

# From PowerHouse to PowerCentre

The Megatrends Shaping Asia's Economic  
Leadership in a Post-Covid World

**Part Two: Go Green**



# Asia as a PowerCentre

A number of megatrends prevalent in Asia have increased in potency since the Covid pandemic. Three megatrends stand out as having the potential to put Asia at the helm of future global growth. In a three-part series, we examine each of these megatrends in detail and the investment opportunities that are expected to emerge or strengthen as a result.

- Changing Demographics
- Go Green
- The Digital Economy



## Part Two: Go Green

The pandemic brought to the fore a wide variety of ESG (environmental, social and governance) challenges. Asian governments, companies, and individuals have taken bold steps in response, setting the stage for profound regional developments.

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## The Rise of Collective Solutions

**You may think that UOBAM is so keen on Environmental, Social and Governance (ESG) investing that we naturally have a bias towards this as a megatrend.**

While it is true that we have strong convictions about the viability of investing for both profit and purpose, we are also sufficiently immersed in this subject to understand where the challenges and opportunities lie.

In fact, based on our experience, we see two key developments that make the Go Green megatrend worthy of heightened focus in our investment portfolios. The first is the change in the global response to climate change. Thought previously to be a “tragedy of the commons” problem, the issue has hit a critical threshold on the global agenda, and now has the world’s attention in terms of finding and implementing common solutions.



The second is Asia’s role in the ESG universe. As the world’s fastest growing region, Asia not only has the greatest demand for natural resources but is also at greatest risk from environmental degradation and climate change. This region has good reason to lead the charge against climate change and is starting to do so in some areas.

We believe that these two developments can lead to profound changes in the coming decades. Specifically, solutions to limit carbon emissions and harness new energy sources will alter the fundamental building blocks of modern Asian society and profoundly change the conduct of our everyday lives in the years to come.

## A global response

“Tragedy of the commons” is a classic economic term based on the postulation that individuals have an incentive to consume a scarce resource for their own self-interest and at the expense of other individuals, thereby ultimately depleting that resource entirely. In terms of environmental and natural resources, this term can be extended to nations, and perhaps helps explain the long gestation period during which governments generally seemed reluctant to step up to the plate.

**However, the way the world is addressing environmental and climate issues is changing.** These have become more pressing, and both policymakers and the private sector are developing more collaborative and effective ways to address them. Previous scientific debates around the actuality of climate change have all but dissipated, and the political debate has shifted towards what needs to be done and how to achieve this collectively.

Aware that capital access underpins all enterprise, government agencies had started to direct public funding towards achieving new energy sources and lower carbon footprints. Since then, the world has witnessed a tidal wave of investment capital generated by ESG-focused portfolios. According to the Global Sustainable Investment Association, ESG assets under management (AUM) surpassed US\$35 trillion in 2020, up from US\$30.6 trillion in 2018. Assuming 15 percent growth, that is, half of the pace of the past five years, ESG AUMs are estimated to exceed US\$50 trillion by 2025.

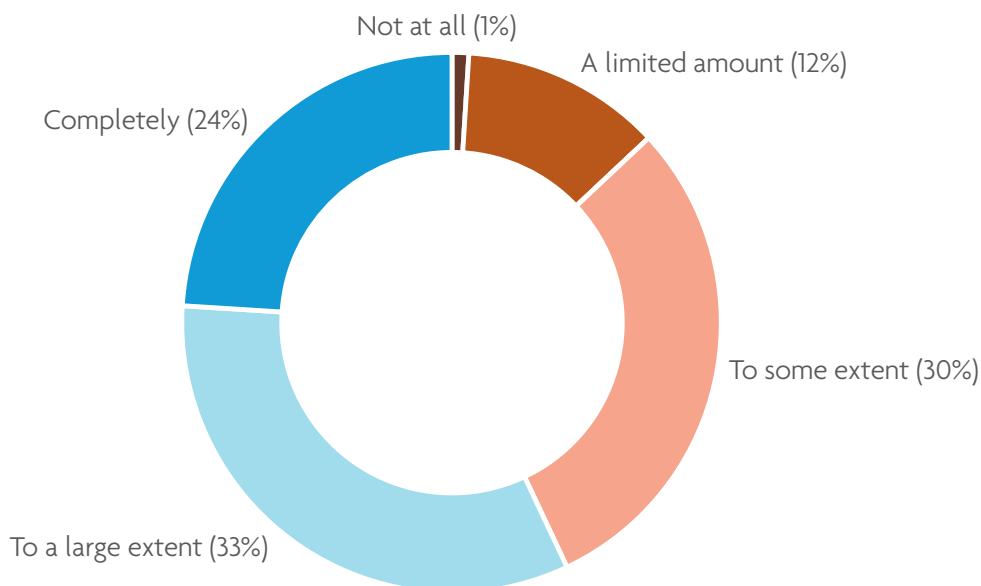
**Asia Pacific’s ESG AUMs reached US\$93 billion in September 2021, still a small percentage of the global total, but growing at a much faster rate.** In October 2021 alone, flows into Asia-Pacific (excluding China) domiciled ESG funds, according to ratings agency Morningstar, rose by 54 percent to US\$1.2 billion. This was boosted in no small part by the Covid pandemic. An MSCI survey conducted in September 2020 found that 79 percent of institutional investors in Asia Pacific increased their ESG investments either “significantly” or “moderately” in response to the pandemic. This was slightly ahead of the global average and marks a radical shift in the way Asia Pacific institutions regard ESG investments in terms of their regional relevance and potential profitability.

“Asia Pacific’s ESG AUMs are still a small percentage of the global total, but growing at a much faster rate.”



### Figure 1: ESG matters to APAC institutions

Extent to which ESG issues will be incorporated into investment analysis and decision-making processes in main fund by the end of 2021



Source: MSCI Global Institutional Investor Survey, 2021

**The entire industry of ESG analyses is also rapidly evolving.** As an investment analyst, it is no longer enough to study historical company valuation models. There is now a strong demand for sustainability data and formulas to factor into accounting and financial analysis. Meanwhile regulators are imposing new rules for more sustainability reporting and transparency. Over the next few years, companies will experience profound changes in their access to capital if they are not making choices to enhance their ESG profile. Within Asia, stemming food waste and the transition away from coal stand out as significant challenges, but also as opportunities to make radical advances.



### Waste not, want not

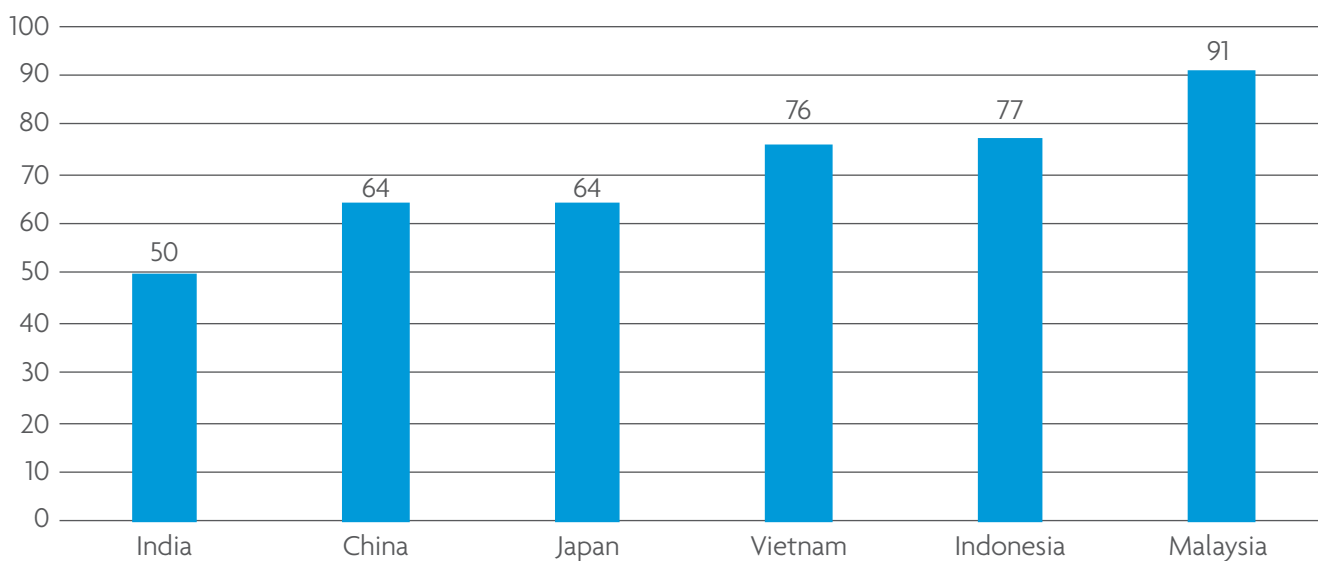
**Around the world, the problem of food waste has reached crisis proportions.** Yet until relatively recently, this was met with general complacency. The Covid-19 outbreak in 2020 served as a wake-up call to governments and the public about the vulnerability of food supplies. Disruptions to food supply chains, and farm and haulage labour shortages during the pandemic, have helped focus the mind on the 931 million tonnes of food that the United Nations estimates was wasted globally in 2019. Of this, the largest percentage – 61 percent – came from households, and the rest from food service and retail. This is 17 percent of total global food production and accounts for up to 10 percent of global greenhouse gas emissions.

**Asia is thought to contribute to about half of the world’s food waste.** Also more than half of waste in Southeast Asia is food-related. When reviewing the extent of food waste in China, the authors of the United Nations Food Waste Index report noted that a prominent urban-rural divide exists and the average of 64kg per capita per year belies a heavy skew towards the urban population, an observation that has relevance for other fast developing countries in Asia and the rest of the world.



## Figure 2: High food waste in Asia

Household Food Waste Estimate (kg/capita/year)



Source: UN Food Waste Index Report 2021

Based on measured data points or extrapolation, medium confidence estimate

There are also differences in the phases of the food waste problem depending on the country's development. In more developed and urban Asian economies, the greatest wastage is during the "downstream" phase that is, the processing, distribution and consumption of food. But in more developing and rural economies, the issues to be addressed lie in the "upstream" phase, (also referred to as "food loss"), that is, the production, yield handling and storage of food. The latter is particularly a problem within ASEAN, given that agriculture remains a major economic force, contributing to around 23 percent of Cambodia and Myanmar's GDP and around 15 percent of Vietnam's and Indonesia's GDP.

The food waste crisis has spawned a range of business lines. These are looking to address, for the more developed Asian countries, the prevention, redistribution and recycling of excess food. For the more developing ASEAN countries, AgriTech solutions have emerged that allow farmers to achieve a more consistent yield and production to avoid over-planting, and infrastructure and storage solutions are aimed at the efficient transportation of perishable foods from remote to distribution centres.

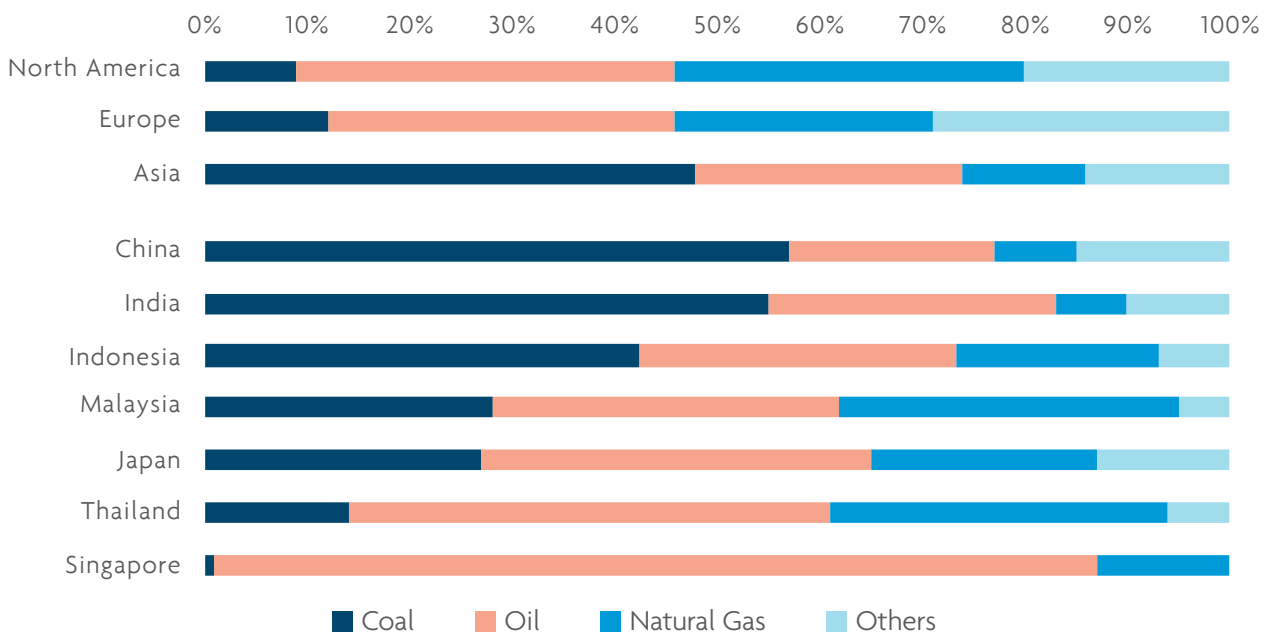
## The transition to clean energy

**Asia's adoption of energy alternatives to fossil fuels and in particular, coal, is crucial for the whole world.** As one of the fastest growing regions in the world, Asia's demand for natural resources is immense. From 2020 to 2050, Asia's energy demand is expected to more than double, creating a substantial energy gap. To date, that gap is largely filled by fossil fuels like oil and thermal coal that are major carbon emitters compared to other energy sources.

In 2020, 48 and 26 percent of the region's fuel consumption was driven by coal and oil respectively, as its primary fuel type. This contrasts with Europe and North America where non-coal/oil fuel types, i.e. natural gas, nuclear energy, hydro-electricity and renewables, when totalled together, now cross the halfway mark of total energy consumed.

### Figure 3: Coal and oil still dominate in Asia

Energy consumption: primary fuel type (% of total) by region and Asian country, 2020



Source: BP Statistical Review of World Energy 2021  
 Note: Others refer to nuclear energy, hydro-electricity and renewables

**However, the region is taking steps to address its coal dependency.** Driving this is the growing recognition that Asia stands to bear the brunt of climate change. It is estimated that floods and other climate change related effects could cause Asia to lose 26.5 percent of its GDP by 2048. So it was perhaps not surprising that in China’s 14th Five Year Plan released in March 2021, there were significant policy measures set out for containing pollution, protecting the environment, and reducing carbon emissions. In fact, according to the government, this last objective would propagate other environmental improvements by becoming the “ring in the bull’s nose”.

**But reducing the country’s deep reliance on coal is no easy task.** Following the release of the plan, it became clear that the Chinese government’s attempts to limit local coal production plus reduced imports from Australia was resulting in the worst power shortages for several years. Energy-intensive industries, electricity-generating companies, and households were affected, leading the authorities to stress the need for a balance between carbon emission and developmental goals, and between the short and long term.

**Nevertheless, reducing carbon emissions remains high on the agenda for Asian economies.** The Chinese authorities said in September 2021 that the country would no longer build new coal-fired plants overseas. Many other Asian nations also stepped up their climate commitments at the conference, including Thailand, Vietnam, and Singapore. In Indonesia, efforts to align with its pledge to reduce 29% of its greenhouse gas emissions by 2030, has resulted in the recent passing of its Harmonized Tax Law (UU HPP). This law sets out a carbon tax rate of IDR 30/kg tax for CO<sub>2</sub>e emissions, equivalent to US\$2.1 per tonne of CO<sub>2</sub>e. Also now in place is a cap on emissions, whereby industries exceeding the cap are taxed accordingly.

There was also good progress made on the implementation of carbon markets with Asia as an active participant. Going forward, more carbon tax schemes and emissions trading systems are expected to be rolled out in the region. China’s national emissions trading system (ETS), launched in July 2021, is the world’s largest and covers 2,162 companies within its power generation sector. These companies alone are responsible for 4.5 billion tonnes of carbon emissions annually and the objective is to expand the system to other sectors. By being cost effective and market driven, the ETS offers one of the most potent ways for China to meet its emission reduction targets.



## Investment Implications

As companies expand their green-related products and services, there is increased scope for investors to participate in this activity. In our view, here are the top three opportunities that investors may want to consider to leverage the Go Green megatrend in Asia.



1. Renewable energy



2. Green real estate



3. Green finance

### 1. Renewable energy

Policy developments in recent years have created two forms of opportunities: companies that are well positioned for the transition and pure play companies in climate mitigation and adaptation.

**In the first case, companies that successfully lower their carbon footprint have an increased potential for positive net cash flows.** This is the result of ever-widening adoption of carbon trading systems across the Asian region, including in ASEAN. Companies that manage to limit their carbon emissions will see a significantly reduced negative impact on their bottom lines. The experience of the EU ETS suggests that in the near term, companies will need to pay somewhere between US\$50 – US\$100 for every tonne of CO<sub>2</sub> emitted. This could prove to be a hefty liability for major emitters.

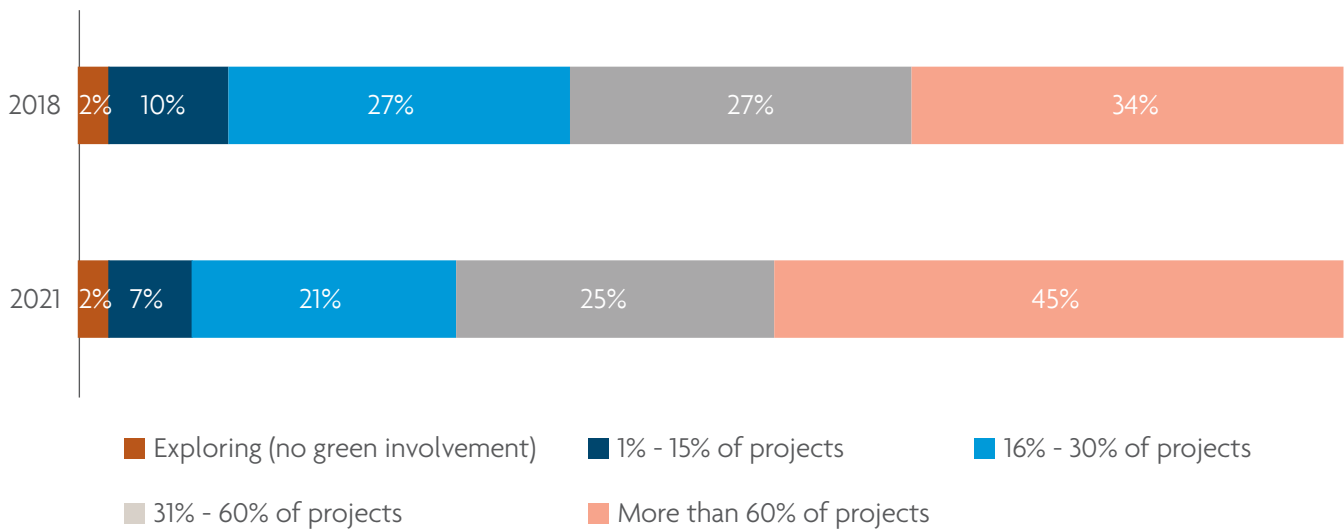
**In the second case, companies involved in achieving energy efficiency, and in the production and use of renewable energy, are set to enjoy substantial investment support.** According to the IEA World Energy Investment 2021 report, the majority of investments into new power generation - 70 percent - is now flowing into renewable sources. Interest in funding coal and fossil fuel projects is being replaced, especially given that wind and solar photovoltaic (PV) deployment today is yielding four times more electricity than ten years ago, due to improved technology. In contrast, the Asian Development Bank announced last year that they will conditionally cease funding of new coal-fired power plants, coal mining, and oil & natural gas production and exploration.

It is also useful to note that investment interest now extends to the entire value-chain of renewable technology, including solar glass, PV cells and other equipment manufacturers as well as those involved in the raw material inputs, transmission, energy storage and distribution of renewable energy. In terms of newer technologies, there is a growing demand from harder-to-decarbonise sectors like aviation and shipping. This includes the use of hydrogen fuel cells and electric airplanes, and energy efficient manufacturing techniques such as membrane filtration of food and beverages as a replacement for traditional thermal processes, which has the potential to reduce energy consumption by 90 percent.

## 2. Green real estate

### Figure 4: Developers are growing their green portfolios

Level of global green building activity, 2018 and 2021 Expected  
(according to Singapore respondents)



Source: Dodge Data & Analytics 2021, as cited in the 2021 Green Buildings Trends Study

**Buildings are thought to be responsible for as much as 39 percent of annual global greenhouse gas emissions.** Breaking this down, building operations contribute about 28 percent annually, while embodied carbon, that is, building materials and construction, contribute an additional 11 percent annually, of which concrete, steel and aluminium are particular culprits.

Policy and private sector initiatives aimed at establishing new green buildings and decarbonising existing ones are therefore not only of huge benefit to the environment but also embodies huge investment opportunities. After all, the rapid expansion of building construction and the need to reduce emissions is estimated to be worth US\$17.8 trillion in emerging market cities until 2030.

**Policy support for the greening of the real estate sector is evident across Asia.** Countries at the forefront include:

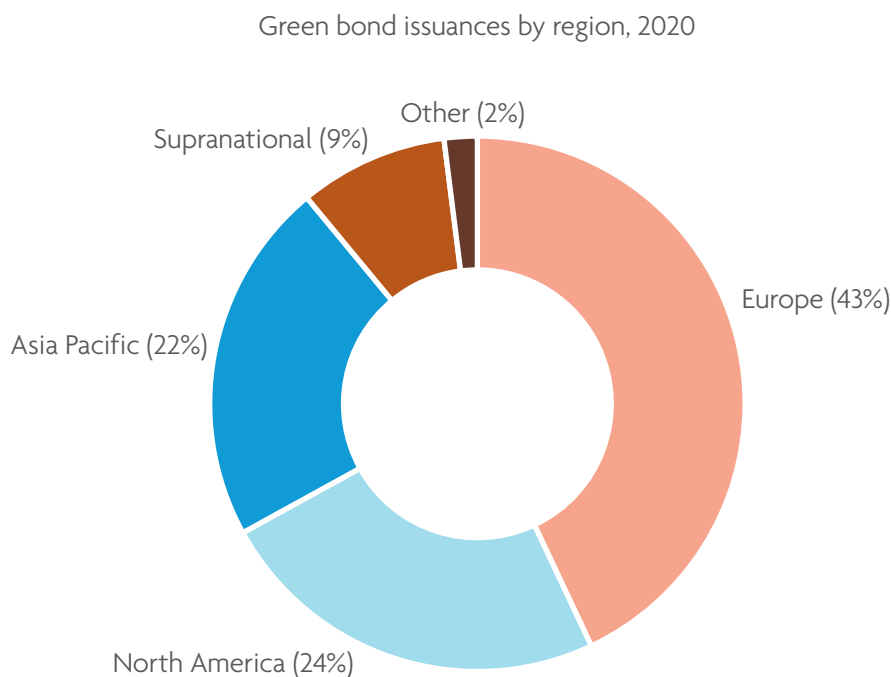
- Singapore - New buildings to become 50% more energy efficient relative to 2005 levels, reaching 80% by 2030.
- South Korea - \$61 billion has been set aside for constructing zero-energy public buildings and sustainable energy sources.
- Thailand - Buildings' energy demand to be cut by 30% by 2036.
- Vietnam - Plans to improve the manufacturing process and use more sustainable raw materials in the production of cement and other building materials.

**There is also strong private demand for green buildings.** As many as 70 percent of the Asia-Pacific corporate occupiers surveyed by Jones Lang LaSalle (JLL) say that they are willing to pay a premium to occupy green-certified buildings. This is in order to meet their own sustainability goals on which ESG ratings are now based. Given the limited stock of green buildings and the time it will take for new ones to become available, these rental and capital value premiums look set to see strong support in the coming years. Conversely, buildings that are clearly in breach of modern environmental and energy efficiency standards are falling out of favour, and will likely be forced to accept lower rentals. Herein lies a clear example of the green premiums and brown discounts coming into play across the region.

As a result, there is a robust market for green buildings in Asia. Within ASEAN, Singapore in particular has shown a high level of building activity. According to the annual World Buildings Trends Study, nearly half of all Singapore-based developers surveyed said that by 2021, over 60 percent of their portfolios would consist of green buildings. Not surprisingly, given corporate sustainability mandates, a majority – 57 percent - of Southeast Asian green projects are expected to be in the commercial sector. And nearly half of the respondents in Singapore anticipate working to retrofit existing buildings, prompted by environmental regulations. While initial costs are a concern, the payback time for green retrofits is expected to be no more than five years.

### 3. Green finance

#### Figure 5: Asia is a major issuer of green bonds



Source: Climate Bond Initiative, 2020

As the name implies, green bonds are normal fixed income instruments but created to enable capital-raising and investment for new and existing projects with climate and environmental benefits. The market has exploded over the past few years, and is well past being regarded as a niche investment opportunity. Since the first green bond was issued in 2007, the global green market continues to accelerate and issuances to date are estimated at US\$1.2 trillion. Climate Bonds Initiative forecast this figure to nearly double by 2023, based on the 49 percent annual growth rate seen over the last five years.

**Of this global total, over a fifth - US\$219.3 billion - were issued by Asian nations in 2020.** China and Japan are respectively the second and ninth largest issuers of green bonds, with China accounting for over half of Asia's share. The latter saw new record highs in 2021, with Chinese energy consumer companies and government-backed entities taking over from the financial sector as the primary issuers of green bonds. While these bonds do not yet meet global definitions of "green", there are moves to achieve greater alignment in order to tap the offshore market.

**The investment appeal of green bonds, and the wider ESG investments universe, extends beyond the ability to encourage green business models and dis-incentivise bad ones.** They are also a means to achieve capital gains or income over the long term given the ongoing battle to resist climate change and environmental degradation. These investments commonly demonstrate lower volatility, given that ESG-focused companies tend to be more resilient and future-ready, navigate risks better, and are less likely to be holding stranded assets. Finally, they provide a potential hedge against risks not covered by conventional investments. Green bonds, for example, are thought to play a significant role in hedging against abrupt changes in climate-related policies.



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