

July 2022

# DECARBONISATION IN EMERGING MARKETS

---

Perspectives and insights from Asia



# INTRODUCTION

At COP26 in Glasgow, Janus Henderson committed to conducting research into decarbonisation trends in Emerging Markets. In this latest report, Janus Henderson assesses the decarbonisation challenges facing Asia's emerging markets and the green finance landscape, drawing on specific examples from China, India and the Republic of Korea.

## The main takeaways are:

- There remains varying economic and energy reliance on fossil fuels across the region, which makes it difficult to set realistic net zero targets and decarbonisation strategies. This is underpinned by the fact that emerging markets across Asia cannot be considered as economic equals, with some nations struggling to access or even set up effective green finance solutions. As a result, China's economic strength gives it a natural advantage and it is the leading green bond issuer in the region by a significant margin.
- Embedding stronger policy action towards renewable energy projects, such as solar PV, wind and hydropower, into government plans is needed to facilitate the energy transition. This should also spur better financing solutions for decarbonisation. In the past, green bond issuance in Asia has been spearheaded by non-financial corporations.
- From an international perspective, there is an uneven regulatory landscape for green finance tools across the region. This makes it challenging for investors to understand how proceeds are used and identify projects that aren't at risk of being accused of green washing. However, some countries are starting to develop taxonomies and frameworks to provide transparency which could encourage investor appetite.

This report utilises the same methodology that was used in the last report, which analysed progress towards decarbonisation in Latin America. This report will, as the last one did, call for the increase in financing mechanisms to support the net zero transition of the region. For more information on the Latin American report, please visit our websites.

## Methodology

Janus Henderson conducted in-depth research into the actions being taken to implement decarbonisation across emerging markets in Asia by analysing successful initiatives, policy frameworks, and green financing solutions using objective, third party, open sources.

Janus Henderson's Decarbonisation Emerging Market Index is constructed as an equally weighted index of scores given to three trends that can be tracked effectively over time. Each trend is tracked via a proxy indicator which we believe can help follow the degree, and speed, of progress on decarbonisation trends now and in the future.

## RENEWABLE ENERGY/ PART OF ENERGY MIX



Sources: IRENA

### Scores:

>30%: 2 points  
15-30%: 1 point  
<15%: 0 points

## NET ZERO TARGET DATE



Sources: COP commitments/NDCs

### Scores:

Before 2040: 2 points  
2040-2050: 1 point  
Beyond 2050: 0 points

## CLEAN ENERGY FUNDING



Source: CBI  
Climate bond issuance in region  
(cumulative to end March 2022)

### Scores:

>\$50bn: 2 points  
\$1-50bn: 1 point  
<\$1bn: 0 points

### Total score:

- Each category weighted 1/3 each to get country composite score.
- Each country composite score weighted in regional index by % weight of each country in regional real GDP per capita in PPP dollars, as of end 2021 (Source: IMF.)
- Regional sum x100

- ▶ The first category, renewable energy as part of total energy final consumption, is meant to establish a benchmark level for existing renewable energy resources.<sup>1</sup>
- ▶ The second, net zero target dates established as part of the Paris Agreement mandated National Determined Contributions, is a proxy for the policy framework supporting moves towards decarbonisation.
- ▶ The third, climate bond issuance to date, is designed to capture the degree to which a country or region has been able to access capital markets to fund decarbonisation strategies.

We will explore the results for the broad region covered by this report in the sections below and continue to report on other regions' performance throughout 2022 and beyond. Each report will also highlight the most significant policy initiatives taken in each emerging market region, and discuss individual corporate decarbonisation actions which stand out as innovative in the eyes of the Janus Henderson investment team.

Finally, we will issue a call to action for each region, to prompt some further thinking about the best way to accelerate the transition to net zero.

We have used IRENA's classification of Asia to determine the emerging markets in this region.

Janus Henderson's Decarbonisation Emerging Market Index is constructed as an equally weighted index of scores given to three trends that can be tracked effectively over time.

<sup>1</sup> This data has been taken from IRENA and is from the latest Asia reports which are dated as 2018.



## REGIONAL OVERVIEW

“While Asia was represented in the early days of green bond issuance, such as Indonesia’s 2019 green sukuk, the region has since become a laggard, falling significantly behind other regions such as Europe or North America. As investors’ appetite for green bonds continue to grow and we start to see some new national efforts, such as Singapore’s green bond issuance framework, Asia could leapfrog the rest of the world.”

ALES KOUTNY, Portfolio Manager

“There is a clear decarbonisation opportunity in Asia as it’s home to countries with some of the largest carbon emission challenges. Through the combination of supportive government policy, technological innovation and emerging financing solutions the region is likely to sit at the forefront of the next industrial (green) revolution.”

MATT DOODY, Research Analyst



The decarbonisation of Asia is critical to limiting a global temperature increase by less than 2°C, especially as China and India are two of the largest carbon emitters in the world.

The overall Decarbonisation Emerging Market Index for the region is 50.68.<sup>2</sup> The leading reasons for the Index's 2022 score are:

- ▶ Nearly three quarters of the emerging markets have set or declared net zero targets, but timeframes range from 2030 (the Maldives) to 2070 (India).
- ▶ At face value, less populated countries consume more renewable energy, but when contextualised by population China and India's relative renewable consumption significantly increases.
- ▶ Renewable energy consumption regionally is driven by hydropower, largely due to historical investment, but more recently wind and solar power generation are starting to take centre stage. However, it is worth noting that China will also be the world's largest producer and consumer of nuclear power by 2030.

The issuance of climate related financial instruments is dominated by China, India and the Republic of Korea – with the majority of countries not leveraging climate bond issuance at all. This concentrated leadership in part reflects the shallower pools of potential demand in other domestic bond markets in the region, with bank lending and state influence in the economy often still dominating features of local capital markets.

# 50.68

is the overall Decarbonisation Emerging Market Index score for the region.

### TOP 5 COUNTRIES BY TOTAL RENEWABLE ENERGY AS A % OF FINAL CONSUMPTION, UNWEIGHTED

Country	Unweighted TEFC%
Bhutan	81.1
Nepal	75
Cambodia	61.8
Myanmar	60.1
Sri Lanka	51.4

### TOP 5 COUNTRIES BY TOTAL RENEWABLE ENERGY AS A % OF FINAL CONSUMPTION, WEIGHTED BY % OF REGIONAL POPULATION

Country	Weighted TEFC%
India	10.7
China	4.5
Pakistan	2.3
Indonesia	1.4
Bangladesh	1.2

Source: IRENA Asia reports, 2018. Population data from the World Bank.

In 2020, Asia Pacific was responsible for 52% of the global CO<sub>2</sub> energy related emissions, which is in line with its proportion of the global population, but its decarbonisation rate was 0.9%, well below the world average of 2.5%.<sup>3</sup> This slow progress is because emerging markets in Asia face a series of decarbonisation challenges, including an energy reliance on fossil fuels – specifically coal – and ongoing population growth, urbanisation and industrialisation.

<sup>2</sup> As of May 2022

<sup>3</sup> [https://cdn.cdp.net/cdp-production/cms/reports/documents/000/006/179/original/How\\_companies\\_in\\_Asia\\_Pacific\\_are\\_preparing\\_for\\_the\\_net-zero\\_economy\\_EN.pdf?1648712180](https://cdn.cdp.net/cdp-production/cms/reports/documents/000/006/179/original/How_companies_in_Asia_Pacific_are_preparing_for_the_net-zero_economy_EN.pdf?1648712180)



# +90%

of Bhutan and Nepal's total electricity generation comes from hydropower.

The region also faces institutional barriers, including restricted access to green financing solutions, limited cooperation between public and private sectors, and poor frameworks and practices that influence emission targets and collect emission data. Plus, the state in some markets has a firm grip over the economy, including some of the industries that should be leading the decarbonisation journey, and can therefore affect the speed of transition. This is all in addition to the fact that the region is still recovering from the COVID-19 pandemic which dampened progress of the construction of several renewable energy projects. For example, the number of solar PV installations in Singapore declined by 52.1% YoY in the first nine months of 2020.<sup>4</sup>

To aid renewable energy capacity, last year ASEAN governments laid out a five-year sustainability plan under the second phase of ASEAN Plan of Action for Energy Cooperation. Energy ministers agreed a target of achieving 23% share of renewable energy in Total Primary Energy Supply and 35% share of renewable energy in ASEAN installed power capacity by 2025.<sup>5</sup> It is doing this by installing large-scale renewable energy systems, increasing investments, and exploring new energy technologies.

Demand for more renewable energy consumption is active across the region, especially as power shortages worsen because underdeveloped energy systems struggle to keep up with demand. According to the IEA, in 2021 hydropower accounted for 14.5% of total electricity generation in South and Southeast Asia, often favoured as it is the cheapest renewable resource, and many countries have access to water and the relevant infrastructure. Bhutan and Nepal are the highest renewable energy consumers, and hydropower accounts for over 90% of their total electricity generation.<sup>6</sup> However, increased investment towards wind and solar generation will help diversify energy production – protecting nations from unexpected draughts and likely to drive Asia towards becoming the world's leader in renewable energy.

China is largely responsible for driving the global growth of energy demand and already generates a significant portion of the world's renewable electricity. The IEA predicts that between 2019 and 2024, China will account for 40% of global renewable capacity expansion, partly driven by enhanced competitiveness of both solar PV and onshore wind.<sup>7</sup> Wind installations peaked at 72.5 GW in China in 2020, a near threefold increase from 2019, and solar power increased by 60%.<sup>8</sup>

However, it's worth noting that China's coal consumption continues to grow – it increased by 4.6% in 2021 reaching a record high of 2.9 billion tonnes.<sup>9</sup> This increase was fuelled by strong economic growth across secondary industries, and a lack of access to hydropower as China is one of the driest countries in the region.

<sup>4</sup> [https://www.power-technology.com/comment/south-east-asia-renewable-energy/#:~:text=Vietnam%2C%20Thailand%2C%20the%20Philippines%2C,and%20the%20Philippines%20\(10%25\)](https://www.power-technology.com/comment/south-east-asia-renewable-energy/#:~:text=Vietnam%2C%20Thailand%2C%20the%20Philippines%2C,and%20the%20Philippines%20(10%25))

<sup>5</sup> <https://aseanenergy.sharepoint.com/PublicationLibrary/Forms/AllItems.aspx?id=%2FPublicationLibrary%2F2020%2FPublication%2FBooklet%20APAEC%20Phase%20II%20%28Final%29%2Epdf&parent=%2FPublicationLibrary%2F2020%2FPublication&p=true&ga=1>

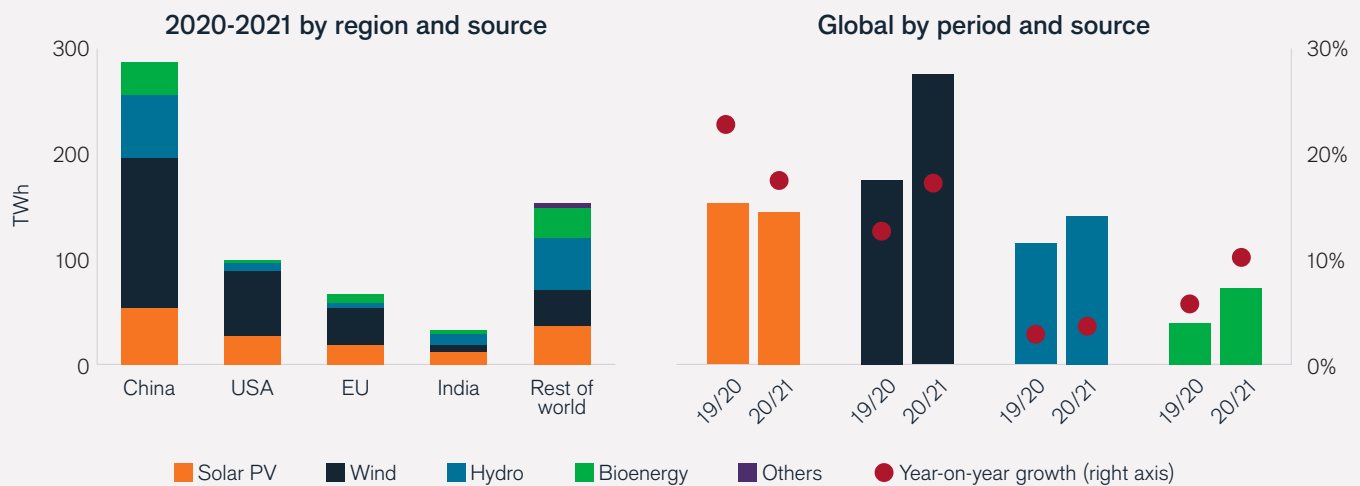
<sup>6</sup> <https://iea.blob.core.windows.net/assets/8827598a-486a-4ee3-bc0d-2a534b3dfd14/ClimateImpactsonSouthandSoutheastAsianHydropower.pdf>

<sup>7</sup> <https://www.iea.org/countries/china>

<sup>8</sup> <https://www.wri.org/insights/asia-clean-energy-transition-examples-5-countries>

<sup>9</sup> <https://www.carbonbrief.org/china-briefing-10-march-2022-changes-to-energy-targets-xis-coal-directives-analysis-on-record-high-coal-consumption#:~:text=China's%20coal%20consumption%20grew%20by,expected%20outputs%20from%20hydro%20capacity>

## Renewable electricity generation increase by technology, country and region

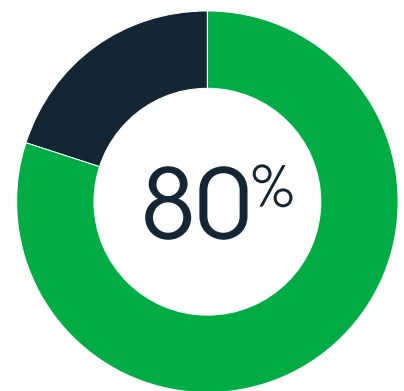


## Regional net zero commitments are supported by policy action and intent

Reducing fossil fuel reliance needs to be driven by policy regulation, suitable financing solutions and behaviour change. Of the 26 countries we analysed, 20 countries have incorporated, or pledged to incorporate, the goals of the Paris Agreement into national policies, although there are a wide range of time frames. The largest economies, China, Indonesia and India, have set net zero targets to 2060 and 2070 (India), while Bhutan was the first country to claim net-zero status, although this is due to 70% of the country being covered by trees making it a carbon sink country.

It's understood that limiting temperature rise is a global ambition, and collective action is needed to reach this goal. At COP26 over 20 countries signed a non-binding agreement to stop funding foreign fossil-fuel projects by the end of 2022. Given the economic reliance on coal, most emerging markets in Asia did not sign this, although China did pledge not to invest in foreign coal projects.

Positively, there has been an uptick in government engagement with renewable energy generation across the region, demonstrating that countries of all sizes understand the role they need to play. The government in Myanmar is developing renewable energy infrastructure to reach its target of generating 12% of electricity requirements via renewable energy sources by 2025. In Vietnam, under the National Power Development Plan 2021-2030, the government plans to generate 50GW from onshore and offshore wind and solar energy by 2030.<sup>10</sup> China's national policy aims to achieve 80% of its total energy mix from non-fossil fuel sources by 2060, with a combined 1,200 GW of solar and wind capacity by 2030.<sup>11</sup> And India has rolled out programmes that encourage clean cooking by promoting off-grid electricity solutions such as solar PV and charging batteries.



China's national policy aims to achieve 80% of its total energy mix from non-fossil fuel sources by 2060.

<sup>10</sup>. [https://www.power-technology.com/comment/south-east-asia-renewable-energy/#:~:text=Vietnam%2C%20Thailand%2C%20the%20Philippines%2C,and%20the%20Philippines%20\(10%25\)](https://www.power-technology.com/comment/south-east-asia-renewable-energy/#:~:text=Vietnam%2C%20Thailand%2C%20the%20Philippines%2C,and%20the%20Philippines%20(10%25))

<sup>11</sup>. <https://www.scmp.com/business/china-business/article/3161732/china-remain-renewable-energy-leader-strong-capacity-growth>

## Global Green and ESG labelled bond issuance

Green bond issuance dominated the bond market in May 2022, accounting for 59% of the \$159 billion stock of external emerging market corporate ESG-labelled bonds. This was followed by sustainability bonds at 19% and sustainability-linked bonds at 18%.

In total, there are 301 emerging market corporate ESG-labelled external bonds. 68% of global issuers are investment grade companies, and Asia leads the regional breakdown with 60% of bonds, ahead of Latin America (23%) and EMEA (17%).

Within Asia, China issued 22% of the regional ESG-labelled bonds followed by Korea (20%) and India (10%). According to a survey conducted by Bank of America on emerging markets companies, the increased focus on ESG comes from investor demand (85% of respondents) and leadership pressures (61% of respondents).

As the investor community continues to transition towards ESG practices, we expect to see the issuance of ESG-labelled bonds accelerate in the coming years.

Source: Bank of America Global Research, EM ESG, May 2022

## Bridging the financing gap

Climate financing solutions should work hand in hand with government policies to help decarbonise economies. The global climate bonds market reached over \$1 trillion in 2021, and annual global green bond issuance broke half trillion for the first time, reaching \$522.7 billion – which is the preferred issuance for the limited emerging markets in Asia that have engaged with climate financing.<sup>12</sup>

In 2021, Asia-Pacific was the fastest-growing region for green bond sales globally, driven by a small number of countries. Overall, the region sold \$124.53 billion of green debt in 2021, a 128% increase.<sup>13</sup> However, China was the largest issuer of green bonds, with a \$66.09 billion bond proportion, 4.5x times the amount issued by the next biggest issuer.<sup>14</sup>

### TOP 5 COUNTRIES, CUMULATIVE CLIMATE BOND ISSUANCE AS OF END MARCH 2022

Country	Climate bond issuance (\$USD million)	Net Zero commitment
China	199,145	2060
Republic of Korea	22,009	2050
Singapore	19,738	2050
India	18,752	2070
Indonesia	6,388	2060

Source: Climate Bonds Initiative, NDC Statement, as of March 2022.



In 2021, Asia-Pacific was the fastest-growing region for green bond sales globally, driven by a small number of countries. Overall, the region sold **\$124.53 billion** of green debt in 2021, a **128%** increase.

<sup>12</sup> [https://www.climatebonds.net/files/reports/cbi\\_global\\_sotm\\_2021\\_02f.pdf](https://www.climatebonds.net/files/reports/cbi_global_sotm_2021_02f.pdf)

<sup>13</sup> <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/green-bond-sales-to-surge-in-asia-pacific-as-region-lays-out-path-to-net-zero-68602361>

<sup>14</sup> <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/green-bond-sales-to-surge-in-asia-pacific-as-region-lays-out-path-to-net-zero-68602361>



## TOP 5 COUNTRIES, CALENDAR 2021 GREEN BOND ISSUANCE, UNWEIGHTED

Country	Green bond issuance (\$USD million)	Net Zero commitment
China	66,090	2060
Republic of Korea	12,570	2050
Singapore	6,890	2050
India	6,810	2070
Thailand	810	2050

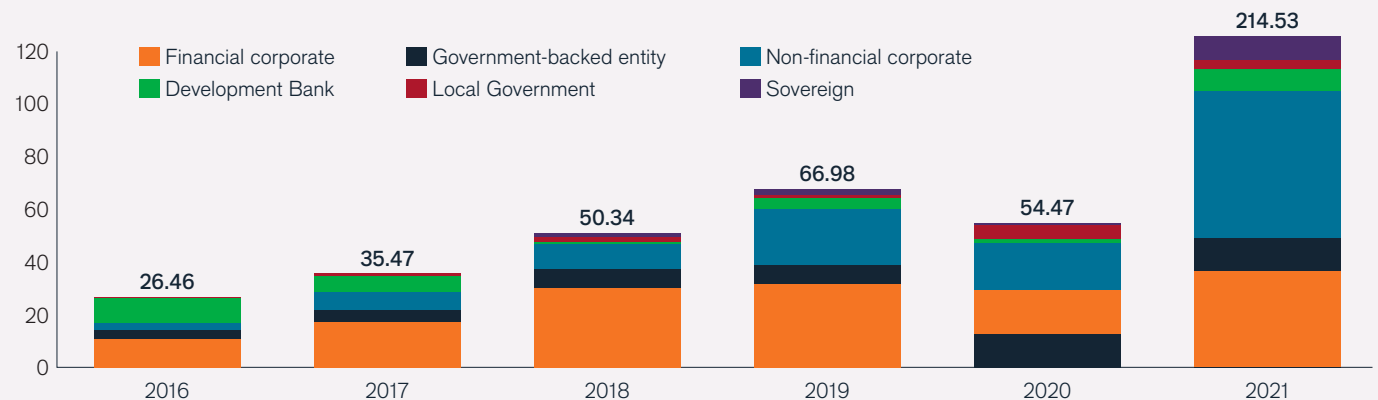
Source: Climate Bonds Initiative, NDC Statement, as of March 2022

In Asia, non-financial corporates were the largest issuers of green bonds in 2021. This is in line with the global green bond issuance landscape, but sovereign issued green bonds have increased in the past five years, with governments issuing 6.83% of green bonds in 2021 compared with 2.08% in the prior year.<sup>15</sup>

Regardless of the issuer type, Janus Henderson would welcome more countries in Asia utilising climate bonds as a financing solution to tackle the climate crisis. In our next section we discuss the green bond landscape in China, India and the Republic of Korea, highlighting the challenges and opportunities each market faces.

In Asia, non-financial corporates were the largest issuers of green bonds in 2021.

### Asia-Pacific green bonds by issuer type (\$bn)



Source: Climate Bonds Initiative<sup>16</sup>

<sup>15</sup> <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/green-bond-sales-to-surge-in-asia-pacific-as-region-lays-out-path-to-net-zero-68602361>

<sup>16</sup> Internationally aligned green bonds are limited to those that are at least 95% of proceeds designated for green projects aligned with the Climate Bonds Taxonomy

# COUNTRY CASE STUDIES

- ▶ China
- ▶ India
- ▶ Republic of Korea

## China

As the economic powerhouse and largest carbon emitter in Asia, China is powering the regional drive towards renewable energy supported by government policy that wants to ignite an energy revolution. To reach China's net zero target by 2060, the country needs to invest 2.2 trillion yuan a year (\$340 billion) until 2030 and requires continued investment from the private sector to keep funding green projects.<sup>17</sup>

China has also developed its own standards for allocating and reporting on the use of green bond proceeds. Currently issuers can use up to 50% of the proceeds raised from green bonds for general corporate purposes, but this contradicts international guidance that state proceeds must be used exclusively to finance green projects. This difference is one of the key reasons for the misalignment between Chinese versus foreign issuers, and significantly reduces the appeal to international investors.

To support the growth of green bond issuance, the People's Bank of China, the China Securities & Regulatory Commission and the National Development & Reform Commission jointly published the Green Bonds Endorsed Project Catalogue in 2021. The catalogue removed the inclusion of some clean coal related activities and demonstrates China's intent to align regulation with the EU Taxonomy to attract more foreign investment.

There is also scope for China to become a leading sovereign issuer. Doing so would send a strong signal about China's green finance leadership globally, open the country to more foreign investment and likely encourage other emerging markets in the region to follow suit. However, China's limited capital account liberalisation, as well as dominant state presence in certain industries, may preclude this from happening for the foreseeable future.

### China, as of April 2022

	Weighted result	Ranking
TEFC Rank in region, population weighted	N/A	2nd of 26 countries
Net Zero Target	Committed to achieve Net Zero by 2060	N/A
Cumulative climate bond issuance and rank in region, population weighted	\$69.1 billion	1st rank of 11 countries that have issued climate bonds

Sources: International Renewable Energy Agency, NDC statement, Climate Bonds Initiative

<sup>17</sup> <https://asia.nikkei.com/Spotlight/Market-Spotlight/Green-bonds-grow-on-Asia-s-investors>

India

In order for India to be carbon neutral by 2070 the country will need to invest \$10.10 trillion, and within that sits a \$3.55 trillion gap between the total investment required and the amount that could feasibly be contributed by domestic banks, non-bank financial companies and capital markets.<sup>18</sup> Despite the vast need for green solutions and investment, the country had limited engagement with green financing until last year.

In 2021, however, the country issued \$6.8 billion of green bonds, the strongest issuance since its first issue in 2015.<sup>19</sup> This rapid increase in bond issuance has partly been spurred by the issuance of sovereign green bonds, which is encompassed within the government’s official borrowing programme.

Earlier this year the government announced it would issue at least \$3.3 billion in sovereign green bonds. The government is expected to offer lower yields on green bonds compared to regular bonds, in a bid to capture the ‘greenmium’ that several developed sovereign issuers have been able to benefit from due to the strong global demand for green instruments.

The Reserve Bank of India is also due to publish its framework for sovereign green bonds later this year, accompanied by a range of financial incentives. This could be the start of a new phase of green projects that hopefully accelerate India’s decarbonisation and energy transition.

India, as of April 2022

	Weighted result	Ranking
TEFC rank in region, population weighted	N/A	1st rank of 26 countries
Net zero target	Committed to achieve Net Zero by 2070	N/A
Cumulative climate bond issuance and rank in region, population weighted	\$6.4 billion	2nd rank of 11 countries that have issued climate bonds

Sources: International Renewable Energy Agency, NDC statement, Climate Bonds Initiative

The Reserve Bank of India is also due to publish its framework for sovereign green bonds later this year, accompanied by a range of financial incentives. This could be the start of a new phase of green projects that hopefully accelerate India’s decarbonisation and energy transition.

<sup>18</sup> [https://economictimes.indiatimes.com/markets/bonds/decoding-green-bonds-india-market-and-how-to-invest-in-it/articleshow/90230488.cms?utm\\_source=contentofinterest&utm\\_medium=text&utm\\_campaign=cppst](https://economictimes.indiatimes.com/markets/bonds/decoding-green-bonds-india-market-and-how-to-invest-in-it/articleshow/90230488.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst)  
<sup>19</sup> <https://www.bloomberg.com/news/articles/2022-03-15/india-said-to-plan-3-3-billion-sovereign-green-bond-issuance>

The Republic of Korea's energy sector remains reliant on fossil fuels and energy imports but the country's commitment to achieving net zero emissions by 2050 is fuelling the sale of green debt.

## Republic of Korea

The Republic of Korea's energy sector remains reliant on fossil fuels and energy imports but the country's commitment to achieving net zero emissions by 2050 is fuelling the sale of green debt. Historically, Korea's bond issuance has been focussed on social bonds, which accounted for 41.5 trillion won in 2021<sup>20</sup>, but increasingly non-financial corporations are leading the decarbonisation issuance charge. In 2020 Hyundai Card sold 950 billion won worth of the themed bonds, KB Kookmin Bank sold 930 billion won and LG Chem sold 820 billion won.

Similarly to China, Korea has developed its own Green Bond Framework and K-taxonomy to eliminate green washing and has taken significant steps to align these with the EU taxonomy. The development of clear-cut issuance guidelines complements the government's request for proposals for a possible sale of offshore green bonds, with the intent to increase foreign investment.

### Republic of Korea, as of April 2022

	Weighted result	Ranking
TEFC Rank in region, population weighted	N/A	18th rank of 26 countries
Net Zero Target	Committed to achieve Net Zero by 2050	N/A
Cumulative climate bond issuance and rank in region, population weighted	\$280 million	4th rank of 11 countries that have issued climate bonds

Sources: International Renewable Energy Agency, NDC statement, Climate Bonds initiative

<sup>20</sup> <http://www.koreaherald.com/view.php?ud=20210812000717>



## EMERGING MARKET INVESTING THEMES

The Janus Henderson Emerging Markets Investment Team focuses its approach on seeking out disciplined, innovative companies that combine good corporate fundamentals and good governance, while also operating in countries with favourable macro conditions and transparent policymaking frameworks. These companies usually benefit from the global trends towards outsourcing, convergence and innovation that drive emerging market fundamentals. It is in the 'innovation' area that we find the most relevant examples of decarbonisation strategy and financing – a few of which we've outlined below.

Additionally, it's important to recognise that emerging markets are often the most impacted by global shocks, such as the Covid-19 pandemic or the war in Ukraine, because these countries tend to have a high dependence on imports and narrow fiscal bandwidths. At Janus Henderson, we believe investors have the responsibility to consider how all financing tools, especially social bonds, can help support the resilience of the most vulnerable nations during times of economic hardship.

### China investment case studies

#### Tencent

##### RICHARD CLODE, PORTFOLIO MANAGER

As one of the leading internet and cloud platforms in China, Tencent has a key role to play in China's drive towards net zero. The ubiquity of its Weixin messaging service, video and broader internet services results in significant data traffic growth, datacentre network expansion and therefore a growing carbon footprint. In 2021 Tencent emitted the equivalent of 5.111 million tons of carbon dioxide (scope 1+2+3).

As Janus Henderson are long term shareholders, the company reached out to us last year to engage on how best to set ambitious decarbonisation goals, and to discuss best practice across other comparable global internet behemoths we invest in and have engaged with over the years. The result of this engagement was an inaugural company carbon report published earlier this year and a new target of carbon neutrality across its own operations and supply chain by 2030, including a commitment to source 100% of the electricity from renewables. For greater credibility, and as we suggested, they have also joined the Science Based Target Initiative (SBTi) and plan to join RE100.

As well as addressing their own carbon emissions, Tencent's innovation also enables other sectors and companies in China to reduce their carbon emissions via migrating to the cloud or digitalisation transformation. Tencent have some of the most efficient power usage effectiveness (PUE) datacentres globally, alongside a comprehensive suite of collaboration software tools such as Tencent Meeting, VooV and Docs.

At Janus Henderson, we believe investors have the responsibility to consider how all financing tools, especially social bonds, can help support the resilience of the most vulnerable nations during times of economic hardship.

## Yanlord

### HERVE BIANCOTTO, PORTFOLIO MANAGER

Yanlord is a high-end property developer in Singapore and China which has set up a green finance framework to fund sustainable real estate development and rehabilitation projects, in line with Green Bond Principles from ICMA. Under the programme, eligible projects have to be certified as green buildings by international schemes such as, LEED, Chinese Green Building Evaluation Label, BEAM Plus, BREEAM or Singapore Construction Authority.

In addition to these commitments, Yanlord's buildings typically implement energy efficiency measures through the adoption of smart technologies or upgrading facilities and equipment to higher efficiency standards, including air conditioning, lifts, lighting, and building controls. Alternatively, they may set a target to improve carbon emissions compared to regional baseline by 30%.

Yanlord's development projects are equipped with sustainable water and waste systems, as well as electric vehicle charging facilities. Chengdu Yanlord Landmark, Tianjin Yanlord Riverside Plaza, Tianjin Yanlord Riverside Gardens or UE BizHub Tower are examples of projects being financed under the programme. Janus Henderson expects green projects in Yanlord's portfolio to expand in the future, which will lead to greater opportunities for bond investors to gain exposure to these initiatives.

## China Longyuan Power Group

### MATT DOODY, RESEARCH ANALYST

Longyuan is one of the largest wind power generators in China with more than 400 wind farms and consolidated installed wind capacity of over 23,000MW. This clean energy generation company is an environmentally friendly business with minimal fossil fuels consumption and greenhouse gas emissions. Longyuan is emerging as one of the leaders in efficient and large-scale wind power development.

Longyuan continues to promote the usage of new and larger sized wind turbines that are significantly more efficient than the turbines produced several years ago. These turbines require substantially less material while capturing greater wind resource, making projects increasingly viable across the country.

During the last fiscal year, the company was part of the first batch of large-scale wind and solar projects to be approved and commenced construction in Guangxi and Gansu. The ramp-up of these "mega" projects are an essential part of the government's strategy, as discussed earlier in this report, to accelerate renewable installation ahead of targeted carbon neutrality by 2030.

In 2021 the company accelerated its digital transformation connecting nearly 14,000 wind turbines to its digital platform with 45mn data access points, allowing the company to develop forecasting and warning algorithms to improve utilisation and capture more hours of wind driven power.

Earlier this year Longyuan successfully listed on the main board of the Shenzhen Stock Exchange, realising the dual listing of "A+H" shares. The return to the A share market was critical step taken to broaden the financing options for the company. The access to A share market and usage of green bonds (completed in August 2021) offer Longyuan low cost funding options that will enable them to accelerate construction of wind farms, thus furthering the renewable build-out and contributing to China's energy transition.

## Republic of Korea investment case study

### Samsung Electronics

#### RICHARD CLODE, PORTFOLIO MANAGER

As the largest semiconductor manufacturer in the world, Samsung has the dual challenge of operating a carbon intensive business in a country with limited access to renewable energy. In 2020 Samsung emitted the equivalent of 14.8 million tons of carbon dioxide (scope 1+2).

As long term shareholders we have engaged with the company for many years on environmental issues. As a result, we have articulated that as a leading global consumer electronics brand, whose customers were becoming more sustainability aware, and as a key supplier to the global IT industry, including major customers such as Apple who already have ambitious targets to decarbonise their supply chains, the company had become a carbon laggard and needed to respond with urgency to address this. We have engaged on best practice and how global peers have laid out their carbon reduction plans. We have also pushed for more environmental expertise on the board and how the company must do more to address the renewable challenge in Korea, either directly or via lobbying the government. Our shareholder voting rights have been exercised to drive this decarbonisation agenda.

The company has been responsive and is currently conducting an exhaustive group wide carbon audit and finalising ambitious carbon reduction targets. We look forward to the publication of their decarbonisation plans later this year and will continue our engagement with the company to help them achieve these goals. Samsung's innovation also has a role to play in reducing the carbon footprint of other sectors and companies via lower power memory, logic semiconductors and displays.

## Singapore issuance framework case study

#### ALES KOUTNY, PORTFOLIO MANAGER

Singapore recently released its framework criteria for Green Bond issuance as the country seeks to issue over \$25 billion (USD) in green bonds by 2030, with an inaugural sale taking place in the coming months<sup>21</sup>. The framework will allow for the city-state and its sovereign owned entities to issue green bonds that align to credible standards and ensure that investors monitor the use of proceedings. State agencies including the National Environment Agency will also be able to also issue debt under the plan.

With many of Singapore's islands low lying close to sea levels, the country is exposed to significant climate change threats and is arguably a latecomer to green issuance. However, now that the country has an established framework, Janus Henderson expects an increase in opportunities that will facilitate the transition towards a more climate-friendly economy.

**\$25<sup>bn</sup>**

Singapore recently released its framework criteria for Green Bond issuance as the country seeks to issue over \$25 billion (USD) in green bonds by 2030, with an inaugural sale taking place in the coming months.

<sup>21</sup> <https://www.bloomberg.com/news/articles/2022-06-09/singapore-prepares-for-green-bond-offering-with-new-framework>



## CALL TO ACTION FOR ASIA

"As we noted in our last report, more needs to be done to enhance the coordination of regional policies that deliver tangible action and impact. The main challenge facing emerging markets is the ability to create regional frameworks or green financing tools that are immune to roadblocks by country specific governments. It is our view that more open and realistic dialogue is needed to create solutions that are flexible enough to react to the reality of local issues, but stringent enough to hold the region accountable for driving long-term change."

PAUL LACOURSIERE, Global Head of ESG Investments





This report has summarised the decarbonisation trends within the region and provided case study evidence at a national and corporate level.

With 30% of the global land mass and 60% of its population, it's abundantly clear that decarbonisation initiatives in Asia are not only important for the region but for the whole planet. Moreover, as the "factory of the world" Asia uses a significantly higher amount of energy in its economy than other regions – often coal or diesel. However, climate financing solutions are underutilised by most of the emerging markets in Asia, and those that do issue green bonds are dominant economic powers in the region.

It's clear that the big carbon emitters are under wider international scrutiny, and therefore more pressure to implement government policies that tackle climate change and strive towards a net zero target. Lowering greenhouse gas emissions and transitioning towards clean energy in these markets requires large investments in productive capacities that can direct efforts to change the energy mix. To facilitate this, there is a clear opportunity for bond investors who can play a key role to help companies upgrade their capital towards complying with long-term emissions targets and international engagements.

For emerging markets in Asia to accelerate decarbonisation, Janus Henderson recommends that all public and private actors consider the follow actions:



### **Advance emerging hydrogen technologies:**

Asian countries will need to continue to balance economic growth against renewable energy affordability and availability. Investing in hydrogen solutions as a low carbon alternative could accelerate the clean energy transition across the region, as it is likely to be one of the fastest growing alternative energy sources in the next decade.



### **Accelerate the construction and development of more sophisticated power grids:**

The rising proportion of alternative energy is likely to overwhelm the current grid infrastructure, so more robust grid networks are required to efficiently distribute this surge in power. This infrastructure must also be technologically advanced enough to capture and store renewable during peak generation times versus traditional base-loaded networks.



### **Progress carbon credit markets as offsetting mechanisms:**

As the energy transition continues to gather momentum across the region, governments are likely to implement regulated carbon schemes that put pressure on private companies to address their carbon emissions. As a result, the demand for a more sophisticated carbon credit market is also likely to increase so companies can buy credits to offset their emissions.

# NOTES TO EDITORS

## ASIA PACIFIC EMERGING MARKETS CUMULATIVE ISSUANCE OF CLIMATE BONDS, AS OF THE END OF MARCH 2022

Country	Climate bond issuance (\$USD million)*
China	199,145
Republic of Korea	22,009
Singapore	19,738
India	18,752
Indonesia	6,388
Philippines	3,445
Thailand	2,526
Malaysia	1,629
Vietnam	683
Pakistan	500
Kazakhstan	0.474

\*Source: Climate Bonds Initiative, as of end of March 2022

## ASIA PACIFIC EMERGING MARKETS CUMULATIVE ISSUANCE OF CLIMATE BONDS, WEIGHTED BY GDP, AS OF THE END OF MARCH 2022

Country	Climate bond issuance (\$USD million)**
China	11,365.59
Singapore	6,306.43
Republic of Korea	3,798.56
India	186.97
Indonesia	132.08
Malaysia	95.31
Thailand	86.17
Philippines	61.99
Vietnam	9.98
Pakistan	3.98
Kazakhstan	0.03

\*\*Source: Climate Bonds Initiative and IMF, as of end of March 2022

We hope you have enjoyed learning more about the decarbonisation trends underway in the region, and look forward to discussing other emerging market regions with you in future reports.

FOR MORE INFORMATION, PLEASE VISIT [JANUSHENDERSON.COM](https://www.janushenderson.com)

**Janus Henderson**  
INVESTORS

### Important Information

The views presented are as of the date published. They are for information purposes only and should not be used or construed as investment, legal or tax advice or as an offer to sell, a solicitation of an offer to buy, or a recommendation to buy, sell or hold any security, investment strategy or market sector. Nothing in this material shall be deemed to be a direct or indirect provision of investment management services specific to any client requirements. Opinions and examples are meant as an illustration of broader themes, are not an indication of trading intent, are subject to change and may not reflect the views of others in the organization. It is not intended to indicate or imply that any illustration/example mentioned is now or was ever held in any portfolio. No forecasts can be guaranteed and there is no guarantee that the information supplied is complete or timely, nor are there any warranties with regard to the results obtained from its use. Janus Henderson Investors is the source of data unless otherwise indicated and has reasonable belief to rely on information and data sourced from third parties. **Past performance does not predict future returns. Investing involves risk, including the possible loss of principal and fluctuation of value.**

Not all products or services are available in all jurisdictions. This material or information contained in it may be restricted by law, may not be reproduced or referred to without express written permission or used in any jurisdiction or circumstance in which its use would be unlawful. Janus Henderson is not responsible for any unlawful distribution of this material to any third parties, in whole or in part. The contents of this material have not been approved or endorsed by any regulatory agency.

Janus Henderson Investors is the name under which investment products and services are provided by the entities identified in the following jurisdictions: (a) **Europe** by Janus Henderson Investors International Limited (reg. no. 3594615), Janus Henderson Investors UK Limited (reg. no. 906355), Janus Henderson Fund Management UK Limited (reg. no. 2678531), Henderson Equity Partners Limited (reg. no. 2606646), (each registered in England and Wales at 201 Bishopsgate, London EC2M 3AE and regulated by the Financial Conduct Authority) and Henderson Management S.A. (reg. no. B22848 at 2 Rue de Bitbourg, L-1273, Luxembourg and regulated by the Commission de Surveillance du Secteur Financier); (b) the **U.S.** by SEC registered investment advisers that are subsidiaries of Janus Henderson Group plc; (c) **Canada** through Janus Henderson Investors US LLC only to institutional investors in certain jurisdictions; (d) **Singapore** by Janus Henderson Investors (Singapore) Limited (Co. registration no. 199700782N). This advertisement or publication has not been reviewed by Monetary Authority of Singapore; (e) **Hong Kong** by Janus Henderson Investors Hong Kong Limited. This material has not been reviewed by the Securities and Futures Commission of Hong Kong; (f) **Taiwan R.O.C** by Janus Henderson Investors Taiwan Limited (independently operated), Suite 45 A-1, Taipei 101 Tower, No. 7, Sec. 5, Xin Yi Road, Taipei (110). Tel: (02) 8101-1001. Approved SICE licence number 023, issued in 2018 by Financial Supervisory Commission; (g) **South Korea** by Janus Henderson Investors (Singapore) Limited only to Qualified Professional Investors (as defined in the Financial Investment Services and Capital Market Act and its sub-regulations); (h) **Japan** by Janus Henderson Investors (Japan) Limited, regulated by Financial Services Agency and registered as a Financial Instruments Firm conducting Investment Management Business, Investment Advisory and Agency Business and Type II Financial Instruments Business; (i) **Australia and New Zealand** by Janus Henderson Investors (Australia) Limited (ABN 47 124 279 518) and its related bodies corporate including Janus Henderson Investors (Australia) Institutional Funds Management Limited (ABN 16 165 119 531, AFSL 444266) and Janus Henderson Investors (Australia) Funds Management Limited (ABN 43 164 177 244, AFSL 444268); (j) the **Middle East** by Janus Henderson Investors International Limited, regulated by the Dubai Financial Services Authority as a Representative Office. No transactions will be concluded in the Middle East and any enquiries should be made to Janus Henderson. We may record telephone calls for our mutual protection, to improve customer service and for regulatory record keeping purposes.

**Outside of the U.S., Australia, Singapore, Taiwan, Hong Kong, Europe and UK:** For use only by institutional, professional, qualified and sophisticated investors, qualified distributors, wholesale investors and wholesale clients as defined by the applicable jurisdiction. Not for public viewing or distribution. Marketing Communication.

Janus Henderson, Knowledge Shared and Knowledge Labs are trademarks of Janus Henderson Group plc or one of its subsidiaries. © Janus Henderson Group plc. H050387\_0622\_UK