation, health inequities, and geopolitical tensions. In these complex contexts, the voices and solutions proposed by marginalised groups—such as people with disability—are often sidelined. Navigating the complexities of a polycrisis requires a fundamental shift toward intersectional, inclusive policymaking that acknowledges and acts on the compounded risks faced by different communities. By recognising how global megatrends compound vulnerabilities, governments can design responses that address the needs of those most affected, ensuring that inclusion and equity are at the core of crisis mitigation and long-term resilience strategies. There are many examples of the need to address inclusion at these intersections as shown below.

Inclusivity and intersectionality in emergencies, climate adaptation and geopolitical conflicts: Governments must develop comprehensive emergency preparedness and response plans that integrate disability inclusion and intersectional protections. Given that crises such as natural disasters, pandemics, conflicts, and climate change disproportionately impact those who are already marginalised, effective responses must incorporate tailored measures such as accessible warning systems, accessible and inclusive emergency shelters, and protections against secondary threats that arise in crises. Integration of accessibility considerations into disaster response plans, climate-resilient infrastructure, and transport systems is essential. Exemptions or accommodations—such as access to essential disposable products despite environmental restrictions—must be built into climate policies to avoid exacerbating inequities. Social protection schemes should also be designed to enhance resilience for those at greatest risk. This requires broad-based comprehensive climate-related policymaking, as well as the adoption of targeted measures to specifically safeguard the well-being and resilience of people with disability in the face of the climate crisis. This could range from evacuation plans for people with disability in emergency situations, to the integration of disability requirements in climate-friendly infrastructure and transport systems development; and from allowing exemptions from climate-related measures, such as to enable access to essential disposable products, to broader measures that support resilience against shocks, such as disability-inclusive social protection schemes.

1. *Universal design and inclusion, telehealth, AI and automation in health care:* Universal design in healthcare addresses barriers and ensures that health care is accessible, understood, and used by all. This includes addressing physical barriers, such as those related to infrastructure or geography, as well as social barriers, such as biases and discrimination. Applying universal design principles to the design of health infrastructure, scaling up access to specialised services for people with disability and providing training for healthcare professionals on unconscious bias and inclusive service delivery are among the steps governments can take toward this end. The intersection between health, geopolitics, digitalisation and AI automation offers the potential of new assistive technologies and telemedicine that must be balanced against the threats of cybersecurity/cybersafety, unethical and biased applications of technology and the digital divide. Governments must put in place the required regulatory frameworks and systems to ensure that digital services are accessible and safe to all citizens. The benefits of technological advances must be shared equitably, but this will not occur without Government intervention. Similarly, governments can play an important role in guiding the private sector towards the meaningful application of AI to focus on critical challenges with positive societal outcomes, such as in health and inclusion-focused applications.

2. *Access to ethical inclusive technology and digital opportunities:* The absence of inclusive strategies risks creating tools that exacerbate existing biases, reinforce discrimination, and actively cause harm. Regulatory frameworks and AI "guardrails" are essential to ensure that AI is deployed in an ethical and equitable manner that does not inflict harm and promotes cybersafety of all users. If technologies are accessible to all, digital transformation can increase opportunities for previously marginalised groups. However, policymakers need to advance infrastructure development in inclusive ways, enhance digital education and skills-development for broad segments of the population, and expand access to assistive technology. By addressing current inequalities in the technology sector (e.g. capacity and representation of women, people with disability, older people), leveraging the unique talents of, for example, neurodivergent individuals and ensuring the protection of essential digital infrastructure and assistive technologies, Governments can ensure that all citizens benefit equitably from technological advances. Similarly, by overcoming bias, discrimination, and exclusion in start-up ecosystems and product design and by encouraging the presence of diverse innovators, policymakers can enable locally developed, context-specific solutions that address broad-based needs.

3. *Digital government and protection of disability rights:* Digital transformation in governance offers a pathway to making public services more accessible for people with disability. Well-designed digital government platforms can reduce bureaucratic barriers, enhance civic engagement, and improve access to essential services. However, if digital services are not designed with inclusivity in mind, they risk further marginalising those who lack access to technology or face digital literacy barriers. Policymakers must ensure accessible e-government initiatives that build trust among people with disability by protecting their rights while also safeguarding democratic processes against misinformation, foreign interference, and discriminatory digital policies. An important driver of trust is the progress made in the Asia-Pacific region in adopting the principles of the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), yet challenges remain in ensuring full implementation and enforcement. International standards to be proportionately applied in PICs wherever possible.

RECOMMENDATION 4

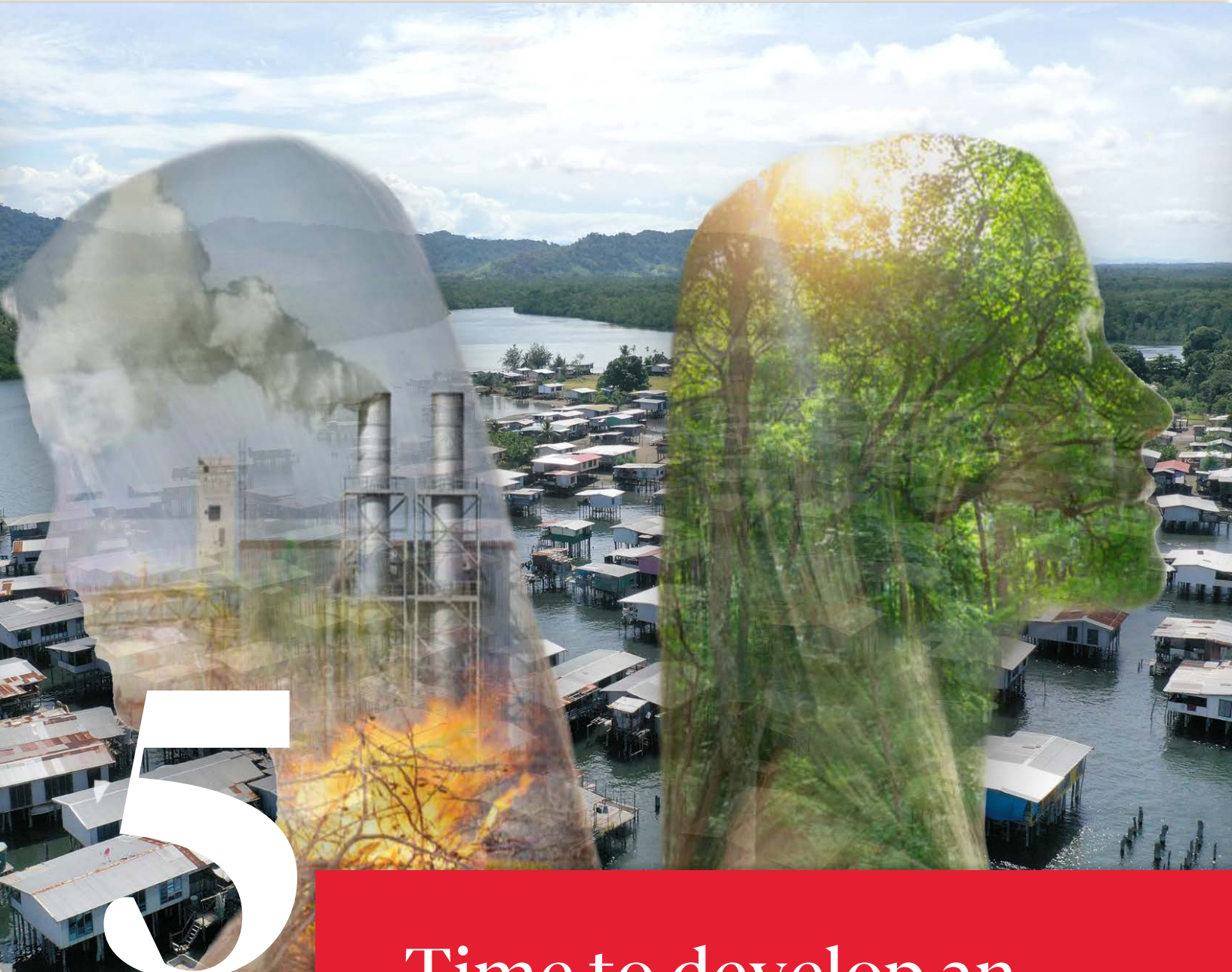
Collect and democratise data on disability

High-quality data is essential for understanding the diverse experiences and needs of people with disability and for developing effective, inclusive policies and programs. However, countries from across the region face significant challenges due to inconsistent and limited data on disability. Therefore, renewed efforts to collect meaningful disability data across diverse regional contexts are needed. Australia's Disability Strategy (ADS) provides a valuable model, emphasising reliable, comprehensive data collection. The Royal Commission on Violence, Abuse, Neglect, and Exploitation of People with Disability, for example, highlights critical steps, including prioritising data reliability, establishing centralised data repositories, and involving people with disability in shaping data policies. Australia's National Disability Data Asset underscores the importance of collaboration across governments, service providers, researchers, and people with disability and integrating data from multiple sources to improve policy and service delivery.⁴⁰ Standardised tools, such as the Washington Group's disability questions, can help ensure internationally comparable data, fostering regional cooperation and benchmarking progress toward inclusion. These approaches offer valuable models for other countries in the region, where data infrastructure is evolving, and to ensure standardised and context-specific data collection practices.

NOTES AND REFERENCES

- 1 Macanawai, S. and Edge, J., 2023. Beyond a seat at the table: towards disability equity in Asia-Pacific. *Devpolicyblog*. Available at: <https://devpolicy.org/beyond-a-seat-at-the-table-towards-disability-equity-in-asia-pacific-20230907/>.
- 2 Rechner, L. et al., 2023. How COVID-19 impacted people with disabilities: A qualitative study in Delaware. *Public Health in Practice* (Oxford, England), 6, p.100424. doi: <https://doi.org/10.1016/j.puhip.2023.100424>.
- 3 Pacific Disability Forum, 2022. *Disability and Climate Change in the Pacific. Findings from Kiribati, Solomon Islands, and Tuvalu*. Available at: <https://pacificdisability.org/wp-content/uploads/2022/08/PDF-Final-Report-on-Climate-Change-and-Persons-with-Disabilities.pdf>.
- 4 Economic and Social Commission for Asia and the Pacific (ESCAP), 2022. *A three-decade journey towards inclusion: assessing the state of disability-inclusive development in Asia and the Pacific*. United Nations. Available at: <https://www.unescap.org/kp/2022/three-decade-journey-towards-inclusion-assessing-state-disability-inclusive-development#>.
- 5 United Nations Development Programme (UNDP), 2024. 2024 Regional Human Development Report. *Making Our Future: New Directions for Human Development in Asia and the Pacific*.
- 6 Global Facility for Disaster Reduction and Recovery (GFDRR), 2017. *Disability Inclusion in Disaster Risk Management*. World Bank Group. Available at: https://www.gfdrr.org/sites/default/files/publication/GFDRR%20Disability%20inclusion%20in%20DRM%20Report_F.pdf.
- 7 Economic and Social Commission for Asia and the Pacific (ESCAP), 2018. *Building Disability Inclusive Societies in Asia and the Pacific Assessing the Progress of the Incheon Strategy*. [online] United Nations. Available at: <https://www.unescap.org/sites/default/files/publications/SDD%20BDIS%20report%20A4%20v14-5-E.pdf>.
- 8 Organisation for Economic Co-operation and Development (OECD), 2010. *Sickness, Disability and Work: Breaking the Barriers – A Synthesis of Findings Across OECD Countries*. Available at: https://www.oecd.org/en/publications/2010/11/sickness-disability-and-work-breaking-the-barriers_g1g10adb.html.
- 9 International Labour Organization (ILO), 2024. *Putting the I in ESG: Inclusion of Persons with Disabilities as Strategic Advantage of Sustainability Practices for Corporates and Investors*. Available at: <https://www.ilo.org/sites/default/files/2024-11/Putting%20the%20I%20in%20ESG%20full%20guide.pdf>; Economic and Social Commission for Asia and the Pacific (ESCAP), 2023. *Catalysts of Change: Disability Inclusion in Business in Asia and the Pacific*. United Nations. Available at: <https://www.un-ilibrary.org/content/books/9789213586471>; United Nations, 2018. *Disability and Development Report: Realizing the Sustainable Development Goals by, for and with Persons with Disabilities*. Available at: <https://www.un.org/development/desa/disabilities/publications/disability-and-development-report.html>.
- 10 Pearce, K., 2024, *10 Facts About ADHD*, *Neurodiversity And Entrepreneurship*, ADHD Flow State, Available at: <https://www.adhdfloystate.com/facts-about-adhd-neurodiversity-and-entrepreneurship/>.
- 11 Kaneda, T. and Matuszak, N., 2024. *Like the United States and Europe, the Asia-Pacific Region Is Experiencing Low Fertility and Population Aging*. Population Reference Bureau. Available at: <https://www.prb.org/articles/like-the-united-states-and-europe-the-asia-pacific-region-is-experiencing-low-fertility-and-population-aging/>.
- 12 Commonwealth Scientific and Industrial Research Organisation (CSIRO), 2022. *Seven megatrends that will shape the next 20 years*. Available at: <https://www.csiro.au/en/news/all/news/2022/july/seven-megatrends-that-will-shape-the-next-20-years>;
- 13 Commonwealth Scientific and Industrial Research Organisation (CSIRO), 2022. *Seven megatrends that will shape the next 20 years*. Available at: <https://www.csiro.au/en/news/all/news/2022/july/seven-megatrends-that-will-shape-the-next-20-years>.
- 14 European Strategy and Policy Analysis System (ESPAS), 2019. *Global Trends to 2030: Challenges and Choices for Europe*. Available at: <https://espas.secure.europarl.europa.eu/orbis/node/1362>.
- 15 Organisation for Economic Co-operation and Development (OECD), 2017. *Embracing Innovation in Government: Global Trends 2017*. Available at: <https://oecd-opsi.org/publications/global-trends-2017/>
- 16 National Intelligence Council (NIC), 2021. *Global Trends 2040: A More Contested World*. Available at: https://www.dni.gov/files/ODNI/documents/assessments/GlobalTrends_2040.pdf.
- 17 Ipsos, 2023. *A New World Disorder? Navigating a polycrisis*. Available at: <https://www.ipsos.com/en-us/global-trends>.
- 18 van Daalen, K.R., Kallesøe, S.S., Davey, F., Dada, S., Jung, L., Singh, L., Issa, R., Emilian, C.A., Kuhn, I., Keygnaert, I. and Nilsson, M., 2022. Extreme events and gender-based violence: a mixed-methods systematic review. *The Lancet Planetary Health*, 6(6), pp.504–523. doi: [https://doi.org/10.1016/s2542-5196\(22\)00088-2](https://doi.org/10.1016/s2542-5196(22)00088-2).
- 19 Qiu, N., Jiang, Y., Sun, Z. and Du, M., 2023. The impact of disability-related deprivation on employment opportunity at the neighborhood level: does family socioeconomic status matter? *Frontiers in Public Health*, doi: <https://doi.org/10.3389/fpubh.2023.1232829>; Soltani, S., Takian, A., Akbari Sari, A., Majdzadeh, R. and Kamali, M., 2019. Financial Barriers to Access to Health Services for Adult People with Disability in Iran: The Challenges for Universal Health Coverage. *Iranian Journal of Public Health*, 48(3). doi: <https://doi.org/10.18502/ijph.v48i3.895>.
- 20 World Meteorological Organization (WMO), 2024. *Climate change and extreme weather impacts hit Asia hard*. Available at: <https://wmo.int/news/media-centre/climate-change-and-extreme-weather-impacts-hit-asia-hard>.
- 21 Stein, P.J.S. et al., 2023. The role of the scientific community in strengthening disability-inclusive climate resilience. *Nature Climate Change*. doi: <https://doi.org/10.1038/s41558-022-01564-6>.

- 22 Anderson, K. and Sellwood, D., 2023. Banning straws might be good for the planet – but bad for people with disability or swallowing problems. What is 'eco-ableism'? *The Conversation*. Available at: <https://theconversation.com/banning-straws-might-be-good-for-the-planet-but-bad-for-people-with-disability-or-swallowing-problems-what-is-eco-ableism-199183>.
- 23 Prakash, S. et al., 2022. Correlates of access to sanitation facilities and benefits received from the Swachh Bharat Mission in India: analysis of cross-sectional data from the 2018 National Sample Survey. *BMJ Open*, 12(7), p.e060118. doi: <https://doi.org/10.1136/bmjopen-2021-060118>.
- 24 The Asia Foundation, 2023. *Accessibility and Disability Inclusion on the Public Transport System in Phnom Penh*. Available at: <https://asiafoundation.org/publication/accessibility-and-disability-inclusion-on-the-public-transport-system-in-phnom-penh/>.
- 25 Chou, Y.-C. et al., 2024. Assessing disability rights in four Asian countries: The perspectives of disabled people on physical, attitudinal and cultural barriers. *Political Geography*, [online] 108, p.103027. doi: <https://doi.org/10.1016/j.polgeo.2023.103027>.
- 26 Morrison, J. et al., 2014. Disabled women's maternal and newborn health care in rural Nepal: A qualitative study. *Midwifery*, [online] 30(11), pp.1132–1139. doi: <https://doi.org/10.1016/j.midw.2014.03.012>; Grills, N. and Wearn, J., 2024. Meeting people in their communities: Access to disability support and healthcare through Community-Based Inclusive Development training in India. *Asialink*. Available at: <https://asialink.unimelb.edu.au/diplomacy/community-based-inclusive-development-india/>.
- 27 Hatherley, S., 2022. Hormonal, emotional and irrational: Is it really the case that women's health is taken less seriously than men's? *Senedd Cymru Research*. Available at: <https://research.senedd.wales/research-articles/hormonal-emotional-and-irrational-is-it-really-the-case-that-women-s-health-is-taken-less-seriously-than-men-s/>; Bierer, B.E., Meloney, L.G., Ahmed, H.R. and White, S.A., 2022. Advancing the inclusion of underrepresented women in clinical research. *Cell Reports Medicine*, 3(4), p.100553. doi: <https://doi.org/10.1016/j.xcrm.2022.100553>.
- 28 Yasukawa, L., 2021. Uprooted and overlooked: Why people with disabilities fleeing conflict and violence are among those most at risk. *Internal Displacement Monitoring Centre*. Available at: <https://www.internal-displacement.org/expert-analysis/uprooted-and-overlooked-why-people-with-disabilities-fleeing-conflict-and-violence/>.
- 29 La Vecchia, S., 2022. The protection of women and girls with disabilities in armed conflict: Adopting a gender-, age- and disability-inclusive approach to select IHL provisions. *International Review of the Red Cross*. Available at: <https://international-review.icrc.org/articles/the-protection-of-women-and-girls-with-disabilities-in-armed-conflict-922>.
- 30 Human Rights Watch, 2021. Persons with Disabilities in the Context of Armed Conflict. Available at: <https://www.hrw.org/news/2021/06/08/persons-disabilities-context-armed-conflict>.
- 31 Edwards, S., 2024. Inclusive Cybersecurity: Keeping Vulnerable Users Safe. *Sherwen*. Available at: <https://www.sherwen.com/insights/e-commerce/inclusive-cybersecurity-keeping-users-safe-online>; Samant Raja, D., 2016. Bridging the Disability Divide through Digital Technologies. *World Bank*. Available at: <https://thedocs.worldbank.org/en/doc/123481461249337484-0050022016/original/WDR16BPBridgingtheDisabilityDividethroughDigitalTechnologyRAJA.pdf>.
- 32 Kubenz, V. and Kiwan, D., 2021. The impact of the COVID-19 pandemic on disabled people in Low- and Middle-Income Countries: A literature review. *University of Birmingham*. Available at: <https://disability-hub.com/wp-content/uploads/2021/04/Impact-of-COVID-19-on-disabled-people-literature-review.pdf>.
- 33 Eide, A.H., Muller, S., Zhang, W., Khasnabis, C., Antypas, K., Blakstad, M. and Borg, J., 2023. Barriers for Accessing Assistive Products in Low- and Middle-Income Countries (LMICs). *Studies in Health Technology and Informatics*, pp.297–302. doi: <https://doi.org/10.3233/SHTI230634>.
- 34 Botelho, F.H.F., 2021. Accessibility to digital technology: Virtual barriers, real opportunities. *Assistive Technology*, [online] 33(1), pp.27–34. doi: <https://doi.org/10.1080/10400435.2021.1945705>.
- 35 Ko, J. and Lee, E., 2024. Research team develops wearable robot for paralyzed patients. *Pulse*. Available at: <https://pulse.mk.co.kr/news/english/11150062>; Yokoi, T., 2022. Robots and machines making work inclusive. *Forbes*. Available at: <https://www.forbes.com/sites/tomokoyokoi/2022/07/30/some-machines-are-making-work-more-accessible/>.
- 36 International Labour Organization (ILO), 2019. Promoting Employment Opportunities for People with Disabilities: Quota Schemes (Vol. 2). Available at: <https://www.ilo.org/publications/promoting-employment-opportunities-people-disabilities-quota-schemes-vol-2>.
- 37 Griffith University, 2025. Inclusive Futures: Reimagining Disability. Available at: <https://www.griffith.edu.au/research/inclusive-futures-reimagining-disability>.
- 38 Centre for Excellence in Universal Design (CEUD), 2025. About Universal Design. Available at: <https://universaldesign.ie/about-universal-design>.
- 39 World Bank, 2020. The Rights of Women with Disabilities: Pilot Research by Women, Business and the Law 2020. Available at: <https://thedocs.worldbank.org/en/doc/517421606767152867-0050022020/original/WBL2020DisabilityTopicNote.pdf>.
- 40 National Disability Data Asset (NDDA), 2025. Connecting data to empower lives. *Australian Government*. Available at: <https://www.ndda.gov.au/>.



Time to develop an Asia-Pacific Green Development Agenda

Christoph Nedopil, Dhruba Purkayastha, Hemant Mallya,
Kavita Vij, Nitin Bassi and Shuva Raha



INTRODUCTION

The green transition in Asia and the Pacific remains complex—with high uncertainty in 2025 and the years to come. Yet, time is of the essence: according to the World Meteorological Organization (WMO), 2024 was the warmest year on record and the first year to breach the 1.5 degrees Celsius above pre-industrial levels mark.¹ Costs associated with climate change are increasing and estimated to be USD 144 billion in 2014—a 16 per cent increase (five times faster than global GDP growth), according to Swiss Re, the world's largest reinsurance company.² The Asia-Pacific region is bearing the brunt of this "climate breakdown," as termed by UN Secretary-General António.³ In 2024, devastating floods, early-onset heat waves, and thirteen typhoons impacted numerous Asia and Pacific countries.

The climate emergency will affect the global community, but the effects will not be distributed equally. Of the top countries most at risk from the negative effects of climate change, 50 per cent of them are Asian and Pacific Islands regions, including Fiji, Sri Lanka, the Philippines, Japan, and India.⁴ The Economic Survey in India stated that India is the seventh-most vulnerable country, with 93 per cent of days in 2024 marked by significant climate events such as heatwaves, cyclones, and floods.⁵ An analysis by the Council on Energy, Environment and Water (CEEW) suggests that three out of four districts in India are extreme event hotspots, with 40 per cent of the districts exhibiting a swapping trend, i.e., traditionally flood-prone areas are witnessing more frequent and intense droughts and vice-versa.⁶

Addressing the green transition in Asia and the Pacific remains highly complex: Countries in the region include behemoths like China and India, a range of Emerging Markets and Developing Economies (EMDEs), Small Island Developing States (SIDS), and Least Developed Countries (LDCs). It is a highly sensitive geopolitical theatre with millennia of civilisational history and deep colonial scars that today houses about 4.3 billion people.⁷ It includes some of the world's most densely populated and some of the most remote areas, some of the richest and some of the most marginalised, vulnerable, and economically weak communities. This complexity requires decision-makers and implementing partners to urgently develop and apply more nuanced, country-specific and subnational approaches for a successful green transition that protects people, planet and profits and creates jobs.

In short, we need to create an Asia Pacific Green Development Agenda.

The urgency for the Asia Pacific Green Development Agenda is further exacerbated by the increasing volatile political environment with key outside partners like the US, the EU and Russia competing for influence and power while wobbling on their own green growth agendas: the US reversed and undermines its interest and ability to lead on climate change, a likely conservative election outcome in Germany in February 2025 potentially undermines the ambitious EU's green transition plans, and a possible re-evaluation of Australia's regional strategy might be due after its election in early 2025. Similarly, frustrations about traditional multilateral organisations mount in the region for their failures to address climate and biodiversity risks.

Already, we are seeing that Asia-Pacific countries are expanding their own and more tailored regional and global ambitions on green growth:

- China has brought its rapid infrastructure development strength via its Belt and Road Initiative (BRI) and accelerated green collaboration through programmes like the BRI International Green Development Coalition.
- India has led the creation of intergovernmental organisations like the International Solar Alliance (120 members) and the Coalition for Disaster Resilient Infrastructure (42 members, including Brazil, the UK and the US).
- India also influenced the Group of 20 (G20) to set up the G20 Working Group on Disaster Risk Reduction during its Presidency in 2023.⁸
- Singapore announced a new green finance and capital markets initiatives to strengthen financial cooperation with China in November 2024.⁹
- The Pacific Islands launched the KIWA initiative in 2020 to help Pacific Island countries adapt to climate change.¹⁰

What are aspects of Asia-Pacific Green Development Agenda and how should Asia-Pacific economies address the opportunities and challenges of the green transition? Can Asian and Pacific economies open a new economic chapter to lead the way in sustainable growth, offering ever more economic and competitive solutions?

The Asia Pacific Green Development Agenda builds on the five major challenges we highlighted in our 2024 Green Transition Opportunity policy brief, where we see various levels of progress, as shown in Table 1.

Table 1: Integrating the 2024 and 2025 Asia Green Transition Policy brief

| | | |
|---|--|--|
| 1 | Accelerating the energy transition, including greening the dominant state-owned enterprises | We see that significant progress has again been made with record renewable energy installations in China, India and Vietnam, while several countries saw policies and initiatives for a faster green transition: For example, Queensland, Australia legislated a 30 per cent emission reduction below 2005 levels by 2030, 75 per cent below 2005 levels by 2035 and net zero emissions by 2050. ¹¹ The US-led Just Energy Transition Partnership (JETP) seems to have failed, and the new US administration has frozen funding for JETP. ¹² While at least 12 GW of new coal-fired power plants have become operational in the region, led by China and India, China approved 66.7 GW of new coal-fired power plants in 2024 (and installed 400 GW of wind and solar since 2023). ¹³ JETPs also failed in Vietnam and are unlikely to pick up further with the change in the US government. ¹⁴ COP29 has derailed Global North contribution to climate investments in developing countries—unclear NCQG does not provide any commitment on public finance from developed countries. |
| 2 | Green finance policy and practice | Progress in green finance, as the lubricant for the green transition, has been mixed in the region. Issuance of green bonds has stagnated in the region, yet several countries have strengthened non-financial environmental (and social) disclosure standards. China's new disclosure standards are more ambitious than the US SEC's regarding climate-related emissions, with more standards in the works. More regional disclosure standards mention the International Sustainability Standards Board (ISSB) standards on financial disclosure (IFRS), signalling harmonisation. ¹⁵ Similarly, progress on the new quantified finance goal as a major outcome of COP29 in Baku was seen as a disappointment by most recipient countries in the region. Funding needs of 7.4 trillion USD for climate and 1 trillion USD for biodiversity have been identified. ¹⁶ |
| 3 | Addressing biodiversity risks and creating USD 4.3 trillion of annual economic value and generate 232 million jobs in the region | Progress in biodiversity protection and unleashing business opportunities through nature-positive business has been mostly negligible. Rather, more nations such as Tuvalu, Cook Islands, Fiji and Tonga are considering deep sea mining with all its negative environmental consequences (and out of lack of alternatives). At the same time, no significant agreements have been reached on biodiversity protection. ¹⁷ |
| 4 | Climate smart business by improving board governance | The lack of regulatory progress also allows some boards to accelerate the rejigging of their business and risk models to consider a greener business approach. Yet, legal risks for businesses and their leaders continue to increase, and the EU as a major market continues to implement its Carbon Border Adjustment Mechanism (CBAM), providing better opportunities for low-carbon businesses and at the same time would not necessarily shift the Global South to low carbon production. ¹⁸ Therefore, the jury is still out on CBAM effectiveness. |
| 5 | Just transition considerations addressing issues such as job security and livelihoods | Some progress has been made in the just transition through training programs (including those sponsored by the Australian government in the region, for example, through the Australian Awards program under the Department of Foreign Affairs and Trade (DFAT)). Similarly, with growing energy needs across the region due to electrification and the need to build out energy and related infrastructure, new jobs will be created, possibly offsetting the job losses with governments even trying to ensure close replacement of jobs (e.g., Queensland's major coal port Gladstone sees significant investment in green energy and aims to place itself as a premier hub for green energy technology and exports). |

Source: Authors.

For this year's outlook, we identified six major issues that require significant attention to keep building the green transition opportunity:

1. The US environmental and aid policy reversals affecting many Asian and Pacific economies' green transition
2. Critical minerals as an opportunity for growth versus resource nationalism
3. Carbon trading—an economic and financial opportunity
4. Indigenous solutions in climate action
5. Industrial decarbonisation
6. Ensuring water supply

US ENVIRONMENTAL AND AID POLICY REVERSALS

The new US administration has changed its approach to international development, affecting all of Asia Pacific and their green transition ambitions:

- Multilateral engagement has changed through the withdrawal from the Just Energy Transition Partnership (JETP) and the withdrawal from the COP processes to limit climate change.
- Trade relations are changing where the US is further expanding import restrictions (e.g., through tariffs or other regulatory measures) on green technologies like solar panels, batteries and electric vehicles targeting particularly Chinese manufacturers in China and other Asian markets.
- Bilateral policy and financial engagement on climate and other environmental issues has been scaled back or stopped, for example, the immediate halt of all USAID projects, as well as re-evaluation of the US-China climate dialogues as well as other fora affecting Pacific and Asian economies.¹⁹

The US reversal in environmental and aid policy will have multiple direct effects on Asia-Pacific economies:

- Available development financing for green transition is reduced (e.g., JETP, USAID), affecting the deployment of technologies and capacity-building support for decision-makers in policy and regulatory bodies. The US mobilised around USD 5.8 billion in international climate finance in 2022 to have USD 9.5 billion in 2023 (later data are not available).²⁰ This could, for example, affect coal retirement and energy transition efforts in Indonesia and Vietnam as two important JETP participants.
- Employees in factories producing green technologies for export to the US might be negatively affected (e.g., Chinese-invested solar manufacturers in Vietnam or Malaysia had to throttle production due to US sanctions).²¹



Prior to the aid cuts, USAID helped communities safeguard over 40,000 hectares of forest and marine areas in Madang Province and over 60,000 hectares nationwide. (Facebook/USAID.PNGSVAN)

- Multilateral and bilateral fora, like the UN negotiations on climate change and biodiversity protection, are losing credibility with the US as the world's second largest emitter, disrespecting and potentially undermining international negotiation results. This includes any negotiations on loss-and-damage funds—particularly important for small island developing states such as Pacific Island countries, the Maldives and other less developed countries disproportionately affected by climate change (such as Bangladesh).

Indirect effects also need to be understood and dealt with, including:

- Reduction of financial flows from private investors and philanthropic organisations with significant exposure to the US who are wary of political risks when engaging in topics related to climate change or environmental protection, affecting both businesses and civil society organisations
- Change of political will in Asia Pacific countries to actively address climate change. In February 2025, the Indonesian government signalled it might withdraw from the Paris climate agreement, arguing that Indonesia should not be held to higher green transition standards than the US.²²
- Regional businesses might reconsider their risk-return profile for green and brown activities and projects and decelerate their green transition ambitions and investments due to unclear policy and trade directions.

While the full effects of the US environmental and development policies are not yet fully understood, decision-makers in Asia-Pacific economies should consider the following recommended actions.

RECOMMENDED ACTIONS

RECOMMENDATION 1:

Stay calm and prepare clear negotiation strategies

Understanding the signals in the noise of US policy change remains crucial, as various changes might be proposed or even announced but only be used as a negotiation strategy rather than being fully implemented. Asia-Pacific decision-makers should have clear negotiation strategies based on basic principles, including a minimum and a maximum desired outcome (e.g., for green trade support, for climate capacity and for finance). Decision-makers, whether in business, finance, or policy, should have a clear understanding of their US counterparts' negotiation needs (e.g., US embassy partners will have to implement top-level decisions) and strategies (e.g., potentially very transactional).

RECOMMENDATION 2:

Foster Asia-Pacific independence by building alternatives through regional and sub-national initiatives

Asia-Pacific countries and stakeholders should create and strengthen alternative fora to collaborate on environmental-related topics, including regional initiatives (e.g., small island nations banking alliance, ASEAN, Mekong countries) that allow countries to both address localised green transition needs and allow them to be more independent from international partners. To strengthen financial support, partnerships with like-minded and net-donor nations (e.g., EU, China, India, Australia, Singapore) should be strengthened, and subnational partnerships developed (e.g., California).

RECOMMENDATION 3:

Create technological alliances for resource and capability sharing

Decision-makers should foster knowledge and technological exchange through new platforms and agreements on intellectual property rights applicable to regional usage to lower costs and accelerate the dissemination of these technologies (e.g., a shorter IP protection time for green technologies available for Asia-based manufacturers). This should also include stronger alliances for technical knowledge sharing, e.g., on green SOE governance, coal retirement or green finance (e.g., with support from OECD, ADB, as well as university partners in Asia-Pacific economies).

RECOMMENDATION 4:

Utilise and highlight opportunities

Asia-Pacific is the fastest growing economy in the world, with massive economic and technological opportunities. Over the past years, Asia-Pacific economies have become technological and financial leaders of green transition, having lowered financing and technology costs to the point that the green economy is a business case rather than a pure social responsibility argument. An accelerated green transition opens massive employment and commercial opportunities (as discussed in last year's Griffith Asia Pacific Outlook) due to lower energy, health and environmental costs. Wasting this opportunity will not increase but likely decrease competitiveness and high-quality development desired across the region.



Pallets of humanitarian aid bound for Fiji are transported to a Royal Australian Air Force No. 36 Squadron C-17A Globemaster III at RAAF Base Amberley, near Ipswich in Queensland. (CPL Nicci Freeman/RAAF Image Library)

CRITICAL MINERALS OPPORTUNITIES OR RESOURCE NATIONALISM WITH COERCION

Critical minerals, such as lithium, cobalt and rare earth elements, serve as foundational materials for technologies that enable the shift to a low-carbon, sustainable economy. As these minerals are vital for renewable energy production, energy storage, and electrification, the International Energy Agency has estimated that the transition towards net-zero emissions will triple the demand for critical minerals by 2030, positioning the Asia-Pacific region as a key player in the global market.²³

Indonesia has become the world's largest producer of nickel, expanding its production from under 800,000 tons in 2020 to 2.03 million tons in 2023, contributing 55 percent of the global output, while Australia possesses the world's second largest reserves of lithium, cobalt, copper, and nickel.²⁴ The definition of critical minerals varies across jurisdictions, and governments have been scrambling to understand and strengthen their access to critical minerals supplies. In February 2024, Australia included nickel on its critical minerals list.²⁵ South Korea unveiled its critical minerals strategy in February 2023, followed by India, which launched a similar strategy in July 2023. Meanwhile, Mongolia is working to amend its Minerals Law to introduce, for the first time, a list of "minerals of strategic importance".²⁶ These new government strategies are likely to employ regulatory tools such as subsidy programs, tax incentives, and streamlined permitting processes to accelerate development. They may also restrict foreign investment to safeguard and expand domestic critical

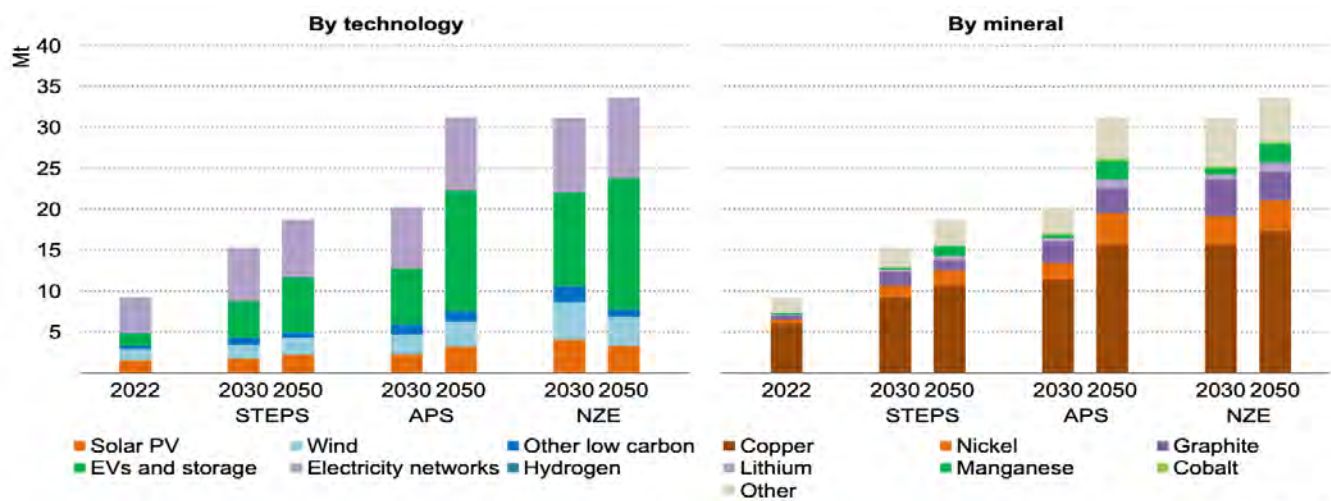
minerals production. For countries in the region with high critical mineral needs and limited domestic supply (e.g., Japan and South Korea), multilateral alignments and partnerships with resource-rich nations have been pursued.

Box 1: Mineral Partnership examples in the region

- Japan: Introduced a Critical Minerals Strategy focused on stable supply chains and partnered with Australia to strengthen these networks.²⁷
- Australia: Announced its 2023–2030 Critical Minerals Strategy in June 2023 and signed a memorandum of understanding with Indonesia in November 2023 on battery manufacturing and critical minerals processing.²⁸ In March 2024, both countries launched the A\$200 million Australia–Indonesia Climate and Infrastructure Partnership (KINETIK) to foster energy and battery technology cooperation.²⁹
- India: Partnered with Australia to develop supply chains for its growing economy and technological advancements.³⁰

Yet the narrative surrounding the growth of the critical minerals sector due to the rising demand driven by the global transition towards clean energy is more complex. The development of national policies and intergovernmental alignments has transformed the market for critical minerals into a strategic geo-economic issue with increasing "resource nationalism". In particular, a more aggressive US critical minerals strategy limits imports and secondary imports from foreign entities of concern.³¹ For example, under the US Inflation Reduction Act (IRA), subsidies will be granted to EVs that contain a certain percentage of critical minerals "extracted or processed in the United States or in a country with which the United States has a free trade agreement." By contrast, EVs that contain battery components manufactured by a foreign entity of concern or with batteries containing any critical minerals extracted, processed or recycled by a foreign entity of concern will not be eligible for subsidies.³²

Figure 1: Critical minerals demand for clean energy



Notes: STEPS = Stated Policies Scenarios; APS = Announced Pledges Scenario; NZE = Net Zero Emissions by 2050 Scenario. Includes most of the minerals used in various clean energy technologies, but does not include steel and aluminium.

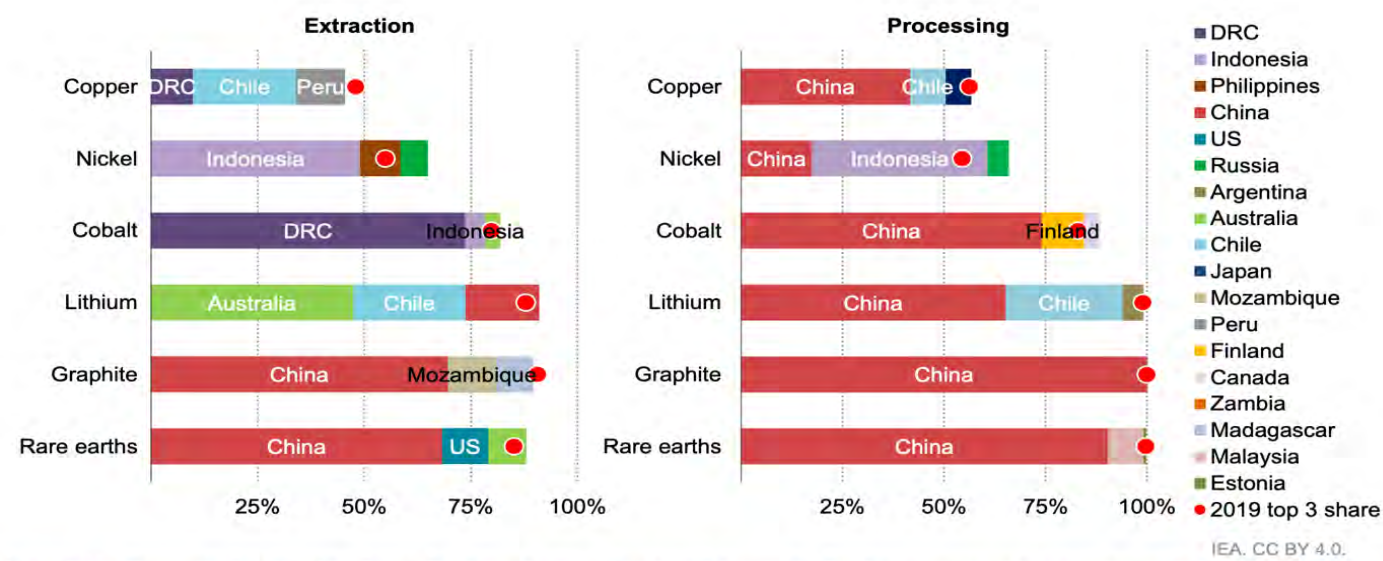
Source: International Energy Association (IEA), 2023.³³

A key driver of these developments is China’s dominant position in the extraction and processing of rare earths and other minerals (see Figure 2), as well as its status as the largest overseas investor in critical minerals in the region:³⁴

- In the first half of 2023, Chinese investment in Indonesia’s critical minerals sector had reached USD 3.6 billion—double that of the previous year.³⁵

- China has used its dominance in the sector and has imposed several rounds of targeted export restrictions and licensing requirements in 2023 and 2024 to deter other countries from compliance with US or allied countries’ restrictions.³⁶

Figure 2: Share of the top three producing countries in total production for selected resources and minerals, 2022



Notes: DRC = Democratic Republic of the Congo. Graphite extraction is for natural flake graphite. Graphite processing is for spherical graphite for battery grade. Sources: IEA analysis based on S&P Global, USGS (2023), [Mineral Commodity Summaries](#) and Wood Mackenzie.



A part of the nickel industry in Kolaka, South East Sulawesi Province, Indonesia. (Wikimedia Commons)

For US-aligned Asia Pacific countries (e.g., Australia, Japan, South Korea and to a lesser extent, India),³⁷ the consequence is more intense scrutinising or even undoing of existing Chinese direct investment on national security grounds.³⁸ Asian nations, such as the Philippines (with large nickel reserves) and possibly Indonesia, might need to reduce reliance on China and prioritise reshoring and friendshoring with investment from “aligned partners” in downstream production and manufacturing.³⁹ Whether this will be possible is the question. All of these countries—including Australia—rely on foreign investment and trade in the mining sector—

particularly with China. For example, Australia exports much of the minerals to China and other countries for value-added processing due to limited domestic processing capacity.⁴⁰ Similarly, other regional players that restrict the export of unprocessed minerals (such as Indonesia and Malaysia) depend on Chinese investors and partners to meet that requirement. It remains to be seen whether Asian countries will move in a similar direction as Mexico⁴¹ and Chile,⁴² which have sought to nationalise their lithium industries (which, in turn, has led the current Chinese owners to seek a solution ahead of the ICSID).⁴³

Apart from political risks, Asian mining partners have to deal with significant environmental impacts: some estimates suggest that mining one ton of rare earth can result in 2,000 metric tons of waste material. Local communities and environmental groups have already opposed new investments, particularly in areas with continuing land disputes and high environmental integrity. Environmental concerns are particularly salient in deep sea mining with a focus on Pacific economies. The discovery of polymetallic nodules, particularly in the Clarion-Clipperton Zone located in the Pacific Ocean, containing cobalt, nickel, and manganese, has initiated significant interest from Pacific economies and investors alike (e.g., Nauru, Cook Islands, Tonga). Of the 31 contracts in the data portal of the International Seabed Authority (ISA) under the UN, 17 are in the Clarion-Clipperton Zone (and 5 in the Western Pacific Ocean).⁴⁴ However, as “the harms of deep-sea mining on migratory fish patterns, marine biodiversity, and long-term ecosystem health are unknown and may be immediate and irreversible”⁴⁵ affecting fisheries and tourism on which many Pacific islands depend “the rush to mine this pristine and unexplored environment risks creating terrible impacts that cannot be reversed”.⁴⁶ To counter these effects, more efforts have been made in 2024 to improve the trading of “clean” minerals in contrast to “dirty” minerals led by Australia’s mining company Fortescue.⁴⁷

Price volatility is another risk in mineral investment. The sharp drop in lithium and nickel prices from their late 2022 peak has created uncertainties for investors and mining companies. Australian mining giant BHP closed its nickel business and wrote down AUD 5.4 billion in 2024 due to the increased supply of nickel from Indonesia and the resulting price volatility.⁴⁸ Additionally, developing technological expertise and infrastructure for downstream production remains a slow, high-risk process.

Nonetheless, the Asia Pacific region’s pivotal role in the critical minerals market ensures it will remain a focal point in the global clean energy transition. Countries such as Indonesia, Malaysia and Mongolia—with strong ties to both China and the QUAD countries—will face particularly tough decisions if trade disputes intensify further and protectionist regulation (formal and informal) restrictions expand. Resource-rich and resource-seeking countries in Asia and the Pacific need to improve collaboration in building resilient and responsible supply chains for critical minerals and clean energy technologies and overcome resource nationalism for joint benefits. Developing exploration, mining, and processing capacities is essential for integrating mineral-rich Asian economies into global clean energy supply chains. National green clusters, net-zero industrial parks, and economic corridor initiatives can play a pivotal role in linking mineral supply chains to regional value chains, facilitating the clean energy transition.

RECOMMENDED ACTIONS

RECOMMENDATION 1:

Reduce political and resource nationalism risks

- Evaluate the risks of expropriation or forced divestment, particularly in regions with strong resource nationalism.
- Structure investments to leverage existing treaties and agreements and consider partnerships with local entities or state-owned enterprises.
- Ensure comprehensive risk insurance to mitigate potential losses.

RECOMMENDATION 2:

Understand geopolitical value and supply chain risks and develop contingency plans

- Assess risks linked to trade tensions, especially those that intensified during the Trump presidency.
- Establish contingency plans to address potential disruptions in material sourcing or offloading.
- Develop contingency plans to ensure uninterrupted operations and secure financial and technical collaborations.

RECOMMENDATION 3:

Mitigate economic risks

- Account for price volatility, which can complicate financing and investment decisions.
- Include contractual clauses for exit or mothballing strategies in cases of material adverse changes or liability limitations.

RECOMMENDATION 4:

Manage human rights and environmental safeguards

- Prioritise human rights and environmental safeguards throughout the mining value chain.
- Implement continuous risk evaluation and management processes from project initiation to closure, as well as for existing projects.
- Align with evolving global standards, including the UN Secretary-General’s 2024 Panel on Critical Energy Transition Minerals, which emphasises safeguarding environmental and social standards across the entire value chain.

RECOMMENDATION 5:

Build regional frameworks and capacity-building

- Explore opportunities for establishing regional cooperation frameworks to promote resource-sharing and capacity-building, especially in less developed countries.
- Strengthen governance and management of environmental and social risks.

RECOMMENDATION 6:

Strengthen research and investment in Central Asia

- Investigate Central Asia’s untapped potential in critical minerals, focusing on countries like Kazakhstan and Uzbekistan, which are already leading producers.⁴⁹
- Support exploration in underdeveloped areas to unlock further opportunities in the region.

RECOMMENDATION 7:

Carefully manage deep-sea mining

- Advocate for stringent environmental and social protections to ensure deep-sea mining benefits humankind.
- Support international oversight by organisations like the International Seabed Authority (ISA) with input from local communities and the Pacific Islands Forum.
- Promote a moratorium on deep-sea mining (e.g., until 2030) unless strong safeguards and equitable revenue-sharing models are in place, as advocated by nations like Fiji, Papua New Guinea, and Vanuatu.⁵⁰

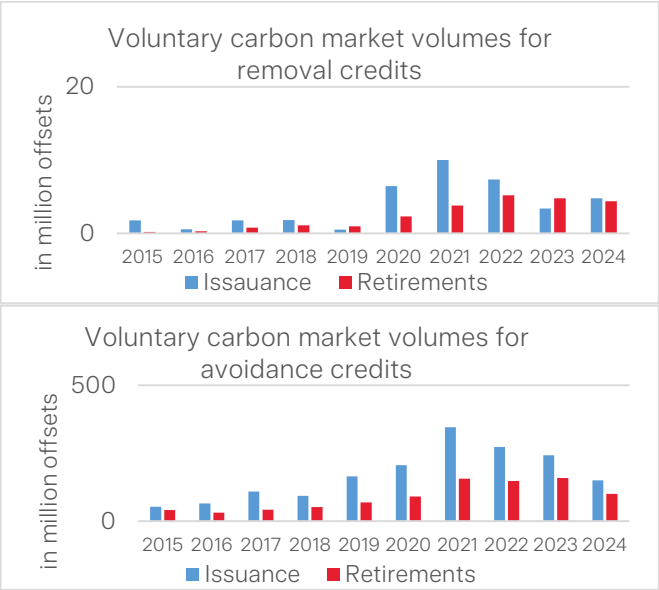
OPPORTUNITIES IN CARBON TRADING

Carbon trading has expanded across Asia and the Pacific. Countries including Thailand (since 2014), China (since 2021), Japan (since 2013), Australia (since 2012, with updates in 2023), and Indonesia (since 2023), have implemented some form of carbon pricing through markets or taxes. India is expected to launch a voluntary market in 2025. This has two key effects. First, according to the IMF, a moderate carbon price of USD 25 per ton (compared to over USD 120 in the European carbon market) could reduce emissions in the region by 21 percent by 2030.⁵¹ Second, governments have generated significant revenues—USD 4.35 billion was collected through compliance markets in the Asia-Pacific in 2023—which can be reinvested in a green and just transition.⁵²

Importantly, after the approval of Article 6 methodological guidelines during COP29 in Baku, cross-border carbon markets can provide extra incentives for Asian emitters and governments to accelerate decarbonisation.⁵³ In addition, voluntary carbon green markets are playing an important role in Asia. VCMs are market-based platforms where companies, organisations, and individuals (as compared to nations under Article 6) buy carbon credits voluntarily to offset their greenhouse gas emissions. In Malaysia, the national stock exchange BCX conducted its inaugural auction of a Malaysian nature-based carbon credit in July 2024, featuring credits from the Kuamut Rainforest Conservation project.⁵⁴ In Indonesia, the national trading platform for domestic allowance IDXCarbon traded 114,486 certificates from two energy projects.

Yet, judging by the money flows, significant upside potentials still have to materialise: 2024 has seen the lowest activity of credit issuances for carbon avoidance since 2019, with 149.7 million offsets, compared to 346 million offsets in 2021, for example. Similarly, removal credits saw relatively low activity.

Figure 3: Voluntary carbon market volumes



Source: Bloomberg

Challenges in supply, demand, and market integrity continue to undermine trust in carbon credit markets.⁵⁵ On the supply side, the Integrity Council for the Voluntary Carbon Market has established a benchmark for credit quality, particularly against the backdrop of concerns about voluntary carbon market credibility and questions regarding the role of the credits to support corporate action have dampened momentum.

In Asia, particularly among ASEAN member states, India and Japan, significant efforts are underway to establish domestic carbon pricing frameworks. These initiatives are expected to accelerate in the coming years as countries prepare to address the impacts of the EU Carbon Border Adjustment Mechanism (CBAM) by 2026.⁵⁶

Despite progress, Asia-Pacific carbon markets remain fragmented due to varying regulatory environments and diverse trading platforms. Emerging Asia-Pacific economies, such as Indonesia, Malaysia, and Thailand, host multiple carbon exchanges—including IDX Carbon, BCX, and FTIX. The proliferation of these exchanges has also resulted in low market liquidity and limited price discovery, hindering their ability to drive investment and inform operational decisions.

RECOMMENDED ACTIONS

RECOMMENDATION 1:

Evaluate establishment of harmonised carbon markets with cross-border trading opportunities

- A larger market would increase liquidity for investors and issuers. While some major carbon markets seem to be designed specifically for local needs (e.g., China), others are based on international norms.

RECOMMENDATION 2:

Improve capacity to utilise global carbon trading opportunities under Article 6 of the Paris Agreement

- Local partners (e.g., in agriculture and industry) can financially benefit from global carbon trading if the right knowledge, technical capacity and decarbonisation strategies are implemented.

RECOMMENDATION 3:

Create credible governance and framework for ensuring validity and quality of carbon credits based on international best practices

- Utilise new technologies for the verification of carbon credits rather than cumbersome administrative and bureaucratic processes.

RECOMMENDATION 4:

Utilise the EU CBAM as an opportunity to create champions for export

- These can serve as role models for decarbonisation for other regional players and even SMEs.

RECOMMENDATION 5:

Negotiate EU funding for decarbonisation

- Negotiate with EU to fund local decarbonisation projects through part of the proceeds from CBAM under the assumption that CBAM aims to support global decarbonisation rather than function as a trade barrier.

INDIGENOUS INCLUSION IN CLIMATE ACTION: ASIA-PACIFIC PERSPECTIVE

The Asia-Pacific region is home to numerous Indigenous communities that have dealt with extreme weather events specific to their region for millennia. The knowledge of Indigenous communities has been identified as a valuable source for building climate resilience through mitigation and adaptation strategies. For example, Indigenous rotational farming systems minimise land degradation and maintain ecosystem balance, reducing vulnerability to climate shifts. Indigenous communities cover more than one-fifth (21 per cent) of the world's land (approximately the size of Africa), containing carbon stored in soil and biomass.⁵⁷ Their deep understanding of and respect for ecological systems emphasise the critical balance needed between humans and environmental preservation, fostering healthy and resilient ecosystems.

TRADITIONAL KNOWLEDGE SYSTEMS IN CLIMATE ADAPTATION

Indigenous communities across Southeast Asia demonstrate effective environmental management through various traditional practices. In Indonesia and the Philippines, agroforestry systems enhance biodiversity, and communities in Thailand and Vietnam employ farming techniques that emphasise water conservation. Indigenous communities in Malaysia maintain ecosystem balance through traditional forest management practices, and river communities have developed effective traditional flood management systems. Pacific Islands' communities' traditional navigation techniques skilfully interpret ocean currents and weather patterns, and their coastal management practices offer innovative solutions in responding to emerging challenges, such as the impacts of the Blue Economy, deep-sea mining, marine pollution, and the establishment of marine protected areas. Indigenous communities have also mastered agricultural methods adapted to salt-water intrusion and developed traditional building techniques specifically designed to withstand tropical cyclones. Communities in South Asia have cultivated resilient practices like in Rajasthan, India, where traditional water harvesting systems like 'johads' help manage scarce water resources. Nepal's mountain communities have developed farming techniques that prevent soil erosion on steep terrain. In Bangladesh, coastal communities have adapted to environmental challenges through elevated housing designs. In Sri Lanka, communities rely on traditional weather prediction systems that have been refined over generations.

Box 2: Case study

TRADITIONAL WEATHER FORECASTING

In India, traditional knowledge provides weather prediction methods. The tree *Amaltas* (*Cassia fistula*) is a unique indicator of rain. It bears bunches of golden yellow flowers in abundance about forty-five days before the onset of the monsoon. This observation is documented in the ancient Sanskrit text "Brahad Samhita", written by Varahmihara, an Indian astronomer in 800 AD. Cloud movement patterns during specific seasons help predict river water levels. Other traditional indicators include animal behaviour patterns: When 'sparrow bathe in dust' or 'many bees enter the hive and none leave', one could expect rain in a couple of days. Similarly, 'crow crying during night and owl crying during the daytime', one can forecast drought. Mangrove reforestation—a practice deeply rooted in coastal Indigenous communities—not only protects against storm surges but also enhances biodiversity and carbon sequestration.



Cassia fistula – *Amaltas*, Indian Laburnum, Golden Shower Tree or Golden Shower Cassia in Sanjeevaiah Park, Hyderabad, India. (Wikimedia Commons)

IMPROVING INCLUSION OF INDIGENOUS COMMUNITY-BASED PRACTICES

Indigenous people's contributions are often overlooked and discounted due to historical marginalisation, and political and economic power imbalances. They are excluded from decision-making, and their rights to land and resources are restricted. Rapid urbanisation and displacement due to development projects and deforestation are leading to losses of traditional knowledge in the younger generations of the Indigenous communities. To achieve Paris Agreement goals, we need the representation and effective participation of these communities in a country's national action plan on climate change. It is essential that we accelerate our efforts to support Indigenous peoples' ability to adapt to climate change and reduce their vulnerabilities. This is not just about climate action—it's about social equity and justice. Any meaningful climate policy must recognise and protect Indigenous peoples' fundamental rights: their connection to ancestral lands, their authority over their territories and resources, their traditional ways of living, and their right to make decisions about their

own futures. These rights should not be treated as optional add-ons to climate policies – they need to be woven into the very fabric of how we approach climate action. There is a need to shift from doing no harm to Indigenous communities to actively working towards inclusion of Indigenous people and mainstreaming their environment related practices.

THE WAY FORWARD

The Asia-Pacific region's climate resilience significantly depends on effectively incorporating Indigenous knowledge and practices into adaptation strategies. Mainstreaming Indigenous and Traditional knowledge and practices into adaptation planning at all governance levels can help improve community resilience to climate change. Integrating them into development policies ensures implementation of participatory, cost-effective and sustainable climate adaptation measures. There is a need to move beyond token inclusion to genuine partnership, ensuring Indigenous communities are central to planning and implementing climate solutions.

RECOMMENDED ACTIONS

RECOMMENDATION 1:

Establish a mechanism and platform for indigenous representation

- Establish formal mechanisms for ensuring representation of Indigenous communities in climate policy development and institutional processes.
- Establish platforms, legislation and protocols to facilitate conflict resolution, protect property rights of Indigenous communities.

RECOMMENDATION 2:

Create legal framework to protect traditional knowledge

- Create legal frameworks to protect traditional knowledge including intellectual property rights.
- Develop programs to document, preserve and use traditional knowledge in day to day lives.

RECOMMENDATION 3:

Mainstream local knowledge into national adaptation plans and society

- Mainstream local, Indigenous, and traditional knowledge and practices into national adaptation plans.
- Engage local and community organisations in planning for adaption measures.
- Integrate local, Indigenous, and traditional knowledge and practices into school and college curricula.

RECOMMENDATION 4:

Improve finance for implementation of Indigenous adaptation solutions

- Improve access to institutional finance for Indigenous communities.
- Facilitate investments in eco-tourism projects to create local jobs.



Mangrove Tree Planting on the coast of Tanjung Tinggi, Belitung, Indonesia. (Shutterstock)

INDUSTRIAL DECARBONISATION: POLICY DEVELOPMENTS IN ASIA

Industrial decarbonisation refers to the process of reducing carbon dioxide emissions from the industrial sector and is crucial for Asia to reduce the region's emissions footprint and achieve net zero targets. Asia's transformation into a global manufacturing hub has driven economic growth but also significantly increased emissions. The industrial sector is a major contributor to GHG emissions, and many industrial sectors are considered 'hard to abate' because emissions arise from the process of manufacturing and not from energy consumed. With projected industry-led economic growth in Asia, GHG emissions are expected to rise without aggressive abatement policies.

In recent years, India, China, and Japan have emerged as key players in driving industrial decarbonisation through comprehensive policy frameworks and initiatives. These Asian economic powerhouses have implemented ambitious strategies targeting green hydrogen production, carbon markets, steel sector transformation, and renewable energy manufacturing.

India's National Green Hydrogen Mission (2023) aims to produce 5-10 million tonnes of green hydrogen annually by 2030, while establishing the world's first green steel taxonomy with a three-tier rating system. China's 14th Five-Year Plan and 2024 Action Plan for Energy Saving set aggressive targets for reducing energy consumption and CO₂ emissions across steel, cement, petrochemical, and non-ferrous metal sectors, alongside expanding its emissions trading scheme to cover 60 per cent of national emissions. Japan's Green Transformation (GX) League represents a collaborative approach between industry, government, and academia, introducing initiatives like the GX-ETS carbon market and climate bonds worth USD 120 billion. The country has also outlined ambitious plans for hydrogen, ammonia, and CCS deployment, targeting 3 million tonnes of clean hydrogen and ammonia production by 2030. These policy frameworks demonstrate a coordinated approach to industrial decarbonisation, combining regulatory measures, market mechanisms, and technological innovation to achieve substantial emissions reductions while maintaining economic competitiveness.

Appendix 1 describes the various policy and institutional interventions being taken in three large Asian countries (India, China, Japan). It is important that most industrialising Asian countries embark on formulating and implementing green industrial policies. Lessons learnt that can be applied throughout Asia and the Pacific are to adapt policy instruments to incentivise early adopters of low-carbon solutions, reduce investment risks (reducing the cost of capital) unique to these solutions, penalise carbon-intensive activities, and create markets for green products. Asian governments need to play a more active role in guiding industrial markets by introducing new policy instruments to hasten industrial development and lead economic growth towards green growth by creating policy rents in green sectors and withdrawing policy rents from carbon-intensive sectors.

RECOMMENDED ACTIONS

RECOMMENDATION 1:

Accelerate the scale and urgency of low carbon transition and green growth

- Provide subsidy/incentives for accelerating development of green technologies—alternative materials, fuel switch and energy efficiency—accelerate deployment of clean technologies.

RECOMMENDATION 2:

Implement explicit internalisation of environmental costs

- Cap and Trade in carbon markets to green credit lines with subvention and risk sharing financial instruments and providing risk subsidy to the financial sector for lending to greening industries. Also, consider taxes on the "polluter pays" principle.

RECOMMENDATION 3:

Address information, coordination, credit market failures

- Increase market transparency, mandate disclosure of emissions (scope 1/2/3), and reduce uncertainty through off take guarantees or take or pay contracts such as Green Steel and GH₂. Public investments in RE, Storage and Smart Grids etc. Use public credit guarantees.

RECOMMENDATION 4:

Increase social awareness and develop a new social contract

- Build social consensus on national Green transformation and responsible consumption, e.g. LIFE program in India. Change unsustainable consumption, such as a ban on single-use plastics and rethink economic growth with sustainability safeguards.

ENSURING SUFFICIENT AND QUALITY WATER SUPPLY IN THE ASIA- PACIFIC

Water is a fundamental resource for economic development, environmental sustainability, and human well-being. Ensuring sufficient and high-quality water supply is crucial for agriculture, industry, and domestic use, as well as for the transition toward renewable energy. As the Asia-Pacific region faces increasing water scarcity and declining water quality due to climate change, industrial pollution, and inefficient water management, it is essential to adopt both regional and localised strategies that promote sustainable water use across all sectors.

WATER SCARCITY

Water scarcity poses a significant challenge to agriculture, industry, and green energy expansion. In 2022, nearly half of the global population experienced severe water scarcity for at least part of the year, with one-quarter facing extremely high water stress.⁵⁸ The Asia-Pacific region, home to over half the world's population, is particularly vulnerable due to rapid urbanisation, agricultural intensification, and climate variability. The demand for water-intensive renewable energy technologies, such as hydropower and green hydrogen production, exacerbates stress on already overdrawn water basins.⁵⁹ In India, for example, water consumption for energy production is expected to rise from 15 billion cubic meters (bcm) in 2025 to 130 bcm by 2050, making up about 9 per cent of total water demand.⁶⁰

In agriculture, unsustainable groundwater extraction has led to aquifer depletion, particularly in water-stressed regions. Solar-powered irrigation pumps, while reducing reliance on fossil fuels, enable continuous groundwater extraction, potentially worsening water depletion. Without regulatory oversight, the widespread adoption of these pumps could lead to unsustainable water use, undermining long-term water security.⁶¹

WATER QUALITY DEGRADATION

Beyond scarcity, water quality degradation threatens agriculture, industry, and renewable energy projects. Contaminants such as heavy metals, industrial effluents, and agricultural runoff can render water unusable for irrigation, drinking, and hydropower operations. Hydropower reservoirs, for example, suffer from sedimentation and nutrient accumulation, reducing efficiency and increasing maintenance costs.

Furthermore, the increasing reuse of treated wastewater for industrial and energy purposes must be carefully managed to avoid emerging contaminants, including pharmaceuticals and microplastics. If unchecked, these pollutants could disrupt aquatic ecosystems and affect the reliability of water supplies needed for various sectors.

Water is a linchpin in the Asia-Pacific's sustainable development, essential for agriculture, industry, and renewable energy. Yet, its scarcity and declining quality pose significant risks. Addressing these challenges requires both a regional and localised approach, including technological improvements in water-efficient energy production, sector-wide water conservation, and economic incentives through pricing and markets. By integrating these solutions, Asia-Pacific countries can ensure a resilient and sustainable water supply, supporting both the green transition and broader environmental stability.⁶²



West Bengal Drinking Water Sector Improvement Project in India. (Asian Development Bank)

RECOMMENDED ACTIONS

RECOMMENDATION 1:

Enhance water efficiency across sectors

To address water scarcity, water-efficient technologies and management strategies must be integrated across agriculture, industry, and energy production:

- **Agriculture:** Promoting water-saving techniques such as drip irrigation, mulching, and cultivation of drought-resistant crops can reduce agricultural water demand.
- **Industry:** Circular water use in manufacturing, including wastewater recycling and industrial symbiosis, can cut down freshwater withdrawals.
- **Urban Water Systems:** Reducing conveyance losses, implementing smart water metering, and promoting treated wastewater reuse for non-potable applications (e.g., irrigation, construction) can optimise urban water use.
- **Renewable Energy:** Improving thermal power cooling, adopting dry and hybrid systems, robotic solar cleaning, and prioritising water recycling in green hydrogen production reduce water use. Similarly, green hydrogen production should prioritise water recycling and desalination in regions experiencing high water stress.⁶³

RECOMMENDATION 2:

Integrate sustainable water management practices

Integrated water resource management is essential to balance competing demands across different sectors.⁶⁴ Key strategies include:

- Implementing watershed restoration projects to maintain water quality and regulate flow.
- Strengthening regulations to prevent industrial and agricultural water pollution.
- Expanding nature-based solutions, such as wetland restoration and reforestation, to enhance water filtration and storage.

RECOMMENDATION 3:

Implement water pricing and market-based approaches

Governments should implement pricing mechanisms and tradable water rights to drive efficiency and ensure availability across sectors like agriculture and energy.⁶⁵ Formal water markets, supported by robust data governance, can enhance fair allocation and sustainable withdrawal limits. Digital tracking systems should be established to monitor groundwater use, while citizen science initiatives, as demonstrated in Lebanon and India, can complement government efforts by improving local data collection and supporting informed water management decisions.

CONCLUSION

The Asia-Pacific region faces critical environmental challenges, including climate change, biodiversity loss, and resource depletion, while driving global economic growth.

To address these issues, a comprehensive Asia-Pacific Green Development Agenda is needed. This agenda should harness the region's strengths, such as biodiversity, technological innovation, and renewable energy, while tackling poverty, inequality, and unsustainable resource use. A strong regional voice is needed to navigate shifting global dynamics, balancing mineral production with environmental concerns. Key actions include integrating carbon pricing mechanisms, incorporating traditional ecological knowledge, and accelerating decarbonisation in hard-to-abate sectors like steel and cement. Through these efforts, the Asia-Pacific region can drive sustainable growth, fostering both environmental resilience and economic inclusivity.



Steelworks of BlueScope Steel Limited company in Port Kembla, Australia. (Wikimedia Commons)

APPENDIX 1

India



- National Green Hydrogen Mission (2023) [66]: The Government of India announced the NGHM in 2023 to incentivise green hydrogen production and exports. The mission targets the production and supply of 5 million tonnes per annum (Mtpa) of green hydrogen to fulfil domestic demand by 2030, potentially reaching 10 Mtpa to also fulfil export demand. The mission foresees the investment of over USD 90 billion, 67 creation over 6 lakh jobs, and abatement of 50 Mtpa of CO₂ emissions. The mission will be implemented in two phases. Phase I (2022–23 to 2025–26) focuses on creating demand and increasing domestic electrolyser manufacturing capacity. Phase II (2026–27 to 2029–30) aims to make green hydrogen cost-competitive and expand its use in various sectors. The bulk of the total financial outlay of USD 2.3 billion will be for the Strategic Interventions for Green Hydrogen Transition (SIGHT) programme (USD 2 billion) which will support indigenous electrolyser manufacturing and incentivise green hydrogen production. The mission also provides USD 170 million for pilot projects, USD 46 million for R&D, and USD 45 million towards other mission components.
- Indian carbon market (2022, 2024): The government passed the *Energy Conservation (Amendment) Act, 2022*⁶⁸ into legislation, under the Ministry of Power, allowing it to develop a domestic carbon credits trading scheme (CCTS) and to authorise the issuance of carbon credit certificates. In 2024, the Bureau of Energy Efficiency adopted the *Detailed Procedure for Compliance Mechanism under CCTS*.⁶⁹ These regulations provide a framework for the CCTS that includes a compliance mechanism for energy-intensive industries and an offset mechanism to incentivise voluntary actions for greenhouse gas reduction.
- Steel decarbonisation roadmap (2024) and green steel taxonomy (2024): The Ministry of Steel released a comprehensive report *Greening the Steel Sector in India: Roadmap and Action Plan*.⁷⁰ The report supports the decarbonisation of the Indian steel industry through energy efficiency, renewable energy, process transition, steel recycling, green hydrogen, biochar and CCUS. This includes increasing energy efficiency technologies, renewable energy, and steel recycling in the short term. In the medium term, the strategy envisions increased hydrogen and carbon capture technologies. The plan also addresses financing mechanisms for decarbonisation, skilled workforce development and governance mechanisms.
- The government also announced the definition of green steel to adopted in India

China



- 14th Five Year Plan (2021) and Action Plan for Energy Saving and Carbon Reduction (2024): The 14th FYP (2021 to 2025) set targets for reducing the energy consumption per unit of GDP by 13.5 per cent by 2025 compared to 2020 levels. The State Council of China later released an action plan for energy efficiency improvements and CO₂ emissions reduction to accelerate the country's decarbonisation efforts and meet the targets set by the 14th FYP.⁷⁵ The plan targeted the reduction of energy consumption and CO₂ emissions per unit of GDP by 2.5 and 3.9 per cent respectively in 2024 alone. The plan targets increasing the share of non-fossil fuel consumption to 18.9 per cent in 2024 and 20 per cent in 2025, thereby abating 130 MtCO₂ annually in 2024 and 2025. The action plan includes strict controls on coal consumption, optimization of oil and gas use, increased non-fossil energy consumption, and energy savings and carbon emission reductions in industries such as steel, petrochemicals, non-ferrous metals, etc.
- Steel sector plans: The plan targets increasing electric arc furnace steel output to 15 per cent of the total crude steel output by 2025 (currently <10 per cent), increase scrap utilisation and curb the expansion of BF-BOF capacity to maintain profitability.⁷⁶
- Cement sector plans: China seeks to control the clinker production capacity at 1.8 billion tonnes per annum by 2025 and increase gypsum waste recycling. The country is mandating 30 per cent of cement-making capacity to meet pre-set energy efficiency benchmark targets by 2025.⁷⁷
- Petrochemical sector plans: China is implementing strict new policies focusing on controlling production capacity, improving energy efficiency, and reducing carbon emissions in key sectors like oil refining, ethylene, and synthetic ammonia. By 2025, the country aims to control crude oil processing capacity at 1 billion tonnes per annum. From 2024 to 2025, the industry will abate 110 MtCO₂ by energy conservation, technology overhaul and reducing coal consumption by 40 Mtpa. Plants that do not meet the energy efficiency benchmark targets by 2025 will be shut down.⁷⁸
- Non-ferrous metals sector plans: By 2025, the country aims to increase recycled metal supply to over 24 per cent, boost direct aluminium alloying to over 90 per cent, and implement strict energy efficiency and environmental standards for new projects in electrolytic aluminium, alumina, polysilicon, and lithium battery sectors. The policy

Japan



- Green Transformation (GX) League (2022): The Japanese government, through the Ministry of Economy, Trade and Industry (METI), formed the Green Transformation (GX) league, which is a forum for major companies, government agencies and academic institutions to work towards Japan's 2050 net-zero emissions target. The forum is meant to leverage economic and developmental opportunities of the Japanese economy's energy transition.⁸³ The GX strategy of the government has specific sectoral targets and plans for hydrogen and ammonia, iron and steel, chemicals, cement, pulp and paper, etc.⁸⁴
- Some recent policy developments resulting from the GX League working group deliberations are given below.
- GX Acceleration Declaration Framework (2024): Launched in December 2024, this framework encourages companies to proactively engage in creating a market for green transformation (GX). As per the framework, the nearly 700 companies that are part of the league will support several Japanese industries to produce low-carbon products through investments and technological support. The Japanese government will work towards demand creation for these low-carbon goods by providing short- to medium-term support for the consumption of these higher-priced goods. In the early phases, the framework will target products and services currently supported by the government, such as green steel, green chemicals, hydrogen and SAF. The scope of support will be subsequently expanded as required to cover a wider range of products.⁸⁵
- GX-ETS (2023) and ETS-linked climate bonds (2024): The GX League emission trading system (GX-ETS) is Japan's domestic carbon market that launched in 2023. Companies in the GX League voluntarily participate in this ETS till 2026, with a 46 per cent GHG reduction target versus 2013 emission levels of each firm (based on Japan's NDC). Beyond 2026, the system will gradually transition to become mandatory.⁸⁶ Post 2028, the government will also introduce a carbon surcharge system targeting fossil fuel importers.⁸⁷
- The Japanese government began issuing climate bonds from February 2024, aiming to issue bonds worth USD 120 billion by 2024 to raise public and private investments supporting the energy transition. From 2033, emission allowances will be auctioned to the power sector to repay these bonds, thus being the world's first ETS-linked climate bonds.⁸⁸

(i.e., the green steel taxonomy) in 2024,⁷¹ becoming the first country in the world to do so.⁷² As per the adopted taxonomy, any steel producer whose emission intensity is lower than the fixed threshold value of 2.2 tCO₂/tonne of finished steel (tfs) will be eligible for a green rating. The threshold value will be reviewed once every three years. The taxonomy defines a three-tier rating system for steel:

- Five-star, green-rated steel: emission intensity <1.6 tCO₂/tfs
- Four-star, green-rated steel: emission intensity of 1.6–2.0 tCO₂/tfs
- Three-star, green-rated steel: emission intensity of 2.0–2.2 tCO₂/tfs
- Production-linked incentive schemes: Two major production-linked incentive (PLI) schemes were rolled out by the government.
- The Ministry of New and Renewable Energy is implementing a PLI scheme for domestic manufacturing of high-efficiency solar PV modules with an outlay of USD 2.8 billion.⁷³ Under tranche I of this scheme (2021), the Indian Renewable Energy Development Agency (IREDA) awarded bids to three manufacturers for setting up 8.7 GW of high-efficiency PV manufacturing capacity with a PLI of USD 522 million. Under tranche II (2022), the Solar Energy Corporation of India (SECI) issued letters of award to 11 bidders for setting up 39.6 GW of manufacturing capacity with a PLI outlay of USD 2.3 billion.
- The Ministry of Heavy Industries has a PLI scheme⁷⁴ under the National Programme on Advanced Cell Chemistry (ACC) Battery Storage. The scheme, worth USD 2.1 billion, will support both domestic and foreign companies in setting up 50 GWh of new-generation (+5 GWh of niche technology) ACC battery manufacturing facilities over period of five years. The scheme emphasises domestic value addition (DVA), requiring the beneficiaries to have an initial DVA of 25 per cent and increase it to 60 per cent by the fifth year while also making the mandatory investment of USD 26 million/GWh for the committed capacity within 2 years. The scheme is supporting 3 beneficiary firms that are setting up a total capacity of 30 GWh.

targets savings of approximately 5 Mtpa of coal and a reduction of around 13 MtCO₂ between 2024 and 2025 and promotes advanced technologies and increased renewable energy use in the non-ferrous metal industry.⁷⁹

- Carbon market expansion (2024): The Ministry of Ecology and Environment of the Government of China announced in 2024 that the country's emissions trading scheme (ETS) will be expanded from covering only the power sector to cover steel, aluminium, and cement by the end of 2024. This expansion raised the share of total national CO₂ emissions covered by the market from 40 per cent to 60 per cent. Companies from these sectors will receive free allowances for their CO₂ emissions between 2024 and 2026, with no cap on total allowances, to enable them to familiarise with the system and generate data. From 2027 onwards, these allowances will be tightened⁸⁰ China's ETS is based on emissions per unit of output; if total output continues to increase, the effect of the ETS may be limited.⁸¹
- Standardised and mandatory ESG disclosures (2024): The Ministry of Finance notified the *Basic Standards for Corporate Sustainability Disclosure* as part of China's larger efforts to mandate ESG disclosures from its companies. China's major stock exchanges mandated ESG disclosures by major companies by 2026⁸² Full implementation of the disclosure standards is expected by 2030.

- Long-term CCS roadmap (2023): In 2023, METI announced Japan's long-term carbon capture and storage (CCS) roadmap. The roadmap aims for commercial CCS activities starting 2030, creating 120–140 MtCO₂ of annual storage by 2050 onshore, near-shore and offshore. The *CCS Business Act* passed by the Japanese Parliament provide a legal framework for CCS businesses.
- Hydrogen and ammonia strategy (2023): Under the GX, Japan is developing technologies for clean hydrogen and ammonia production and supply chains. According to the GX strategy, the country is targeting 3 Mtpa of hydrogen and ammonia production by 2030, and 20 million tonnes of hydrogen and 30 million tonnes of ammonia by 2050. The plan also foresees the creation of large, resilient supply chain within and outside Japan to enable the transition.⁸⁹
- Green steel strategy (2023): The GX strategy aims to reduce CO₂ emissions from steelmaking by 30 per cent compared to 2013 levels by 2030. The country also aims to produce and supply over 10 million tonnes of green steel by 2030. The strategy aims to invest in developing and commercialise large electric arc furnaces to transition from coal-based blast furnaces by 2030. The industry will also expand the use of hydrogen in steel production, including blending hydrogen in blast furnaces and developing direct-reduction technologies using hydrogen.⁹⁰

NOTES AND REFERENCES

- 1 Copernicus Climate Change Service (C3S). (2024, December 9). *Second-warmest November globally confirms expectation for 2024 as warmest year*. C3S. <https://climate.copernicus.eu/copernicus-second-warmest-november-globally-confirms-expectation-2024-warmest-year>
- 2 Swiss Re Group. (2024, December 5). Hurricanes, severe thunderstorms and floods drive insured losses above USD 100 billion for 5th consecutive year, says Swiss Re Institute. Swiss Re Group. <https://www.swissre.com/press-release/Hurricanes-severe-thunderstorms-and-floods-drive-insured-losses-above-USD-100-billion-for-5th-consecutive-year-says-Swiss-Re-Institute/f8424512-e46b-4db7-a1b1-ad6034306352>
- 3 UN News. (2024, December 30). *In New Year's Message, Guterres urges countries to drastically slash emissions and 'exit this road to ruin'*. United Nations. <https://news.un.org/en/story/2024/12/1158611#:~:text=%E2%80%9CThis%20is%20climate%20breakdown%20%E2%80%94%20in,%E2%80%94%20and%20it%20is%20possible.%E2%80%94%20D>
- 4 The Climate Group. (2021, Mar 27). *Asian and Pacific Islands are leading the environmental movement*. The Climate Group. <https://www.theclimategroup.org/our-work/news/asian-and-pacific-islands-are-leading-environmental-movement#:~:text=Of%20the%20top%20countries%20most,the%20rest%20of%20the%20world>
- 5 India Today Environmental Desk. (2025, January 31). *India 7th most vulnerable country to climate change: Economic Survey*. India Today. <https://www.indiatoday.in/environment/story/india-7th-most-vulnerable-country-to-climate-change-economic-survey-2672890-2025-01-31>
- 6 Mohanty, A., Wadhawan, S. (2021, October). *Mapping India's Climate Vulnerability: A District Level Assessment*. Council on Energy, Environment and Water (CEEW). <https://www.ceew.in/sites/default/files/ceew-study-on-climate-change-vulnerability-index-and-district-level-risk-assessment.pdf>
- 7 United Nations, Economic and Social Commission for Asia and the Pacific (ESCAP). (2023). *Asia-Pacific Population and Development Report 2023*. United Nations. https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/undesd_pd_2024_escap-report-population-development-17.pdf
- 8 United Nations Office for Disaster Risk Reduction (UNDRR). (n.d.) *G20 Disaster Risk Reduction Working Group*. UNDRR. <https://www.undrr.org/implementing-sendai-framework/partners-and-stakeholders/multistakeholder-initiatives-and-partnerships/g20-drr-wg#:~:text=Established%20under%20India's%20Presidency%20of,its%20support%20to%20developing%20countries>
- 9 Monetary Authority of Singapore (MAS). (2024, November 11). *MAS Announces Green Finance and Capital Markets Initiatives to Strengthen Financial Cooperation with China*. MAS. <https://www.mas.gov.sg/news/media-releases/2024/mas-announces-green-finance-and-capital-markets-initiatives-with-china>
- 10 Pacific Community. (n.d.). *Kiwa Initiative: Nature-based solutions for biodiversity protection and climate change adaptation*. Pacific Community. <https://www.spc.int/cces/the-kiwa-initiative>
- 11 Queensland Government. (2024, April 26). *Clean Economy Jobs Act 2024*. Queensland Legislation. <https://www.legislation.qld.gov.au/view/html/inforce/current/act-2024-016>
- 12 Karyza, D. (2025, February 1). *US back out from JETP leadership role*. The Jakarta Post. <https://www.thejakartapost.com/business/2025/02/01/us-backs-out-from-jetp-leadership-role.html>
- 13 Qi, Qin and Christine Shaerer (2025): "When coal won't step aside: The challenge of scaling clean energy in China", Centre for Research on Energy and Clean Air (CREA), Global Energy Monitor (GEM), https://energyandcleanair.org/wp/wp-content/uploads/2025/02/CREA_GEM_China_Coal-power_H2-2024_FINAL.pdf
- 14 Wischermann, J. (2024, March 10). *Vietnam: The Just Energy Transition Partnership (JETP) has high political costs*. Heinrich Böll Stiftung. [https://www.boell.de/en/2024/03/10/just-energy-transition-partnership-vietnam-jetp-has-high-political-costs#:~:text=In%20Vietnam%2C%20the%20partnership%20is,riddled%20with%20high%20political%20costs.&text=At%20the%20UN%20Climate%20Change,Energy%20Transition%20Partnership%20\(JETP\).](https://www.boell.de/en/2024/03/10/just-energy-transition-partnership-vietnam-jetp-has-high-political-costs#:~:text=In%20Vietnam%2C%20the%20partnership%20is,riddled%20with%20high%20political%20costs.&text=At%20the%20UN%20Climate%20Change,Energy%20Transition%20Partnership%20(JETP).)
- 15 Lee, K. (2024, June 11). *ISSB-aligned disclosure rules 'a big milestone for China's green finance development'*. Green Central Banking. <https://greencentralbanking.com/2024/06/11/issb-disclosure-china-green-finance-development>
- 16 Williams, L. (2024, December 31). *Here's Why I'm Optimistic About Climate Financing*. Bloomberg. <https://www.bloomberg.com/opinion/articles/2024-12-31/here-s-why-i-m-optimistic-about-climate-financing>
- 17 Pacific Community. (2017, March 28). *Tuvalu prepares to dig deep for seabed mineral wealth*. Pacific Community. <https://www.spc.int/updates/blog/2017/03/tuvalu-prepares-to-dig-deep-for-seabed-mineral-wealth>
- 18 Wetzler, T, Stuart-Smith and R. Dibley, A. (2024, January 11). *Climate risk assessments must engage with the law*. Science. <https://www.science.org/doi/10.1126/science.adj0598>
- 19 Saieed, Z. (2021, January 21). *Chinese solar panel makers close plants, scale back production in Malaysia as US tariffs bite*. The Strait Times. <https://www.straitstimes.com/asia/se-asia/chinese-solar-panel-makers-close-plants-scale-back-production-in-malaysia-as-us-tariffs-bite>
- 20 Wilson China Fellowship. (2025, January 23). *What's next for US-China climate relations*. Wilson Center. <https://chinafellowship.wilsoncenter.org/event/whats-next-us-china-climate-relations>
- 21 Home, A. (2024, March 6). *Nickel producers fear growing Indonesian pricing power*. Reuters. <https://www.reuters.com/markets/commodities/nickel-producers-fear-growing-indonesian-pricing-power-2024-03-05/>
- 22 Jong, H.N. (2025, February 4). *Indonesia mulls Paris Agreement exit, citing fairness and energy transition costs*. Mongabay. <https://news.mongabay.com/2025/02/indonesia-mulls-paris-agreement-exit-citing-fairness-and-energy-transition-costs/>
- 23 International Energy Agency (IEA). (2023). *Critical Minerals Market Review 2023*. IEA. <https://iea.blob.core.windows.net/assets/afc35261-41b2-47d4-86d6-d5d77fc259be/CriticalMineralsMarketReview2023.pdf>
- 24 International Energy Agency (IEA). (2023). *Critical Minerals Market Review 2023*. IEA. <https://iea.blob.core.windows.net/assets/afc35261-41b2-47d4-86d6-d5d77fc259be/CriticalMineralsMarketReview2023.pdf> ; Hong, K. and O'Gorman, K. (2024, September). *Critical minerals: Ripple effects from the US to Australia to Asia*. Norton Rose Fulbright. <https://www.nortonrosefulbright.com/en-us/knowledge/publications/7d2a03dd/critical-minerals-ripple-effects-from-the-us-to-australia-to-asia>
- 25 Australian Government Department of Industry, Science and Resources. (2024, February 16). *Nickel placed on critical minerals list*. Australian Government <https://www.minister.industry.gov.au/ministers/king/media-releases/nickel-placed-critical-minerals-list>

- 26 Cotillon, H. and Makapane, O. (2024, May 13). *Critical minerals supply chain outlook in Asia-Pacific*. S&P Global. <https://www.spglobal.com/market-intelligence/en/news-insights/research/critical-minerals-supply-chain-outlook-in-asiapacific>
- 27 Australian Government Department of Industry Science, and Resources. (2022, October 22). *Australia-Japan strengthen critical minerals cooperation*. Australian Government. <https://www.minister.industry.gov.au/ministers/king/media-releases/australia-japan-strengthen-critical-minerals-cooperation>
- 28 Australian Government Department of Industry Science, and Resources. (2023, June). *Critical Minerals Strategy 2023-2030*. Australian Government. <https://www.industry.gov.au/sites/default/files/2023-06/critical-minerals-strategy-2023-2030.pdf>
- 29 Australian Embassy Indonesia. (2024, March 15). *Launch of KINETIK, the Australia-Indonesia Climate and Infrastructure Partnership*. Australian Government. https://indonesia.embassy.gov.au/jakt/MR24_025.html
- 30 Australian Government Department of Foreign Affairs and Trade. (2022, November). *Australia-India ECTA benefits for the Australian critical minerals and resources sectors*. Australian Government. <https://www.dfat.gov.au/trade/agreements/in-force/australia-india-ecta/outcomes/australia-india-ecta-benefits-australian-critical-minerals-and-resources-sectors>
- 31 A "foreign entity of concern" has been defined to include (i) all entities incorporated, headquartered in or performing the relevant activities in a "covered nation" (further defined to mean China, Russia, Iran and North Korea); or (ii) all entities where 25% of the "voting rights, board seats or equity interests" are directly or indirectly held by a government of a covered nation, including such government's agencies or instrumentalities [Error! Bookmark not defined.].
- 32 US Department of the Treasury. (2023, March 31). Treasury releases proposed guidance on new clean vehicle credit to lower costs for consumers, build U.S. industrial base, strengthen supply chains. U.S. Department of the Treasury. <https://home.treasury.gov/news/press-releases/jy1379#:~:text=To%20meet%20the%20critical%20miner,by%20the%20Inflation%20Reduction%20Act>
- 33 Australian Government Department of Industry, Science and Resources. (2024, February 16). *Nickel placed on critical minerals list*. Australian Government <https://www.minister.industry.gov.au/ministers/king/media-releases/nickel-placed-critical-minerals-list>
- 34 The Economist. (2024, October 31). *China is tightening its grip on the world's minerals: That is making Western policymakers anxious*. The Economist. https://www.economist.com/business/2024/10/31/china-is-tightening-its-grip-on-the-worlds-minerals?utm_source=substack&utm_medium=email
- 35 Following China are Japan, South Korea and other parts of Southeast Asia, which have also made significant investments in Indonesia's nickel and battery sector.
- 36 Kay, J. (2024, October 4). *Rare Earths MMI: China's Rare Earths Restrictions in Full Effect*. Metal Miner. <https://agmetallminer.com/2024/10/04/rare-earths-mmi-chinas-restrictions/>
- 37 This might include actions through the US-led Minerals Security Partnership that includes Japan, South Korea, Australia, the European Union and nine other countries.
- 38 Australia has already ordered five international companies linked to China to divest their shares in Northern Minerals Limited in Western Australia, a strategically crucial Australian heavy rare earth project based on national interest considerations [24].
- 39 Friend-shoring can be understood as investment from more developed countries (e.g., China, Japan, South Korea, Australia) to resource rich economies with limited technological expertise and capital (e.g., Indonesia, Mongolia, Malaysia) in exchange for access to these minerals and political alignment.
- 40 Chenoweth, J., Blycha M., and Smith, B. (2024 May). *From boom to backfire: Unravelling the complexity of the critical minerals market and 'teething' issues in energy transition*. Global Arbitration Review. <https://globalarbitrationreview.com/review/the-asia-pacific-arbitration-review/2025/article/boom-backfire-unravelling-the-complexity-of-the-critical-minerals-market-and-teething-issues-in-energy-transition>
- 41 Reuters. (2023, February 19). *Mexico's Lopez Obrador orders ministry to step up lithium nationalization*. Reuters. <https://www.reuters.com/world/americas/mexicos-lopez-obrador-orders-ministry-step-up-lithium-nationalization-2023-02-19/>
- 42 Villegas, A. and Scheyder, E. (2023, April 21). *Chile plans to nationalize its vast lithium industry*. Reuters. <https://www.reuters.com/markets/commodities/chiles-boric-announces-plan-nationalize-lithium-industry-2023-04-21/>
- 43 Global Arbitration Review. (2024, June 24). *Chinese lithium miner takes Mexico to ICSID*. Global Arbitration Review. <https://globalarbitrationreview.com/article/chinese-lithium-miner-takes-mexico-icsid>
- 44 International Seabed Authority (ISA). (n.d). *DeepData Dashboard*. ISA. <https://www.isa.org.jm/deepdata-database/deepdata-dashboard/>
- 45 Prasad, S. and Hardy, E. (2023, November 27). *Why Pacific Island States Are Concerned About Deep-Sea Mining*. Carnegie Endowment for International Peace. <https://carnegieendowment.org/posts/2023/11/why-pacific-island-states-are-concerned-about-deep-sea-mining?lang=en>
- 46 Fauna & Flora International (FFI). (2020). *An Assessment of the Risks and Impacts of Seabed Mining on Marine Ecosystems*. FFI. https://pacific-data.sprep.org/system/files/The-risks-impacts-deep-seabed-mining_Report_FFI_2020_.pdf
- 47 Reuters. (2024, February 26). *Fortescue's Forrest urges LME to separate 'clean' nickel contracts*. Reuters. <https://www.reuters.com/markets/commodities/fortescues-forrest-urges-lme-separate-nickel-contracts-into-dirty-clean-2024-02-26/>
- 48 Thompson, B. and Rabe, T. (2024, July 11). *BHP shuts nickel business to arrest losses*. Australian Financial Review. <https://www.afr.com/companies/mining/bhp-shuts-down-nickel-business-arresting-losses-20240711-p5jsyq>
- 49 Park and Melendez, A.C. (May 2024) *Building Resilient and Responsible Critical Minerals Supply Chains for the Clean Energy Transition*. Asian Development Bank. <https://www.adb.org/publications/critical-minerals-supply-chains-clean-energy-transition>
- 50 Borton, J. (2024, February 28). *Balancing erosion and opportunity in Pacific deep-sea mining*. East Asia Forum. <https://easiaforum.org/2024/02/28/balancing-erosion-and-opportunity-in-pacific-deep-sea-mining/>
- 51 Dabla-Norris et al. (May 2021). *Fiscal Policies to Address Climate Change in Asia and the Pacific*. International Monetary Fund (IMF). <https://www.imf.org/en/Publications/Departmental-Papers-Policy-Papers/Issues/2021/03/24/Fiscal-Policies-to-Address-Climate-Change-in-Asia-and-the-Pacific-Opportunities-and-49896>
- 52 Tan, M.Z. (2024, August). *International Carbon Market Update – States and Trends in the Asia Pacific*. Carbon Market Institute. https://carbonmarketinstitute.org/app/uploads/2024/08/International-market-update_August-24.pdf
- 53 Mahul O. and Azizova, Z. (2024, December 17). *From Paris to Baku: Article 6 rules finally take flight after a decade of negotiations*. World Bank Blogs. <https://blogs.worldbank.org/en/climatechange/from-paris-to-baku--article-6-rules-finally-take-flight-after-a->
- 54 Bursa Malaysia. (2024, July 24). *Bursa Carbon Exchange Auctions First Malaysian Nature-Based Carbon Credits*. Bursa Malaysia. [https://www.bursamalaysia.com/sites/5bb54be15f36ca0af339077a/content_entry5c11a9db758f8d31544574c6/66a22daae6414a1f128e4cf5/files/240725_PR_BCX_Kuamut_Auction_Outcome_vf_-_UPDATED_930_PM.pdf?1721914849#:~:text=Kuala%20Lumpur%2C%2025%20July%202024,\(%E2%80%9CKuamut%20Project%E2%80%9D](https://www.bursamalaysia.com/sites/5bb54be15f36ca0af339077a/content_entry5c11a9db758f8d31544574c6/66a22daae6414a1f128e4cf5/files/240725_PR_BCX_Kuamut_Auction_Outcome_vf_-_UPDATED_930_PM.pdf?1721914849#:~:text=Kuala%20Lumpur%2C%2025%20July%202024,(%E2%80%9CKuamut%20Project%E2%80%9D)
- 55 World Bank. (2024) *State and Trends of Carbon Pricing 2024*. Washington, DC: World Bank. <https://openknowledge.worldbank.org/server/api/core/bitstreams/253e6cdd-9631-4db2-8cc5-1d013956de15/content>
- 56 The EU Carbon Border Adjustment Mechanism (CBAM) is a policy tool introduced by the European Union to address carbon leakage and promote global emissions reductions. It aims to ensure that the carbon emissions embedded in imported goods are accounted for, leveling the playing field between EU producers, who pay for their carbon emissions under the EU Emissions Trading System (ETS), and foreign producers exporting to the EU.

- 57 UNEP-WCMC and ICCA Consortium. (2021). A global spatial analysis of the estimated extent of territories and areas conserved by Indigenous peoples and local communities, Territories of Life: 2021 Report. UNEP-WCMC.
<https://report.territoriesoflife.org/global-analysis/>
- 58 United Nations, 2024. *Progress towards the Sustainable Development Goals*. US: United Nations.
- 59 Agrawal, K.K., Jain, S., Jain, A.K. and Dahiya, S. (2014). Assessment of greenhouse gas emissions from coal and natural gas thermal power plants using life cycle approach. *International Journal of Environmental Science and Technology*.
<https://link.springer.com/article/10.1007/s13762-013-0420-z>
- 60 Ferroukhi, R., Nagpal, D., Ommer, V., García-Baños, C., Luo, T., Krishnan, D. and Thanikonda, A. (2018, January). *Water use in India's power generation: Impact of renewables and improved cooling technologies to 2030*. IRENA.
<https://www.irena.org/publications/2018/Jan/Water-Use-in-India-Power-Impact-of-renewables-to-2030>
- 61 Bassi, N. (2020). Solarizing groundwater irrigation in India: a growing debate. In *Politics and Policies for Water Resources Management in India* (pp. 132-145). Routledge.
<https://www.taylorfrancis.com/chapters/edit/10.1201/9780429316234-10/solarizing-groundwater-irrigation-india-growing-debate-nitin-bassi>
- 62 Chaturvedi, V., Neog, K., Basu, S., Ghosh, A., Gautam, S.K. and Jalan, I. (2020, December 2). *Reallocating water for India's growth: Sectoral withdrawals, water-efficient agriculture, and institutional mechanisms*. Council on Energy, Environment and Water (CEEW).
<https://www.ceew.in/publications/reallocating-water-to-grow-india>
- 63 Mallya, H., Yadav, D., Maheshwari, A., Bassi, N. and Prabhakar, P. (2024, September 10). *Unlocking India's RE and green hydrogen potential: An assessment of land, water, and climate nexus*. New Delhi: Council on Energy, Environment and Water (CEEW).
<https://www.ceew.in/publications/how-can-india-unlock-renewable-energy-and-green-hydrogen-potential>
- 64 Shah, T. (2010, September 30). *Taming the anarchy: Groundwater governance in South Asia*. Routledge.
<https://www.taylorfrancis.com/books/mono/10.4324/9781936331598/taming-anarchy-tushaar-shah>
- 65 Bassi, N. (2024, November 18). *Pricing energy for groundwater: A path to sustainable irrigation and climate resilience*. Carbon Copy.
<https://carboncopy.info/pricing-energy-for-groundwater-a-path-to-sustainable-irrigation-and-climate-resilience/>
- 66 Ministry of New and Renewable Energy (MNRE). (2023, January). *National Green Hydrogen Mission*. MNRE.
<https://cdnbbsr.s3waas.gov.in/s3716e1b8c6cd17b771da77391355749f3/uploads/2023/01/2023012338.pdf>
- 67 All USD at exchange rate of 1 USD = 86.26 INR as on 24th January 2025.
- 68 Ministry of Power. (2022, December). *Energy Conservation (Amendment) Act, 2022*. Government of India: Gazette of India.
https://powermin.gov.in/sites/default/files/The_Energy_Conservation_Amendment_Act_2022_0.pdf
- 69 Bureau of Energy Efficiency. (2024, July). *Detailed Procedure for Compliance Mechanism under CCTS*. Government of India: Ministry of Power and Ministry of Environment, Forests and Climate Change.
<https://beeindia.gov.in/sites/default/files/Detailed%20Procedure%20for%20Compliance%20Procedure%20under%20CCTS.pdf>
- 70 Ministry of Steel, Government of India. (2024, September). *Greening the steel sector in India: Roadmap and action plan*. Ministry of Steel, Government of India.
<https://steel.gov.in/sites/default/files/GSI%20Report.pdf>
- 71 Ministry of Steel. (2024, December 12). *Notification: Taxonomy of green steel*. Gazette of India.
<https://egazette.gov.in/WriteReadData/2024/259382.pdf>
- 72 PIB Delhi. (2024, December 12). *Union Minister of Steel and Heavy Industries, Shri H.D. Kumaraswamy, Releases India's Green Steel Taxonomy*. PIB.
<https://pib.gov.in/PressReleaseFramePage.aspx?PRID=2083839>
- 73 Ministry of New and Renewable Energy (MNRE). (2025). *Production Linked Incentive (PLI) Scheme: National Programme on High Efficiency Solar PV Modules*. MNRE.
<https://mnre.gov.in/en/production-linked-incentive-pli/>
- 74 Ministry of Heavy Industries (MHI). (2021). *PLI Scheme for National Programme on Advanced Chemistry Cell (ACC) Battery Storage*. MHI.
<https://heavyindustries.gov.in/pli-scheme-national-programme-advanced-chemistry-cell-acc-battery-storage>
- 75 State Council. (2024, May 29). *Notice of the State Council on Printing and Distributing the Action Plan for Energy Conservation and Carbon Reduction from 2024 to 2025*. Government of China.
https://www.gov.cn/zhengce/content/202405/content_6954322.htm
- 76 Zhang, J. (2024, August 29). *China's latest steel capacity swap move not enough to curb industry expansion*. S&P Global.
<https://www.spglobal.com/commodity-insights/en/news-research/latest-news/metals/082924-chinas-latest-steel-capacity-swap-move-not-enough-to-curb-industry-expansion#:~:text=China%20plans%20to%20increase%20the,2025%20from%20the%20current%2010%25>
- 77 State Council. (2024, May 29). *Notice of the State Council on Printing and Distributing the Action Plan for Energy Conservation and Carbon Reduction from 2024 to 2025*. Government of China.
https://www.gov.cn/zhengce/content/202405/content_6954322.htm
- 78 Ibid
- 79 Ibid
- 80 International Carbon Action Partnership. (2024, September 12). *China to expand national ETS to cement, steel and aluminum in 2024*. International Carbon Action Partnership.
<https://icapcarbonaction.com/en/news/china-expand-national-ets-cement-steel-and-aluminum-2024>
- 81 Patel, A. (2024). *Explainer: China's carbon market to cover steel, aluminium and cement in 2024*. CarbonBrief: China Policy.
<https://www.carbonbrief.org/explainer-chinas-carbon-market-to-cover-steel-aluminium-and-cement-in-2024/>
- 82 UNEPFI. (2025, January 7). *China embarks on a journey of ESG disclosure: 2024 progress and focus for 2025*. UNEPFI.
<https://www.unepfi.org/industries/banking/china-embarks-on-a-journey-of-esg-disclosure/>
- 83 GX League. (2025). *About GX League*. Japan: Ministry of Economy, Trade and Industry.
<https://gx-league.go.jp/en/>
- 84 METI. (2023). *The Basic Policy for the Realization of GX: Reference document*. METI.
https://www.meti.go.jp/english/press/2023/pdf/0210_003c.pdf
- 85 Ministry of Economy, Trade and Industry (METI). (2024, December 6). *GX Acceleration Declaration Framework Newly Launched as Effort to Encourage Companies Proactively Engaging in Creation of a Market for GX*. METI.
https://www.meti.go.jp/english/press/2024/1206_001.html
- 86 Asia Society Policy Institute. (2025). *ETS Status: Japan GX-ETS*. Asia Society Policy Institute.
<https://asiasociety.org/policy-institute/ets-status-japan>
- 87 METI. (2023). *The Basic Policy for the Realization of GX: Reference document*. METI.
https://www.meti.go.jp/english/press/2023/pdf/0210_003c.pdf
- 88 Ritchie, A. (2024, February 12). *Japan is Breaking New Ground with its Climate Transition Bonds*. Asia Society Policy Institute.
<https://asiasociety.org/policy-institute/japan-breaking-new-ground-its-climate-transition-bonds>
- 89 METI. (2023). *The Basic Policy for the Realization of GX: Reference document*. METI.
https://www.meti.go.jp/english/press/2023/pdf/0210_003c.pdf
- 90 Ibid.



Rethinking fiscal policy to finance SDGs in South Asia

Mohd Avi Hossain and Yan Islam



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INTRODUCTION

The Global Financial Crisis (GFC) of 2007–2009 and COVID–19 of 2020–2021 brought about significant changes to the way the macroeconomic policy framework is conceptualised and practiced. Connecting macroeconomic policy to the global development agenda dominated by the SDGs and the Paris Agreement on climate action is now considered essential. This does not mean that traditional strictures on macroeconomic stability are no longer relevant. One cannot ignore the malevolent consequences of high inflation, imprudent monetary policy, unsustainable debts and deficits, and currency crises. The challenge is to maintain a stable macroeconomic climate while recognising that it is necessary but not sufficient to attain the SDGs. Much more can be done—and needs to be done – by finance ministries as one of the key arbiters of country-level macroeconomic policies to ensure that such policies are aligned with the SDGs

This brief offers an illustration of a plethora of regional contexts of South Asia with some country-level practices in which the macroeconomic policy framework can be tethered to the SDGs and the Paris Agreement. Within the broad rubric of the SDGs and Paris Agreement, the discussion will highlight the linkages between macroeconomic policy, decent jobs, social protection, and transition to a 'net zero' economy by 2050 in a just manner.

THE ROLE OF MOFS IN SUPPORTING DECENT JOBS, SOCIAL PROTECTION AND JUST TRANSITION

COUNTRY LEVEL PERSPECTIVES FROM SOUTH ASIA

The discussion highlights the fiscal strategies that can be—and have been—utilised by Ministries of Finance at the country level to respond to a fundamental challenge: responding to the financing gaps in meeting the SDGs. This requires the enactment and implementation of SDG budgeting which ought to become a core part of strategic budgeting initiatives.

THE KEY CHALLENGE: FINANCING GAPS IN MEETING THE SDGS

As the 2024 Financing for Sustainable Development Report (henceforth FSDGR)¹ observes:

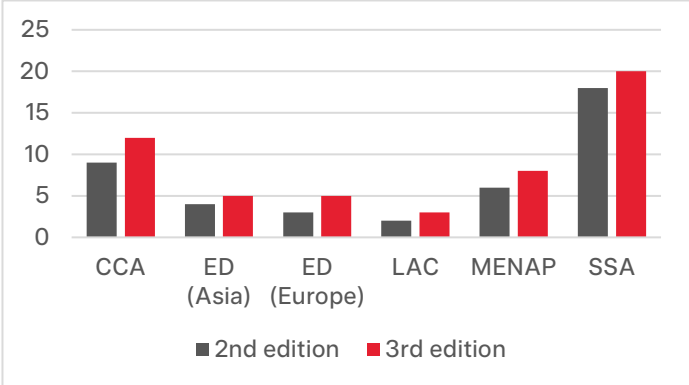
'The world is facing a sustainable development crisis. The 2024 Financing for Sustainable Development Report: Financing for Development at a Crossroads finds that financing challenges are at the heart of the crisis.'

It is widely accepted that the financing gap in meeting the SDGs runs into trillions of dollars between 3 and 4.2 trillion dollars per annum at current prices according to the FSDGR, while meeting the objectives of just transition to a net zero economy by 2050 runs into an additional USD 4 trillion per annum investment in clean energy technology.² This is the key hurdle that constrains the capacity of a vast number of countries to attain the SDGs. Furthermore, the current and projected macroeconomic climate and rising geopolitical tensions are not conducive to country-level efforts to meet the SDGs.

The IMF SDG costing tool³ covers 173 countries and focuses on additional spending needs per annum in health (SDG 3), education (SDG 4), water and sanitation (SDG 6), electricity (SDG 7), and road infrastructure (SDG 9). It leaves out social protection and labour market programs that can support SDG 8 (pertaining to decent jobs) and climate action (SDG 13) and the goals of the Paris Agreement where this paper sheds some insights.

Figure 1 shows regional aggregates of annual spending needs to meet specific SDGs by 2030 as estimated by the IMF. It shows changes between 2019 (labelled as 'second edition' in blue) and 2022 (labelled as 'third edition' in red). As expected, at 19.4 per cent of GDP, SSA (Sub-Saharan Africa) represents the region with the highest financing gap followed by CCA (Caucasus and Central Asia: around 12 per cent of GDP) while LAC (Latin America and Caribbean) has the lowest financing gap (2.5 per cent of GDP). Emerging economies in Asia and Europe occupy a middling position (under 6 per cent of GDP). In all regions, spending needs have gone up between 2019 and 2022 reflecting the impact of the global pandemic.

Figure 1: Additional annual spending needs to meet specific SDGs by 2030, by region, 2019 vs 2020 (% of GDP)

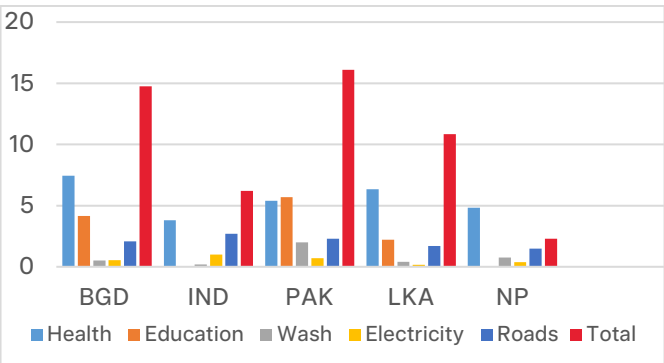


Source: Staff calculations, based on IMF SDG Costing Tool, second and third editions.⁴

Figure 2 reflects the country-level estimates of additional spending needs until 2030 to achieve the SDGs for the South

Asian region as a percentage of GDP in 2030. Bangladesh and Pakistan need around 15 per cent of their GDP in 2030 in total to be spent as additional spending disaggregated in five major areas health, education, wash, electricity and roads. These two countries need more fiscal space to finance their SDG targets linked with health and education more than the other areas. Sri Lanka requires about 11 per cent of its GDP for additional spending, with health being the most critical area. India and Nepal are better positioned in the region regarding the need for extra expenditure to achieve SDGs.

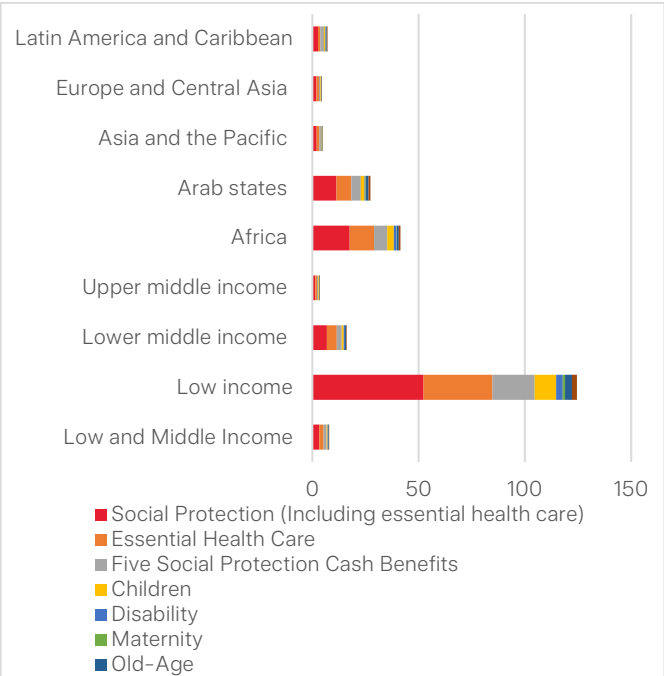
Figure 2: Estimates of additional SDG Spending Needs in 2030 (for each country expressed in per cent of 2030 GDP)



Source: IMF 2023, BGD = Bangladesh; IND= India; NPL= Nepal; LKA= Sri Lanka

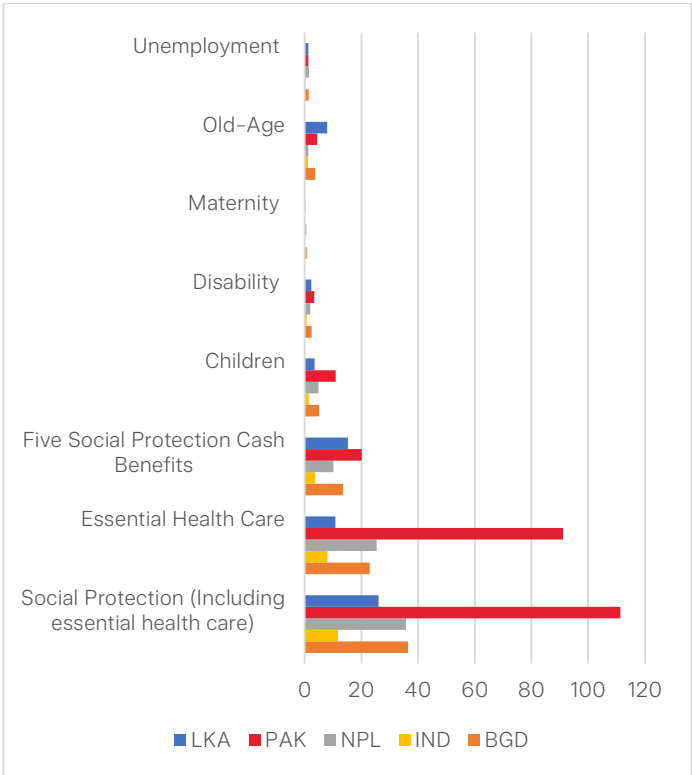
As noted, the IMF estimates leave out various elements of social protection. ILO has led the analytical and empirical work on estimating spending needs pertaining to universal social protection. The scope of social protection is defined to include mandated benefits in five categories: children, mothers, pensioners, disabled and the unemployed, plus essential health care. The latest estimates are shown in Figure 3.

Figure 3: Financing gaps in attaining universal social protection (% of GDP), by income levels and regions



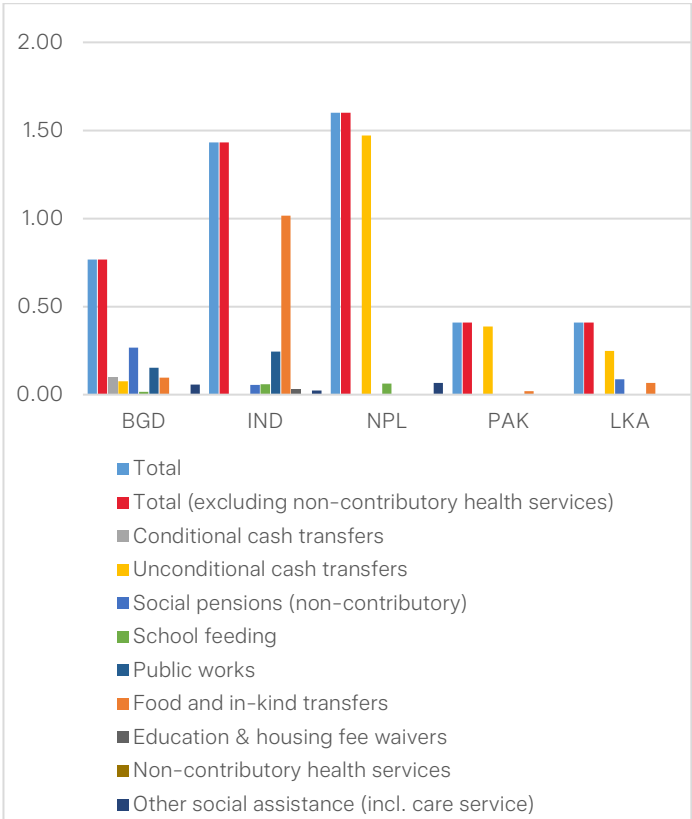
Source: ILO (2024)

Figure 4: Financing gap for social protection (as a % of Government Expenditure)



Source: Derived from ILO (2024). BGD = Bangladesh; IND= India; NPL= Nepal; LKA= Sri Lanka⁵

Figure 5: Annual social assistance spending as a percentage of GDP (2015-2021)



Source: World Bank 2023.6 BGD = Bangladesh; IND= India; NPL= Nepal; LKA= Sri Lanka

It is clear from Figure 3 that the goal of universal social protection is simply unattainable for low-income countries even if they have the best policies in place and can make Herculean efforts to raise domestic revenue. There is no option other than significant development assistance for this cohort of countries to complement national efforts.

From a regional perspective, the lowest financing needs are in Europe and Central Asia, followed by Asia Pacific and Latin America and the Caribbean. As expected, the highest financing gap to meet the goal of universal social protection is in the African region.

Figure 4 exhibits that the financing gap in Pakistan is significantly larger than any other country in South Asia. Followed by Pakistan, data reveals that Bangladesh has a big financing gap in social protection as a share of government expenditure. India's financing gap for social protection is also reasonably high compared to the size of its government expenditure and economy relative to other South Asian countries. Figure 5 reflects that Bangladesh, India, Nepal, Pakistan and Sri Lanka are spending less than 2 per cent of their GDP in social in Annual Social Assistance with Nepal and India spending more than the others.

Figures 2 to 5 demonstrate that South Asian countries allocate comparatively lower levels of public expenditure towards health, education, water and sanitation, electricity, roads, and social protection assistance, which ultimately leads to a scarcity of decent employment opportunities within the labour market.

THE ROLE OF VNRS IN HIGHLIGHTING COUNTRY-LEVEL APPROACHES TO SDG BUDGETING

One way in which one can seek to establish the extent to which countries align their fiscal framework to the SDGs is to consider the large and diversified sample of 'Voluntary National Reviews' or VNRs that member states submit to the UN's High-level Political Forum (HLPF) every year ever since this practice was initiated in 2016.

A 2022 UNU assessment⁷ focuses on SDG budgeting by drawing on the 2021 VNRs. It found that there are multiple ways in which SDGs can be embedded in national budgets. These are: (1) SDG budget tagging, that is tracking national budgetary expenditures according to the SDGs; (2) developing an SDG-aligned budget performance report; (3) calculating SDG financing gaps; (4) integrating SDGs into local budgets.

EMPOWERING UN MEMBER STATES TO SUPPORT SDG BUDGETING: THE ROLE OF THE INTEGRATED NATIONAL FINANCING FRAMEWORK (INFF)

INFF is a framework first introduced in 2015 as a joint flagship initiative of the UNDP, DESA, UNICEF, the OECD, the EU and the governments of Italy, Spain and Sweden. A preliminary impact assessment of 17 INFF countries finds that approximately USD 16 billion of new sources of finance for SDGs have been generated, while USD 32 billion worth of SDG-aligned expenditure has been identified. In South Asia, Bangladesh, Nepal, and Bhutan implemented Integrated National Financing Frameworks (INFF)

in the development of fiscal policies and tools to finance Sustainable Development Goals (SDGs). Below are highlights of these INFF initiatives and country-specific cases in South Asia:

BANGLADESH: INFF in Bangladesh was implemented by UNDP, ILO, UNCDF and UN Women aiming mobilising the required public and private financial resources for the SDG. Bangladesh INFF focused on SDG 6 (water and sanitation), SDG 7 (energy) and SDG 13 (climate action), sustainable development areas where decent work plays a crosscutting role. Despite not being a direct goal in the form of SDG 8, the ILO has played a critical role in promoting decent work in the INFF by engaging in SDG 8 cost estimates.⁸



Chittagong Hill Tracts Rural Development Project in Bangladesh. (ADB)

BHUTAN: Building on the country's development finance assessment, the Government of Bhutan aims to strengthen public and private financing and develop financial governance systems to support the SDGs within the timeframe of Bhutan's 12th Five-Year Plan (2018-2023).

NEPAL: Nepal's INFF is focused on developing coordination mechanisms to facilitate institutional linkages and interactions across planning, budgeting and financing frameworks. It provides a forum to address policy issues as they emerge, engage more consistently with the private sector, align development partner support, and promote civil society engagement to strengthen the demand side of governance.

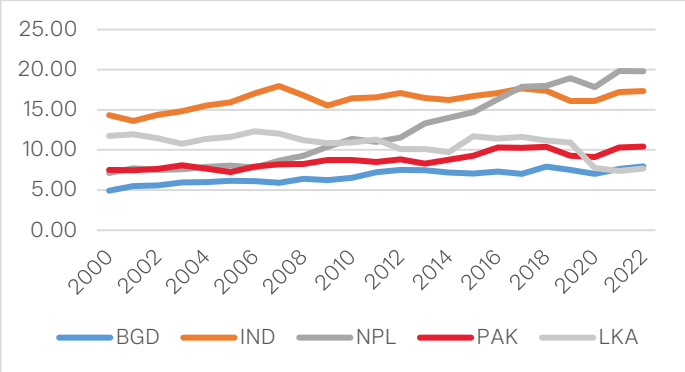
FISCAL STRATEGIES TO SUPPORT DECENT WORK, SOCIAL PROTECTION, AND JUST TRANSITION: THE ROLE OF THREE KEY POLICY MEASURES

Fiscal strategies cover multiple sources of financing channels that affect available resources for SDG spending: (1) domestic revenue mobilisation (DRM); (2) government debt and deficit; (3) spending and public procurement; (4) private financing. In South Asia, the combination of low domestic revenue generation, inadequate spending, and deterioration of economic conditions continues to lead to increasing fiscal deficits and weak macroeconomic buffers.

RAISING TAX REVENUE AS A PERCENTAGE OF GDP

DRM consists of raising the tax-to-GDP ratio through appropriate reforms. This is a pivotal part of reducing the financing gap. Figure 7 shows that revenue-to-GDP ratios have not increased at desirable rates in recent years across all parts of the world and are likely to stagnate over the next five years.

Figure 6: Tax revenue (% of GDP) in South Asian countries



Source: IMF, 2024. BGD = Bangladesh; IND= India; NPL= Nepal; LKA= Sri Lanka

Overall, it seems that South Asian countries underexploit tax collection as a financing mechanism for social policies, which can be explained, to some extent, by structural factors such as low formal employment, widespread tax exemption and evasion, and weak tax administration. Figure 6 depicts India has been able to generate improvements in revenue collection through tax as its share of GDP. Nepal has been performing well since 2011. Bangladesh has been the poorest performer in the region to earn tax revenue as a share of its GDP.

According to an IMF assessment, low-income countries, including those in South Asia, have the potential to raise revenue by 6.7 percentage points and emerging economies by 2.3 percentage points.⁹ Higher tax-to-GDP ratios in the developing world will yield substantial resources to support the financing of programs and policies pertaining to decent work, social protection and just transition.

Comprehensive reform is essential cutting across core domestic taxes—personal income tax (PIT), corporate income tax (CIT) and value-added tax. Such a reform agenda would encompass setting appropriate tax rates and strengthening the tax administration in South Asian countries.

As part of the agenda of DRM, one can highlight the initiative to raise excise taxes and extend their coverage on unhealthy products (alcohol, sugar-sweetened beverages, tobacco). These are also known as ‘health taxes’. This could reduce the burden of non-communicable diseases (NCDs) while providing additional revenue targeted to support improvements in essential health care and other social protection and labour market programmes.

WHO notes that ‘(s)ince 2017, at least 133 countries have increased or introduced a new health tax’.¹⁰ The results are encouraging and can be replicated in South Asian countries.

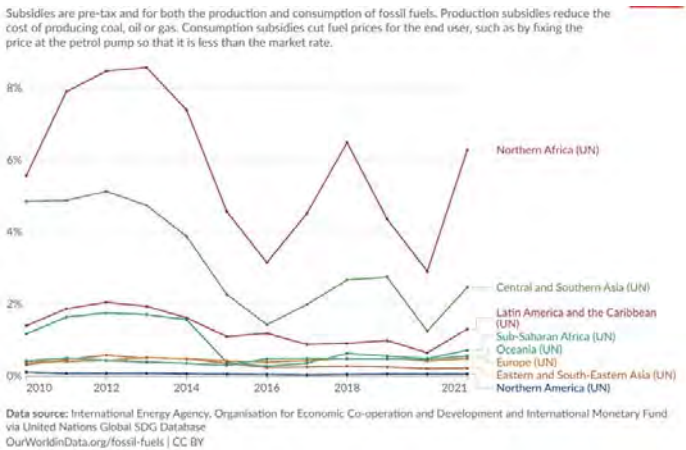
FOSSIL-FUEL SUBSIDY REFORM AND CARBON PRICING

An important component of DRM that is aligned with climate action is the removal of fuel subsidies and introduction of carbon pricing. Fossil fuel subsidies can be a notable share of GDP in some regions of the world (as in Northern Africa)—see Figure 7. By sustaining fossil fuel-based industrialisation, fuel subsidies militate against the objective of just transition. In South Asia, Pakistan is set to introduce surcharges on fossil fuels as part of an aggressive revenue collection strategy outlined in the latest annual report by the Federal Board of Revenue (FBR).

The phasing out of explicit fossil fuel subsidies combined with carbon pricing can go a long way to respond to the need for climate action while creating additional fiscal resources for promoting policies and programs pertinent to decent jobs and social protection.

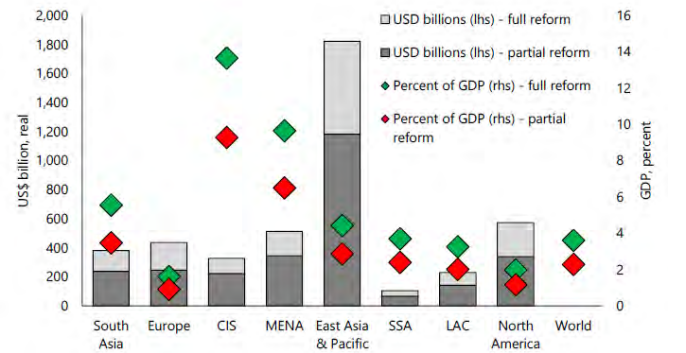
IMF estimated the fiscal and economic welfare impacts of the full reform of the fuel price with fossil fuel subsidies as a tool. Figure 8 depicts the revenue gain from a full price reform across the different regions and the global gain. South Asia as a whole stands to harness fiscal gains of USD 300 billion if policymakers in the region can engage in full fuel subsidy reform (Figure 9).

Figure 7: Fossil fuel subsidy as a share of GDP 2010–2021



Source : IEA, OECD, IMF and UN Global SDG

Figure 8: Revenue gain from full price reform, 2030



Source: IMF staff calculations. Note: revenue gain in \$ terms for world is excluded for visualization purposes. Abbreviations are as follows: Commonwealth of Independent States (CIS), East Asia and Pacific (EAP), Latin America and the Caribbean (LAC), Middle East and North Africa (MENA), Sub-Saharan Africa (SSA) both figures in the panel.

Source: IMF Staff Calculation, 2023



Foundation wind energy I and II projects in Pakistan. (ADB)

ISSUING THEMATIC SOVEREIGN BONDS

Deficit financing to support SDGs is more problematic considering rising fiscal pressures in the post-COVID era. One can think in terms of a more targeted approach rather than a generalised increase in public debt. This pertains to the issuing of thematic sovereign bonds as a way of tapping into private capital markets. A UNDP assessment highlights three cases—Mexico (a pioneer in the field), Indonesia, Uzbekistan and Uruguay as examples of middle-income economies that have successfully issued thematic bonds.¹¹

In South Asia, Bangladesh is poised to enter the thematic sovereign bond market. It has pledged to issue 'orange bonds' worth USD 1 billion geared towards the goal of gender equality and climate action within the SDGs.¹²

Thematic bonds from emerging economies are still a small fraction of the overall sovereign bond market (about 15 per cent).¹³ Furthermore, low-income economies as well as South Asia will struggle to gain access to the thematic bond market given the fact that many such countries are at high risk of debt distress.

SUSTAINABLE PUBLIC PROCUREMENT

Public procurement pertains to the purchase of goods and services from the private sector by the government to support diverse public sector activities. Sustainable public procurement policies (SPPP) can play an important role in supporting just transition and other development goals within an existing fiscal framework. The relative size of public procurement is 13 to 14 per cent of GDP across the world (as estimated in 2018).¹⁴ Procurement activities account for 15 per cent of GHG emissions, while four industries (construction, defence, transport, and waste management) account for 53 per cent of such emissions in developing countries.¹⁵ Hence, there is scope for SPPP to contribute to the transition to net zero by 2050.

Unfortunately, none of the South Asian countries have significantly undertaken the practice of sustainable public procurement. Hence, there is scope for a new policy initiative that can support the SDGs.

RECOMMENDED ACTIONS

In terms of policy recommendations, the following observations can be highlighted. They are meant to provide a basis for further discussions and deliberations within the South Asian community as it looks towards 2030 and beyond.

RECOMMENDATION 1:

STRENGTHEN MACROECONOMIC INSTITUTIONS

Enhance the capacity of central banks, tax and customs bodies, commercial banks, and capital market regulators to support strategic SDG budgeting.

RECOMMENDATION 2:

IMPROVE INVESTMENT CLIMATE

Create a more attractive environment for private investment and foreign direct investment across South Asia.

RECOMMENDATION 3:

PROMOTE SUSTAINABLE FINANCING MODELS

Encourage impact investment, green financing, and crowdfunding to support sustainable development.

RECOMMENDATION 4:

INCENTIVISE CARBON NEUTRAL BUSINESS PRACTICES

Provide incentives for businesses to transition to net zero carbon emissions and adopt sustainable strategies.

RECOMMENDATION 5:

ADOPT INTEGRATED NATIONAL FINANCING FRAMEWORKS (INFFS)

Use INFFs to map financing needs and gaps, mobilising domestic resources effectively to achieve SDGs.

RECOMMENDATION 6:

IMPLEMENT FISCAL REFORMS FOR SUSTAINABILITY

Leverage fuel subsidy reforms, carbon pricing, and health taxes to increase domestic revenues while advancing SDGs.

CONCLUSION

This paper used a plethora of country-specific examples from South Asia to show how fiscal policies can be used to support decent work, social protection, and just transition to a net zero economy. The large financing gap globally of around USD 4 trillion annually for the SDGs by 2030 and an additional USD 4 trillion for climate action is the key fiscal policy challenge. This is happening against a background of an insufficiently conducive global macroeconomic climate and rising geopolitical tensions. South Asian countries are especially vulnerable to such a fiscal policy challenge and would need substantial support from their development partners.

Enormous fiscal resources would need to be harnessed through strategic budgeting, of which SDG budgeting is an underutilised approach. A key element of SDG budgeting is domestic revenue mobilisation by raising the tax-to-GDP ratio. The use of health taxes, fossil-fuel subsidy reform and carbon pricing can augment much-needed revenues while meeting fundamental socio-economic and environmental objectives. Complementary strategies include the issuance of thematic bonds and sustainable public procurement policies.



Green Power Development Project in Bhutan (ADB).



Karnataka Urban Development and Coastal Environmental Management Project in India. (ADB)

NOTES AND REFERENCES

- 1 United Nations Department of Economic and Social Affairs. (2024). *Financing for Sustainable Development Report 2024*. <https://desapublications.un.org/publications/financing-sustainable-development-report-2024>
- 2 International Energy Agency (IEA). (2021). *Net Zero by 2050: A Roadmap for the Global Energy Sector*. <https://www.iea.org/reports/net-zero-by-2050>
- 3 International Monetary Fund (IMF). (2023). *How to Assess Spending Needs of the Sustainable Development Goals: The Third Edition of the IMF SDG Costing Tool*. <https://www.imf.org/en/Publications/imf-how-to-notes/Issues/2023/12/14/How-To-Assess-Spending-Needs-of-the-Sustainable-Development-Goals-The-Third-Edition-of-the-541463>
- 4 Note: CCA = Caucasus and Central Asia, ED = Emerging and Developing, LAC = Latin America and the Caribbean, MENAP = Middle East, North Africa, Afghanistan and Pakistan, SSA = sub-Saharan Africa. International Monetary Fund (IMF). (2023). *Per capita GDP from World Bank*. <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD>
- 5 International Labour Organization. (2024). *Financing gap for universal social protection: Global, regional and national estimates and strategies for creating fiscal space*. <https://www.ilo.org/publications/financing-gap-universal-social-protection-global-regional-and-national>
- 6 The World Bank. (2024). *Building the Foundations for a Resilient and Equitable Fiscal Policy*. <https://documents1.worldbank.org/curated/en/099012725124568495/pdf/P18011212bd22407c1a74b1fc62b6c090dc.pdf>
- 7 United Nations University. (2022). *Budgeting for the SDGs: Lessons from the 2021 Voluntary National Reviews*. Policy Brief No. 32. <https://collections.unu.edu/eserv/UNU:8850/UNU-IAS-PB-2022-No32.pdf>
- 8 See details of Bangladesh and some of the other Asian Country cases of INFF in the Guidelines on Mainstreaming Decent Work in INFF. <https://inff.org/assets/resource/guidelines-on-mainstreaming-decent-work-in-inffs-1704165136.pdf>
- 9 Vitor Gaspar, Mario Mansour, Charles Vellutini. (2023). *Countries Can Tap Tax Potential to Finance Development Goals*. IMF Blog. <https://meetings.imf.org/en/IMF/Home/Blogs/Articles/2023/09/19/countries-can-tap-tax-potential-to-finance-development-goals>
- 10 World Health Organisation. (2023). *More countries using health taxes and laws to protect health*. <https://www.who.int/about/accountability/results/who-results-report-2022-mtr/more-countries-using-health-taxes-and-laws-to-protect-health>
- 11 United Nations Development Program (UNDP). (2023). *Integrated national financing frameworks and sovereign thematic bonds*. <https://sdgfinance.undp.org/sites/default/files/2024-04/Integrated%20national%20financing%20frameworks%20and%20sovereign%20thematic%20bonds%2018%20april.pdf>
- 12 United Nations Development Program (UNDP). (2024). *Government, UNDP, IIX to Launch Orange Bonds for Inclusive Growth and Climate Action*. <https://www.undp.org/bangladesh/press-releases/government-undp-iix-launch-orange-bonds-inclusive-growth-and-climate-action>
- 13 The World Bank. (2022). *Sovereign Green, Social and Sustainability Bonds: Unlocking the Potential for Emerging Markets and Developing Economies*. <https://thedocs.worldbank.org/en/doc/4de3839b85c57eb958dd207fad132f8e-0340012022/original/WB-GSS-Bonds-Survey-Report.pdf>
- 14 Erica Bosio and Simeon Djankov. (2020). *How large is public procurement?*. World Bank Blogs. <https://blogs.worldbank.org/en/developmenttalk/how-large-public-procurement>
- 15 Jocelyne Jabbour, Abdoulaye Keita, Mohammed Bennani and Nazaneen Ismail Ali. (2023). *How can green public procurement contribute to a more sustainable future*. World Bank Blogs. <https://blogs.worldbank.org/en/governance/how-can-green-public-procurement-contribute-more-sustainable-future>

ACRONYMS AND ABBREVIATIONS

| | | | |
|---------|--|---------|--|
| ADB | Asian Development Bank | ESPAS | European Strategy and Policy Analysis System |
| AI | Artificial Intelligence | EU | European Union |
| AIIB | Asian Infrastructure and Investment Bank | EV | Electronic Vehicles |
| AML/CFT | Anti-Money Laundering and Countering the Financing of Terrorism | FBR | Federal Board of Revenue |
| APEC | Asia-Pacific Economic Cooperation | FinTech | Financial Technology |
| ASEAN | Association of Southeast Asian Nations | FISF | Fanhai International School of Finance |
| AUD | Australian Dollar | FSS | Financial Services Space |
| BCX | Business Currency Exchange | FSDGR | Financing for Sustainable Development Goals Report |
| BEV | Battery Electric Vehicles | FTIX | Federation of Thai Industries Exchange |
| BRI | Belt and Road Initiative | FX | Foreign Exchange |
| BRICS | Brazil, Russia, India, China and South Africa | G20 | Group of Twenty |
| BYD | Build Your Dreams | GAI | Griffith Asia Institute |
| CBAM | Carbon Border Adjustment Mechanism | GBS | Griffith Business School |
| CBR | Corresponding Banking Relationships | GDI | Global Development Initiative |
| CCA | Caucasus and Central Asia | GDP | Gross Domestic Product |
| CEEW | Council on Energy, Environment and Water | GFC | Global Financial Crisis |
| CEO | Chief Executive Officer | GHG | Greenhouse Gas |
| CGAP | Consultative Group to Assist the Poor | GIFP | Green Investment and Financing Partnership |
| CIIE | China International Import Export | GSI | Global Security Initiative |
| CIT | Corporate Income Tax | GW | Gigawatts |
| COFA | Compacts of Free Association | HLPF | High-level Political Forum |
| COP | Conference of Parties to the UN Framework Convention on Climate Change | ICCTF | Indonesian Climate Change Trust Fund |
| COP29 | 29th Conference of the Parties | ICE | Internal combustion engines |
| CRPD | Convention on the Rights of Persons with Disabilities | ICJ | International Court of Justice |
| CSEAS | Center for Southeast Asian Studies | ICSID | International Centre for Settlement of Investment Disputes |
| CSIRO | Commonwealth Scientific and Industrial Research Organisation | ICT | Information Communications Technology |
| DESA | Department of Economic and Social Affairs | IDA | International Development Association |
| DFAT | Department of Foreign Affairs and Trade | IDE | International Data Exchange |
| DFI | Development Finance Institutions | IEA | International Energy Agency |
| DRM | Domestic Revenue Mobilisation | IESR | Institute for Essential Services Reform |
| EAF | Electric Arc Furnace | IFRS | International Financial Reporting Standards |
| EAI | East Asian Institute | ILO | International Labour Organization |
| EAP | East Asia and Pacific | IMF | International Monetary Fund |
| EMDE | Emerging Markets and Developing Economies | INF | Integrated National Financing Framework |
| ESCAP | Economic and Social Commission for Asia and the Pacific | IoT | Internet of Things |
| ESG | Environmental, Social and Governance | IPCC | Intergovernmental Panel on Climate Change |
| | | IRA | Inflation Reduction Act |
| | | ISA | International Seabed Authority |
| | | ISC | Information Sharing Centre |
| | | ISSB | International Sustainability Standards Board |

| | | | |
|--------|--|---------|--|
| IUU | Illegal, unreported, and unregulated | PIF | Pacific Island Forum |
| JET | Just Energy Transition | PIT | Personal Income Tax |
| JETP | Just Energy Transition Partnerships | PPI | Pacific Policing Initiative |
| JT | Just Transition | PRC | People's Republic of China |
| KFW | Credit Institute for Reconstruction | PRF | Pacific Resilience Facility |
| LAC | Latin America and Caribbean | PV | Photovoltaic |
| LDC | Least Developed Countries | QUAD | Australia, India Japan and United States |
| LMI | Low and Middle Income | RCEP | Regional Comprehensive Economic Partnership |
| LMIC | Low and Middle Income Countries | ReCAAP | Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia |
| MA | Master of Arts | RegTech | Regulatory Technology |
| MBA | Master of Business Administration | RMB | Renminbi |
| MENA | Middle East and North Africa | RMG | Ready Made Garment |
| MOF | Ministry of Finance | RSS | Regional Security System |
| MP | Member of Parliament | SCO | Shanghai Cooperation Organization |
| MSC | Microsave Consulting | SDG | Sustainable Development Goals |
| MSME | Micro, small and medium enterprises | SEA | Southeast Asia |
| NCD | Non-communicable Disease | SEC | Securities and Exchange Commission |
| NCQG | New Collective Quantified Goal on Climate Finance | SIDS | Small Island Developing States |
| NDB | New Development Bank | SMU | Singapore Management University |
| NDCs | Nationally determined contributions | SOE | State Owned Enterprises |
| NDRC | National Development and Reform Commission | SPF | Social Protection Floor |
| NEET | Not in Education, Employment or Training | SPPP | Sustainable Public Procurement Policies |
| NEP | National Employment Policy | SSA | Sub-Saharan Africa |
| NGO | Non-Government Organisation | TCFD | Task Force on Climate-related Financial Disclosures |
| NZE | Net Zero Emissions | UN | United Nations |
| ODA | Official Development Assistance | UNCDF | United Nations Capital Development Fund |
| OECD | Organization for Economic Cooperation and Development | UNDP | United Nations Development Programme |
| PBOC | People's Bank of China | UNFCCC | United Nations Framework Convention on Climate Change |
| PBF | Pacific Banking Forum | UNICEF | United Nations Children's Fund |
| PCRAFI | Pacific Catastrophe Risk Assessment and Financing Initiative | UNU | United Nations University |
| PDP | Power Development Plan | US | United States |
| PGII | Partnership for Global Infrastructure and Investment | USD | United States Dollar |
| PhD | Doctor of Philosophy | VNR | Voluntary National Reviews |
| PHEV | Plug in Hybrid Electric Vehicles | WMO | World Meteorological Organization |
| PIC | Pacific Island Countries | | |
| PICDPR | Pacific Islands Centre for Policy and Development | | |
| PICP | Pacific Islands Chief of Police | | |

CONTRIBUTING AUTHORS



Nitin Bassi

Nitin Bassi is a Senior Programme Lead for the Sustainable Water Team at CEEW. He has more than 19 years of experience undertaking research, consultancy, and training in water resources. His work areas include river basin water accounting, agriculture water management, institutional and policy analysis in irrigation and water supply management, water quality analysis, climate-induced water risk assessment, and wetland management.



Peter Dirou

Dr Peter Dirou is an adjunct research fellow at the Griffith Asia Institute, working closely with Pacific Islands Centre for Development Policy and Research. He researches and advises on financial sector issues, primarily in Pacific Island countries and Southeast Asia. Over the last 30 years Peter has worked for several multilateral and bilateral organisations advising on financial sector issues, primarily in Southeast Asia and the Pacific. Before joining Griffith, he led the finance focus area of the Pacific Private Sector Development Initiative.



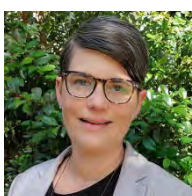
Jean Dong

Dr Jean Dong is a Research Fellow at the Centre for Contemporary Chinese Studies, University of Melbourne, and a Visiting Fellow at the Harvard Kennedy School. Her 2023 monograph, *Chinese Statecraft in a Changing World* (Springer Nature), explores enduring traditions and dynamic constraints in Chinese governance. Since 2016, she has contributed to the G20 think tank engagement group (T20), shaping policy recommendations on WTO reform, pandemic fiscal responses, and multilateralism under various presidencies. Her research covers Chinese history and political culture, Asian strategic security, geopolitics, and Artificial General Intelligence governance.



Luke Forau

Dr Luke Forau has been Governor of the Central Bank of Solomon Islands since October 2019. Previously, he served as Deputy Governor and Advisor to the Governor's office. He has been with the Central Bank since 1999 and is also President and Chairman of the Economic Association of Solomon Islands. Dr Forau holds a PhD in Economics from the University of New South Wales Canberra, a Master's in International and Development Economics from the Australian National University, and a Bachelor's in Management, Public Administration, and Economics from the University of the South Pacific.



Andrea Haefner

Dr Andrea Haefner is a Senior Lecturer at the Griffith Asia Institute and a Senior Fellow of the Higher Education Academy, with over 15 years of experience working across academia, government, and international organisations in Australia, Germany, and Southeast Asia, particularly the Mekong region. She leads the award-winning Griffith Asia Business Internship Program. Andrea's research focuses on civil society governance and transboundary river basins, including the Mekong. Her book, *Negotiating for Water Resources*, was published by Routledge in 2016. She has also contributed to projects on water resource management and climate change in the Mekong region.



Mohd Avi Hossain

Mohammad Nazmul Avi Hossain is a Labour Economist with the International Labour Organization (ILO) in Dhaka, Bangladesh. He was seconded to the ILO Fiji office as an employment and programme specialist and led the Integrated Financing Framework for SDGs project in Bangladesh. Avi has extensive experience in employment policy, economic research, and international trade. A certified ILO Evaluation Manager, he specialises in wage policies, private sector development, and impact evaluation. He is a PhD candidate in Economics at Université Libre de Bruxelles and holds a Master's in Applied Labour Economics from Università degli Studi di Torino.



Shawn Hunter

Dr Shawn Hunter is an Industry Fellow (APEC) and Director of Inclusive Growth Programs at the Griffith Asia Institute. With over 15 years of experience in economic development across the Asia-Pacific, he specialises in financial inclusion and the digital economy. His work focuses on inclusive economic development and capacity-building for policymakers and regulators. He has spent over a decade collaborating with government agencies and industry experts to advance regional cooperation and economic integration within APEC.



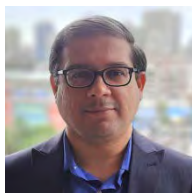
Yan Islam

Professor Iyanatul (Yan) Islam is an Adjunct Professor at the Griffith Asia Institute and former Chief of the Employment and Labour Market Policies Branch at the ILO in Geneva. He was a Professor at Griffith University from 2003 to 2010, having joined in 1989. An international development economist, he studied at Manchester, Western Ontario, and Cambridge. Since the mid-1980s, he has worked with the ILO, UNDP, and ADB. Yan has authored over 100 publications and co-founded the *Journal of Asia-Pacific Economy*. He also serves on editorial boards for several academic journals.



Elizabeth Kendall

Professor Elizabeth Kendall is a leading researcher in rehabilitation and service systems for individuals managing serious injuries, disabilities, or chronic conditions. She has led major health reform evaluations in collaboration with partners such as Queensland Health and the Motor Accident Insurance Commission. With over \$50M in research funding, including nine ARC grants, she has published more than 200 articles and 65 industry reports. Elizabeth has supervised 18 PhD students and previously chaired the Social, Behavioural & Economic Sciences panel of the ARC College of Experts, contributing to impactful policy and practice advancements.



Hemant Mallya

Hemant Mallya leads the Industrial Sustainability at CEEW. Hemant's 20+ years of experience spans energy markets, energy efficiency, environment, and climate change. At CEEW, he leads the team on four broad areas—energy transition and industrial decarbonisation; carbon management through carbon pricing and carbon capture utilisation and sequestration; ESG and circular economy; and innovation and R&D.



Elena Mayer-Besting

Elena Mayer-Besting is an Economic Affairs Officer at the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), where she advises policymakers, investors, and businesses on how to make the private sector in the region more inclusive and sustainable. Previously, she was a Project Manager at the International Trade Centre (UN-WTO), overseeing projects on women's and youth entrepreneurship in West Africa and the Middle East. Before joining the UN, she worked with NGOs and conducted research on similar topics. Elena holds MAs in Economics and International Relations (University of Aberdeen) and Development Studies (IHEID, Geneva).



Christoph Nedopil

Professor Christoph Nedopil is the Director of the Griffith Asia Institute and a Professor of Economics. He is also a Visiting Faculty at Singapore Management University (SMU) and Fathia International School of Finance (FISF), Fudan University. Christoph engages in research related to green and sustainable finance, as well as development economics.



Sovinda Po

Dr Sovinda Po is Director of the Center for Southeast Asian Studies at the Royal University of Phnom Penh. His research focuses on China's relations with mainland Southeast Asia and multilateral institutions. His work has been published in top journals, including *Australian Journal of International Affairs* and *Asian Studies Review*, and in outlets like *The Diplomat* and *East Asia Forum*. Frequently quoted in regional media, he has contributed book chapters on Indo-Pacific security. Dr Po earned his PhD in Political Science with an Award of Excellence from Griffith University.



Dhruba Purkayastha

Dhruba Purkayastha is the Director for Growth and Institutional Advancement with Council on Energy, Environment and Water (CEEW), a leading public policy think tank, research and analysis non-profit institution in India. Dhruba is also a visiting faculty member at IIM Calcutta for Climate Economics and Finance.



Shuva Raha

Shuva Raha leads CEEW's International Cooperation programme spanning four regions – Asia-Oceania, Africa-MENA, Europe, and the Americas and is a member of the CEO's Foresight team. She drives global governance-centric initiatives centred upon energy and resource security, decarbonisation, sustainable finance, sustainable production and consumption, and climate resilience.



Parmendra Sharma

Dr Parmendra Sharma is Program Director of the Pacific Islands Centre for Development Policy and Research and Pacific Hub Lead at Griffith Asia Institute. A Senior Lecturer in Accounting, Finance, and Economics at Griffith University, he has published in international journals, secured competitive grants, and supervised PhD candidates. He has developed strong partnerships with central banks, finance ministries, and regulatory bodies across the Pacific, focusing on empowering policymakers through independent research and evidence-based policy development to foster sustainable economic growth.



Dian Tjondronegoro

Professor Dian Tjondronegoro is Acting Deputy Director at Griffith Asia Institute and leads the "Live" theme at Griffith Inclusive Futures Beacon. His research focuses on creating inclusive, healthy, and technologically integrated urban living spaces. With over 12 years of experience in Australia's health sector, he has led eHealth innovations using AI, IoT, and mobile-cloud computing. Collaborating with interdisciplinary teams, he develops cutting-edge systems that enhance healthcare and urban living, bridging technology and health to address real-world challenges.



Kavita Vij

Kavita Vij is the Engagement Lead in the Growth and Institutional Advancement team at CEEW. Before joining the Council, Kavita served as the Grants and Partnerships Manager at Climate Policy Initiative, where she was also responsible for funders, partners and government relationship management, monitoring and evaluation and impact assessment of grant-funded projects.



Griffith University
Brisbane South (Nathan) campus
Queensland 4111 Australia

Email: gai@griffith.edu.au

griffith.edu.au/asia-institute



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