



FULLERTON
FUND MANAGEMENT

Creating value as Asia decarbonises

Foreword

It is irrefutable that the world needs to rapidly decarbonise to limit the ill effects of climate change. Over the past year, we have witnessed extreme weather events occurring at an intensifying pace globally. This has had a devastating impact on communities and businesses.

Urgent action on decarbonisation is imperative and Asia has a major role to play in this global effort.

One of the key findings from the report states that the world will not meet its net-zero ambitions without wide-ranging support from Asia: the region is now responsible for more than a third of global carbon emissions.

The positive news is that Asian nations recognise they have a key role to play, in developing and scaling the technologies and solutions needed to accelerate the shift to a net-zero future.

While Asian nations are acutely aware of the need to drastically lower carbon emissions to mitigate climate change, the pathway to decarbonisation is complex and requires vast amounts of capital. This has potential implications and investment opportunities for the public and private sectors and frames the discussion behind this report.

For the region to achieve its net-zero goals, the pace and scale of climate financing from both the public and private sectors needs to accelerate. Capital needs to flow not only into emerging industries such as renewables and electric vehicles, but also into climate-resilient infrastructure and the transitioning of high carbon-emitting sectors, which currently form the backbone of many of Asia's economies.

The financing approach needs to be multi-pronged. Asset owners and asset managers like Fullerton Fund Management can therefore play a crucial role alongside governments, multilateral development banks and development finance institutions, in bridging the climate financing gap.



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Contents

4

Executive summary

6

Introduction

7

In with the new: Opportunities
in climate solutions

11

Viewpoint: Driving decarbonisation
through active engagement

14

Out with the old: Unlocking value
by transitioning brown assets

17

Attracting capital: What is holding
institutional investors back?

Executive summary



The historic Paris Agreement of 2015, a landmark international climate treaty, achieved an important global consensus on climate change and set out the pivotal role that nations play in substantially lowering the world's greenhouse gas emissions, to achieve critical climate targets. Crucially, it marked the start of an important shift towards a net-zero emissions world.

Home to some of the world's most carbon-intensive economies, the success of Asia's decarbonisation holds the key to the world's net zero ambitions. Asia's transition to a low carbon and ultimately net-zero emissions economy, presents challenges and investment opportunities. With the public sector leading the way in funding Asia's decarbonisation, the scaling up of much-needed private investments in the years to come, will make a substantive impact in the region's shift to a sustainable future.

This report is based on a series of in-depth discussions with experts in decarbonisation and green finance in Asia, and explores the opportunities for investments created by Asia's journey towards net zero.

Key findings

1

Decarbonisation of Asia requires an extraordinary amount of capital, and the private sector will need to contribute.

2

Private sector funding is beginning to flow into Asian decarbonisation, but the pace of investment, alongside public sector funding, needs to accelerate.

3

Securing greater private sector funding will require more consistent regulation, further innovation in the finance market and blended finance to de-risk investments of large infrastructure and technology projects.

4

There is a significant opportunity for private equity to both fill the investment gap and drive awareness and higher standards across the decarbonisation space in Asia.

5

Investment offers the potential for attractive returns. Renewable energy and electric vehicles currently provide the most accessible opportunities, but more will emerge.

6

There are also growing opportunities to invest in the 'greening' of carbon-intensive sectors, enabling the decarbonisation of activities ranging from steel production to agriculture.

7

Active engagement by asset owners and managers can play a role in influencing positive change, by getting companies to pay closer attention to decarbonisation.

8

There is rising appetite and demand for ESG-related strategies in Asia.

Introduction

The world will not meet its net-zero target unless there is ambitious and systematic decarbonisation activity across Asia. China alone is responsible for 26% of global CO2 emissions, while India, Indonesia, Japan and South Korea are among the world's top 10 emitters.¹ All must get behind decarbonisation.

The good news is that Asia is keen to play its part in combating climate change. There is a lot to do in the region, and significant progress is happening.

Asia strives for net zero

The landscape for international collaboration has become more challenging since Russia's invasion of Ukraine, and Asian countries remain heavily reliant on fossil fuels – many still use coal, oil and natural gas to generate more than 80% of their electricity² – but much of the region has already committed to challenging emissions targets. Eight Southeast Asian nations are striving to get to net zero by 2050,³ and China is aiming for 2060.

Asian nations are not simply setting targets; they are also playing an instrumental role in developing and scaling the technologies and solutions needed for a global net-zero transition. In China, which accounts for more than 80% of the world's solar photovoltaics market, investment in related manufacturing capacity has brought down costs

worldwide.⁴ And the world's top 10 manufacturers of batteries for electric vehicles are all based in Asia, with more than 80% of capacity in China and Korea.⁵

How to accelerate decarbonisation

The priority today must be to ensure that Asia can accelerate its decarbonisation activity. But it will only be able to do so if it can secure the extraordinary amount of funding it needs to carry out a just transition within the region while contributing to broader efforts on a global scale. China alone needs to invest \$6.5trn in green investments and to “radically reorganise its economy” within just a few decades.⁶

Some of this funding will come from the public sector, with governments already committing significant support.⁷ But private investment will also be critical.

In this report, we draw on the insights of leading thinkers in the region to consider the significant opportunities that are being unlocked by growing private investment in Asia's decarbonisation effort – whether that is from dedicating capital to new sustainable infrastructure or from buying in to the region's fast-growing renewables sector. We ask where the greatest potential for private investors lies, how they can access it and what challenges they need to overcome first.

1. <https://www.mckinsey.com/featured-insights/future-of-asia/asias-net-zero-transition-opportunity-and-risk-amid-climate-action>
2. https://fairfinanceasia.org/wp-content/uploads/2022/03/FFA_A-Future-Without-Coal-Banking-on-Asias-just-energy-transition_2021.pdf
3. <https://www.csis.org/analysis/southeast-asias-challenge-decarbonizing-while-growing-rapidly#:~:text=Southeast%20Asian%20governments%20have%20set,target%20of%201.5%20degrees%20Celsius>
4. <https://www.iea.org/reports/solar-pv-global-supply-chains/executive-summary>
5. <https://www.greencarcongress.com/2022/10/20221009-evbatteryshare.html>
6. <https://www.ft.com/content/77ec63d4-2416-46bf-8083-51ffdf6019a8>
7. <https://www.greenbiz.com/article/government-policy-spurs-investment-chinese-climate-tech#:~:text=A%20February%20report%20from%20Bloomberg,%24266%20billion%2C%20or%2035%20percent>

In with the new: Opportunities in climate solutions





Where do the greatest opportunities lie for investors in Asian climate solutions? The two big stand-out areas are renewable energy and electric vehicles (EVs).

“The move from fossil fuels to renewable energy is a key area, even in low-emitting nations, given the potential to increase energy security and improve air quality,” says Warren Evans, Special Senior Advisor (Climate Change) in the Office of the President at the Asian Development Bank (ADB). “But there has also been a dramatic increase in interest in e-mobility in the transport sector.”

Across Asia, companies are racing to capitalise on this potential. South Korea-based Samsung SDI, for example, is manufacturing innovative battery and energy storage solutions that will help sectors such as transport and utilities reduce their carbon footprints (see Case Study 1 in ‘Viewpoint’).

Demand for renewables is growing

A combination of population growth and economic expansion across the region is driving increased demand for power; by some estimates, as much as 4% extra capacity is needed each year.⁸

Meeting that demand with renewables makes sense from a climate change perspective, but the falling cost of renewable energy also makes it good economic policy.⁹ In many Asian countries, falling capital costs and advances in technology are having a huge impact: the capacity of solar and wind energy in Vietnam, for example, has the potential to move ahead of coal-fired power by 2030.¹⁰

Asia already accounts for about 48% of all renewable energy capacity worldwide, although coverage is patchy.¹¹ China, India and Australia are the region’s leaders, and Taiwan, Vietnam and Thailand have also made progress. China, for example, is home to LONGi Green Energy, which has become the world’s largest supplier of solar photovoltaic solutions (see Case Study 2 in ‘Viewpoint’).

In many cases, it is private capital that is enabling this roll-out. In India, for instance, the conglomerate Reliance Industries is investing \$80bn in renewables in Gujarat.¹² China, meanwhile, is fast becoming a global leader in offshore wind.

8. <https://www.mckinsey.com/industries/oil-and-gas/our-insights/global-energy-perspective-2022>

9. <https://www.irena.org/publications/2021/Jun/Renewable-Power-Costs-in-2020>

10. <https://www.mckinsey.com/industries/electric-power-and-natural-gas/our-insights/capturing-the-wind-renewable-energy-opportunities-in-vietnam>

11. IRENA Renewable capacity highlights, April 2022

12. <https://asia.nikkei.com/Spotlight/Environment/Climate-Change/Reliance-Industries-dives-into-green-energy-with-80bn-investment>



“Floating offshore wind is under way across the world and China is moving fast in expanding its floating wind power fleet,” says Chunping Xie, Senior Policy Fellow at the Grantham Research Institute on Climate Change. “The Energy Sector Management Assistance Program (ESMAP)¹³ administered by the World Bank estimates over 1,500GW technical potential for floating offshore wind in China. That represents a multi-billion-dollar market.”

Other countries are targeting different forms of renewable energy and are looking for support from investors. “While Indonesia is developing wind and solar projects in line with global renewable energy trends, the country is also blessed with large untapped geothermal and hydropower potential,” says Andry Setiawan, Managing Director of Investment at the Indonesian Investment Authority (INA). “To that end, INA is inviting global renewable energy players to evaluate and co-invest in these larger renewable energy projects in the country.”

It will not just be power generation that presents an investment opportunity during the Asian renewables revolution. The market’s extended

value chain spans everything from manufacturers of generation equipment, solar panels and wind turbines to specialists in transmission and storage.

The EV market flourishes

The e-mobility opportunity is two-fold. First, there is the potential to participate in Asia’s flourishing domestic EV market. Across the continent, EVs are now approaching price parity with internal combustion engine (ICE) vehicles, even in the light commercial sector, thanks to a combination of government incentives and manufacturers’ innovation. Sales of electric cars are expected to grow at the remarkable rate of more than 40% a year between 2021 and 2028, reaching 53.8 billion units.¹⁴ That will also drive huge demand for the necessary infrastructure, including charging networks, where private sector players are exploring new partnerships.¹⁵

Second, there is Asia’s potential to support EV sales globally. By 2030, EVs are expected to account for six in every 10 passenger car sales globally, driving a 15-fold increase in demand for batteries.¹⁶

13. <https://documents1.worldbank.org/curated/en/749651586838852952/pdf/Technical-Potential-for-Offshore-Wind-in-China-Map.pdf>

14. <https://www.businesswire.com/news/home/20221011005801/en/Asia-Pacific-Electric-Car-Market-Report-2022-Increasing-EV-and-Battery-Manufacturing-Capabilities-in-the-Region-Presents-Opportunities---ResearchAndMarkets.com>

15. <https://www.mckinsey.com/featured-insights/future-of-asia/green-growth-capturing-asias-5-trillion-green-business-opportunity>

16. <https://www.mckinsey.com/featured-insights/future-of-asia/green-growth-capturing-asias-5-trillion-green-business-opportunity>

Building the supply chain

While China is currently dominant, countries across Asia hope to benefit from this EV boom. In Indonesia, Andry Setiawan believes his country is a natural regional manufacturing hub for EV manufacturing. “The country is already a leading producer for some of the key raw materials for the battery chain,” he says. “And some of the top automakers in the region have announced interests to build their manufacturing base in Indonesia.”

Beyond renewables and EVs, investors are looking into other green opportunities. One exciting area is sustainable fuel, which in some cases can drive greenhouse gas reductions that are similar to those that come from the adoption of EVs. This is important, because in some industries – notably aviation – the shift to electrification at scale looks some way off.

“Countries like Indonesia should focus on their natural advantages – we are the largest producer of palm oil in the world, and palm oil can be converted into biofuel,” says Setiawan. “In fact, Indonesia has already mandated and encouraged the use of biofuel through the B30 biofuel blend.” Some experts think the Asian market could account for 30% to 40% of global sustainable aviation fuel demand by 2050 – equivalent to between 25 million and 30 million tons a year.¹⁷

Enabling the transition

It would be a mistake to only focus on climate change transition; managing potential impacts will also be crucial. Carbon capture, utilisation and storage technologies (CCUS), for instance, will play an important role in Asia. Several projects are already in development, including in Thailand, Indonesia and Malaysia, and a more supportive regulatory regime is emerging in countries such as Japan.

Here too there are potential returns for investors, particularly as more countries develop carbon-pricing regimes that the carbon-capture schemes can use. The International Energy Agency (IEA) expects that countries in the region will need to commit \$1bn a year to CCUS by 2025.¹⁸

All of these opportunities offer potentially attractive returns. But private sector investors will need to be willing to collaborate with public sector players, according to Kelvin Fu, Managing Partner of the Singapore-based private investment management firm Gunung Capital. “Blended finance is critical for us,” he says. “A lot of projects that are focused on industrial decarbonisation require significant capital expenditure and these needs can be met by both private investors and development agencies. It’s a win-win and we welcome the participation of development agencies.”



17. <https://www.mckinsey.com/featured-insights/future-of-asia/green-growth-capturing-asias-5-trillion-green-business-opportunity>
18. <https://www.allenoverly.com/en-gb/global/news-and-insights/publications/is-asia-ready-to-embrace-carbon-capture-and-storage>



Viewpoint

Driving decarbonisation through active engagement

At Fullerton Fund Management (“Fullerton”), we believe that positive engagement and open dialogue with management allows us to develop a more informed view of the companies and the way they operate. It gives us an opportunity to encourage companies to improve their management of ESG issues.

In the case studies below, we discuss how active engagement and constructive dialogue between Fullerton’s equities team and two investee companies have made a difference to the companies’ decarbonisation efforts.

Case study 1: Samsung SDI

Samsung SDI is one of the world’s 10 largest battery producers, with manufacturing sites across the globe. The company supplies batteries for multiple uses, including EVs, energy storage and other devices. Major customers include BMW, Stellantis, Rivian, SolarEdge and Volkswagen.

How Samsung SDI is decarbonising

Battery technology is at the core of the world’s decarbonisation efforts. It is the only commercially viable energy storage solution, at least until the ‘green premium’ on environmentally friendly hydrogen narrows. Utilities account for 21% of global carbon emissions and transportation accounts for a further 16%, so Samsung SDI’s EV batteries and energy storage solutions are crucial.



The company is also working to decarbonise its own operations, shifting to renewable energy, minimising waste and increasing its recycling and reuse. In the past two years alone, Samsung SDI has reduced its emissions by more than 30%, and continues to raise the share of renewable energy in its production process with the aim of reaching 65% in 2030.ⁱ The company also invests heavily in recycling technology; for example, it recently bought a stake in the Korean battery recycling business Sung-II.ⁱⁱ

Engagement and outcome

Initially, Fullerton's engagement at Samsung SDI focused on ascertaining its responsible metal sourcing practices, such as sourcing cobalt free from child labour in the Democratic Republic of Congo. The company did not disclose its position upfront (like other leading global battery players), but subsequently disclosed that it had adopted a verification system to ensure the cobalt is free from child labour.

Recently, engagement has been more focused on encouraging Samsung SDI to increase its renewable mix and improve its recycling technology, so that the company can achieve its 65% renewable mix target for 2030. The company is also aiming to secure recycling batteries that can complete its life cycle (of around 10 years). We intend to follow up with the company diligently on these fronts – and to ensure it is on track to reach these goals by 2030.

Case study 2: LONGi Green Energy

LONGi Green Energy ("LONGi") is the largest manufacturer of solar wafers and modules in the world. In 2021, the company's total solar wafer shipment was 70GW, the equivalent of a 40% global market share, while its total solar module shipment was 38.5GW, accounting for 23% of the world market. The company is ranked at number 47 in Corporate Knights' Top Global Sustainable Development Enterprises.

How LONGi is decarbonising

As a leader in the renewable energy industry, LONGi has ambitions to contribute to global decarbonisation. It has set up a dedicated committee under its board of directors to manage all environmental, social and governance (ESG)-related matters. The company has also designed detailed energy management guidelines, following the ISO 50001 standard.



In 2021, LONGi launched 267 different initiatives to save energy and conserve resources, from manufacturing process upgrades to better lighting management. The whole group reduced unit power usage by 5.38% – a savings of 259 million kwh for the full year. LONGi also initiated the Solar for Solar programme to use more renewable energy for its own operations.ⁱⁱⁱ In 2021, 40.2% of its total power usage was from renewable energy, both its own solar power and purchases from third parties. The company also laid down thorough supplier management rules, asking all suppliers to follow global environmental protection-related policies and urging them to use as much renewable energy as possible to reduce CO2 emissions.ⁱⁱⁱ

LONGi has set ambitious carbon emission reduction targets for 2030, aiming to reduce emissions by 60% compared with 2020. This includes a commitment to reduce emissions by 20% for all its material purchases, including glass, polysilicon and solar cells. LONGi has announced plans to build a carbon zero factory that uses 100% renewable energy for operation in 2023.ⁱⁱⁱ

Engagement and outcome

Fullerton first engaged with LONGi in December 2021. During the session, we discussed the various ESG-related disclosures and plans. We suggested ideas such as using a more targeted and quantifiable approach to measuring carbon emission reduction plans and programmes, evaluating climate risks more comprehensively and extending the supply chain management system to smaller suppliers. We are tracking the company's progress on each of these issues; initial assessments, as reported in LONGi's annual ESG report published in 2021, are favourable.

Sources:

- i. Samsung SDI Sustainability Report 2021
- ii. <https://www.hankyung.com/finance/article/2022061030041>
- iii. LONGi 2021 Sustainability Report

These case studies are for illustration purpose only and do not represent Fullerton's current view of the security or constitute any recommendation.



Out with the old: Unlocking value by transitioning brown assets

High-growth industries such as renewable energy and emerging ones such as EVs inevitably get most of the attention in the debate about how to tackle the climate crisis.



But to get to net zero, investors will also need to dedicate significant capital to the greening of traditional, carbon-intensive industries such as steel manufacturing and construction.

“It’s easy to focus only on mitigation and decarbonisation, which are important, but we’ve got to keep a balance,” says ADB’s Warren Evans. “We need to address the vulnerable populations impacted by climate change that played no role in causing the problem. There are a huge number of other investments that will drive adaptation.”

Green steel is a pressing priority

The steel industry in Asia is critical to many aspects of the economy, including employment, but it accounts for about 7% of global energy sector CO₂ emissions,¹⁹ and will need to reduce those emissions significantly in order to help keep global warming to 1.5°C or less. Steel manufacturing in Asia and the rest of the world are not ready to give up steel, so it is vital to find less carbon-intensive ways to manufacture it.

“There are existing technologies available that provide a path to decarbonisation,” says Gunung Capital’s Kelvin Fu. “To decarbonise the steel manufacturing process, most steel companies are looking to shift from high carbon emitting blast furnaces to electric arc furnaces, powering the plant using green energy, utilising direct reduced

iron produced using natural gas or green hydrogen and focusing on operating efficiencies.”

Hydrogen-operated iron furnaces and electric arc furnaces, for example, have a cleaner manufacturing process and are becoming less costly. If the cost of hydrogen falls and emissions regimes become more punitive, the total cost of running these furnaces is likely to drop below that of conventional facilities.

Developing those facilities will require significant investment, but demand for green steel will provide a return. As every industry comes under pressure to reduce the emissions in its supply chain, green steel will command a premium. The green steel market is expected to grow at around 85% a year over the next decade.²⁰ Europe is leading the way here for now, but Asia is in a position to accelerate: China produced more than half of the world’s crude steel in 2021.²¹ Manufacturers also have access to direct-reduced iron ore, which is a key part of the process, through projects in Australia, China and India.

Green hydrogen holds promise

“The potential for green hydrogen is a real theme of industrial decarbonisation and cannot be ignored,” says Fu. The promise of this fuel is to decarbonise steel manufacturing, but also other hard-to-abate sectors such as chemicals, shipping and aviation. These are industries where hydrogen is used as a feedstock or to generate heat and power, and where electrification is more complex.

Private investors are beginning to see the potential here. Fu points as an example to the recent deal between global energy company Enel and Australian renewable energy developer Fortescue Future Industries, which will see the firms jointly develop a green hydrogen value chain.²²

19. <https://www.iea.org/reports/iron-and-steel-technology-roadmap>

20. <https://finance.yahoo.com/news/global-green-steel-market-report-131800688.html#:~:text=Green%20Steel%20Market%20is%20projected,leading%20the%20regional%20market%20share>.

21. <https://www.statista.com/statistics/448874/china-share-in-worldwide-crude-steel-production/>

22. <https://www.enelgreenpower.com/media/press/2022/11/enel-green-power-fortescue-future-industries-green-hydrogen>

The most exciting opportunity here is cross-fertilisation. Changing the energy mix to deliver a green transition in one sector can help provide a roadmap to do so elsewhere, such as in the cement industry or in cities.

Delivering energy efficiency

Sinon Vongkusolkit, CEO of Banpu NEXT, a smart energy solutions provider in Asia-Pacific, says it is also important to manage energy more efficiently.



Assets with significant carbon footprints, such as buildings, are not going to be replaced overnight, he says, but there is scope to substantially improve their performance.

“We are going to have to prioritise energy management,” says Vongkusolkit. “And as we see data centres crop up across the Asia-Pacific region, it will be important to develop those in a green way too.”

The reality of physical risk

Another focus for investment is on how to limit the damage caused by climate change that has already occurred or which is now unavoidable. Asia will need to develop infrastructure that has more resilience to dangers such as flooding, flash fires and other threats related to extreme weather events or rising sea levels.

For investors, incorporating resilience into infrastructure projects or even trying to retrofit existing assets can create important returns. The World Bank estimates that such measures can create a net benefit of \$4.2trn over the lifetime



of new infrastructure in developing countries, in addition to preventing disasters that cost lives, damage property and disrupt the economy.²³

So far, however, Asian infrastructure investors have been slow to prioritise climate resilience, even in critical areas such as telecommunications grids and utility networks. “The Bank of China has been taking the lead, by helping countries to move towards a more resilience-led development path,” says Chunping Xie of the Grantham Research Institute. “But while we have some guidelines, we need more detailed appraisal criteria.”

Nevertheless, some projects are now beginning to move forward. In Singapore, for example, the new Terminal 5 at Changi Airport is being built more than 5 metres above sea level to protect it from flooding in the low-lying country; the airport has also been equipped with solar-powered sensors to give early warnings of flooding danger.²⁴

Such work will accelerate. There is a sizeable opportunity – and a vital imperative – to build on the incremental steps already under way to climate-proof Asia’s infrastructure.

23. <https://www.worldbank.org/en/news/feature/2019/06/19/lifelines-for-better-development>

24. <https://www.straitstimes.com/singapore/environment/changi-airport-installs-solar-powered-sensors-in-drains-to-mitigate-flash-floods>

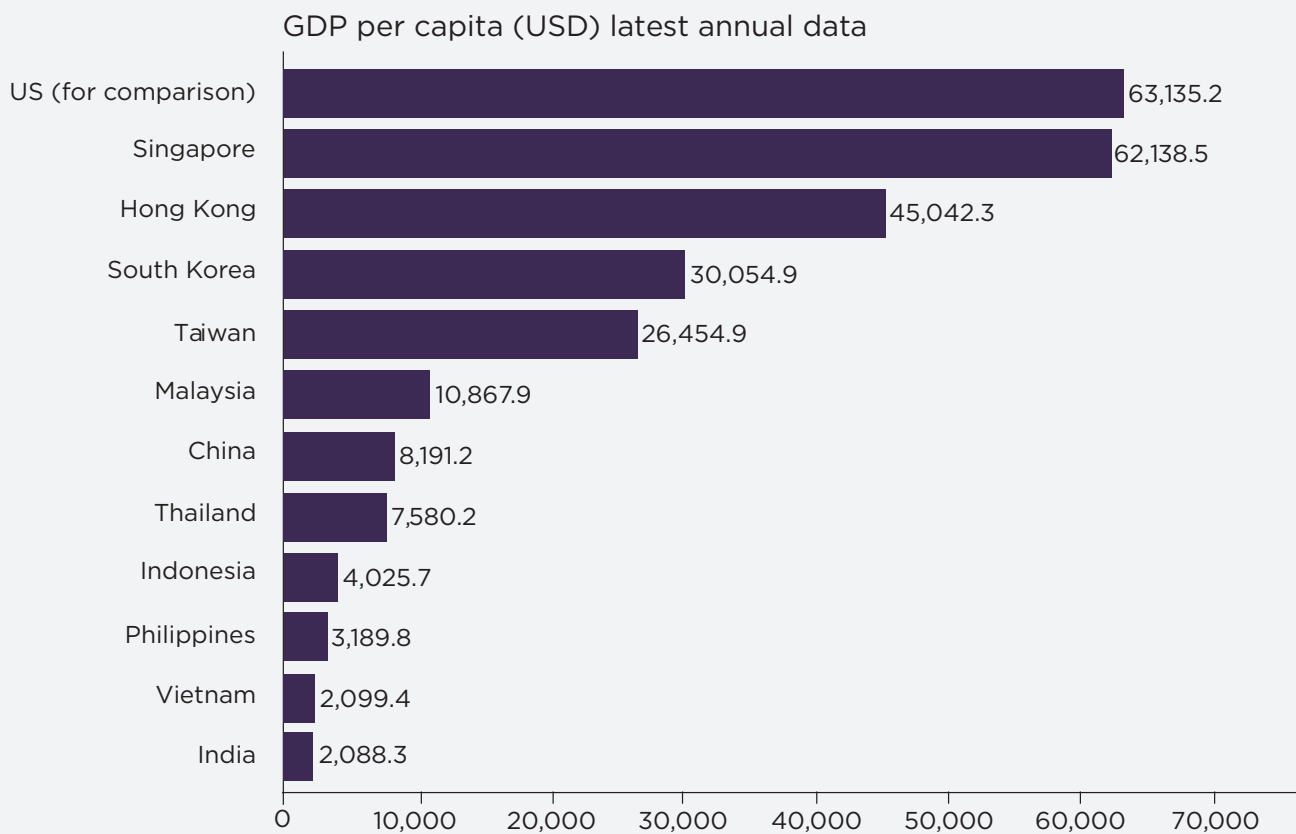
Attracting capital: What is holding institutional investors back?



The World Bank has calculated that financing the transition to net zero will require low- to middle-income countries to invest the equivalent of up to 8% of GDP a year by 2030.²⁵ So for transition to be possible, private investors will need to take on a large amount of the burden.

One challenge in Asia is disparity of wealth. Some countries are significantly wealthier than others, which means they can invest publicly and make the most of private sector support. In Singapore and Hong Kong, income per capita is about eight times higher than it is in China. And China's income per capita is four times higher than it is in India and Vietnam.²⁶

Income across Asia



Source: Refinitiv Datastream, March 2022

25. <https://blogs.worldbank.org/african/cop27-african-cop-and-risk-global-u-turn-paris-agreement>

26. Refinitiv Datastream, March 2022



Nevertheless, we have seen that the investment opportunities are there. So what might be deterring private investors from taking advantage of them?

Dealing with policy problems

One problem, says Chunping Xie of the Grantham Research Institute, is a lack of regulatory clarity. “As long as the policy framework on carbon neutrality is progressing, I think people agree that there is a great opportunity,” she says. “China is now giving a clear direction, but it needs more standards and regulations, especially to secure the confidence of global investors.”

Consistency is vital, says Banpu NEXT’s Sinon Vongkusolkit. “At times, we do see country policy change quickly, especially nowadays when the world is transforming,” he says. “Agility and risk management are important to exploit the opportunities.”

Finance innovation is catching up

Investors also say there need to be new financing mechanisms to help Asian countries to switch out of fossil fuels.

“In the last 10 years, large investments have been made in coal-fired power plants coupled with long-term contractual obligations that can last as long as 30 years,” says Andry Setiawan of the Indonesian Investment Authority. “In this context, there are still a large number of coal-fired power plants with relatively long running life left in the country. We’re thinking about how to encourage early retirement of older coal-fired power plants through cheaper debt financing, albeit concessionary financing, or blended finance, and optimise the capital structure of the project. With financial optimisation, we aim to retire these assets without asking for financial support from the government while maintaining the financial return of the original owner’s point of view.”

The opportunity is there, and Asian countries are considering how to create sustainable finance networks, according to a recent report from the Sustainable Banking Network. It cites momentum in the development of national sustainable finance frameworks in Cambodia, Nepal and Pakistan, and a focus on green bonds in Bangladesh and Mongolia.²⁷ But global financial institutions will need reassurance from training, knowledge-sharing and collaboration.

The trend to decarbonise is soaring all over the world, according to Vongkusolkit. “Every country and industry desires to tap into clean energy as we move towards net-zero emissions,” he says. “Governments and financial institutions can play a big role [in moving us] towards that goal.”

But the business case for some technologies may be harder to argue than others. The efforts to scale up green hydrogen and carbon capture, for example, are still in the early stages, which can make them a more challenging investment proposition than a solar power installation. In this case, incentives and support will need to be tailored accordingly. “Investors have to feel confident that these technologies are going to work,” says ADB’s Warren Evans. “That’s where something like policy-based lending comes in.”

27. https://www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/a+strong+momentum+for+green+finance+in+asia

Evans also argues that, in instances where innovation and transformation are at an earlier stage, more public sector finance will be required alongside private capital. “To mobilise that finance, we’re working on something right now called the Innovative Financing Facility for Climate in Asia and Pacific,” he explains. “The idea is to set up a facility that uses donor money as guarantees that would then be used to take a chunk of low-risk sovereign loans off our books and free up capital for new climate change investments.”

Innovation is required in the structures around sustainable financing, as well as in the technology and solutions themselves. This will drive faster growth in issuance of instruments such as green, social, sustainable and sustainability-linked bonds. In 2021, Asian fundraising through such bonds (excluding Japan) picked up \$331bn – a 32% increase on 2020.²⁸

Many solutions will be imaginative. For example, Singapore-based Climate Impact X, a global exchange for voluntary carbon credits, is developing Project Marketplace – “a digital marketplace for businesses and carbon project developers who want to list, explore, compare, buy and retire trusted, high-quality carbon credits”.

Is there the demand?

Finally, there is the question of where investment will come from. Demand is there. In the asset management sector, for example, ESG-related AUM in the Asia-Pacific region is expected to more than triple to \$3.3trn by 2026.²⁹ Institutional investors ranging from banks to sovereign wealth funds are looking at opportunities for debt and equity investment.

Is private capital – the private equity sector, for example – best placed to support transition? Closer proximity to management could enable private capital to exert more influence – and many

privately owned Asian businesses may in any case struggle to secure access to public markets before having built up sufficient scale.

Moreover, the legislative and regulatory regimes in many Asian countries are increasing the requirements for private asset owners in terms of disclosure and performance. These businesses will become increasingly engaged with the decarbonisation agenda, as well as with broader ESG issues. Private equity investors can play a crucial role in supporting that engagement – including for mid-sized and family-owned businesses where awareness may only just be taking shape.



Indeed, there is a significant opportunity for private equity to both fill the investment gap and drive awareness and higher standards across the decarbonisation space in Asia.

Overall, the stage is set. Institutional investors increasingly recognise the opportunity that Asia’s decarbonisation journey represents – as well as their moral objective to offer support. The right regulatory regimes, innovative structures to support co-investment and mitigate risk and efforts to help investors overcome their risk aversion will unlock a new wave of capital that will get Asia to net zero.



28. <https://www.scmp.com/business/banking-finance/article/3161266/sustainable-finance-deals-asia-hong-kong-continue-growing>

29. <https://www.pwc.com/gx/en/financial-services/assets/pdf/pwc-awm-revolution-2022.pdf>

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- **Sinon Vongkusolkrit**, CEO, Banpu NEXT
- **Warren Evans**, Special Senior Advisor (Climate Change) in the Office of the President, Asian Development Bank

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