


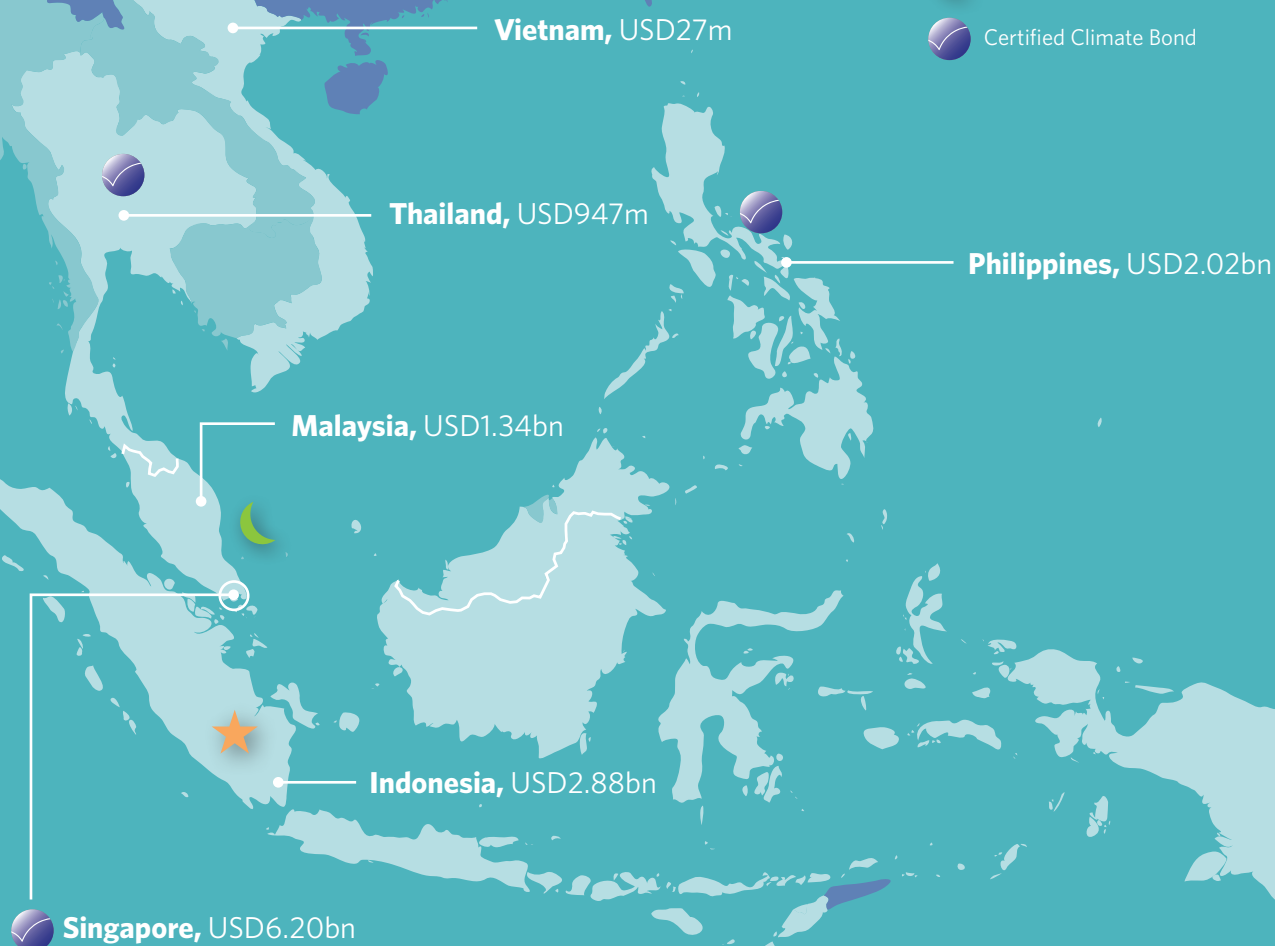


# ASEAN Green Finance State of the Market 2019

-  Sovereign green bond
-  World's first green sukuk
-  Certified Climate Bond



Data as of 31 December 2019



Prepared by the Climate Bonds Initiative



Supported by HSBC



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Asian Development Bank

# Introduction

## ASEAN cumulative issuance: USD13.4bn

Singapore leading (mostly through green loans), followed by Indonesia. The main sectors are Buildings and Energy, the two sectors with the highest growth prospects.

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## ASEAN green finance issuance almost doubles in 2019

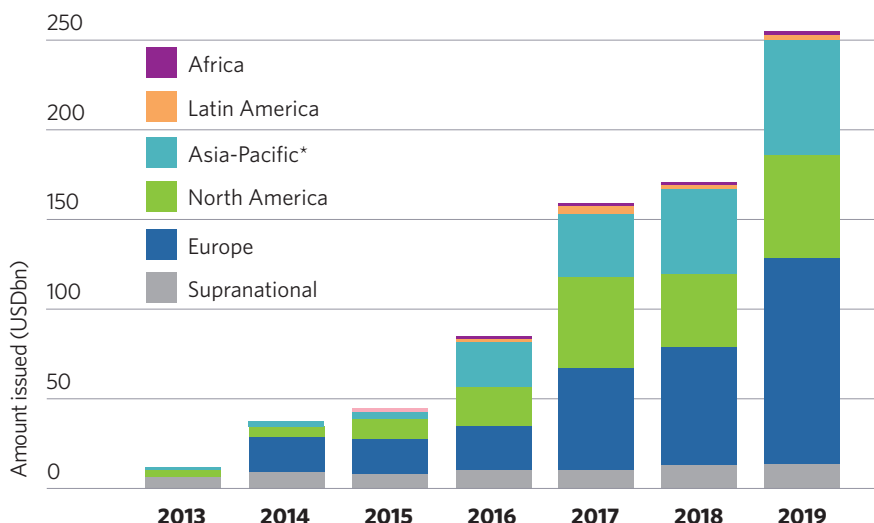
Globally, the volume of green bond and loan issuance rose sharply from USD171bn in 2018 to USD259bn in 2019, buoyed by strong interest from both investors and issuers. Mirroring this trend, ASEAN issuance, supported by new regulation, has also grown strongly reaching USD8.1bn in 2019 from USD4.1bn in 2018, representing 3% of the global total and 12% of the Asia-Pacific region. Cumulative ASEAN issuance stands at USD13.4bn.

With a population of 622 million people and an estimated combined GDP of USD3.2tn in 2019, the ten member states combined have a larger economic output than India, France or the UK. Green bond issuance from ASEAN issuers picked up pace significantly in 2019, mostly driven by corporates. With market regulations now in place to support the emergence of a buoyant green finance sector, the path towards investment in low carbon economic growth, greener infrastructure and more climate-resilient economies in South-East Asia is opening.

Following Climate Bonds Initiative's (CBI) first *ASEAN Green Finance State of the Market 2018*, this report reviews the progress made across the regional green finance landscape and emerging opportunities for more green bonds, loans and sukus in the ASEAN nations. It analyses green bond and loan issuance in the region, provides some examples of the wider labelled bond market in the region, and includes a contribution from the ASEAN+3 Asian Bond Markets Initiative (ABMI) about its work supporting the growth of the local green bond markets in ASEAN. Finally, it also provides country-level overviews and policy updates for Indonesia, Malaysia, the Philippines, Singapore, Thailand, Vietnam, and, in addition to the 2018 report, Cambodia, Laos, and Myanmar.

The Association of Southeast Asian Nations (ASEAN) comprises ten countries: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam.

Global green bond and loan issuance increases over 50% in 2019



\*ASEAN issuance represents 3% of global total, 12% of Asia-Pacific in 2019

## Understanding green finance

### Green bonds and loans

Green bonds and loans are debt instruments used to finance projects, assets and activities that support climate change adaptation and mitigation. They can be issued by governments, municipalities, banks and corporates.

The green bond label can be applied to any debt format, including private placement, securitisation, covered bond, and sukuk. It is global best practice for bonds and loans to be issued in line with the Green Bond Principles (GBP), Green Loan Principles (GLP), the Climate Bonds Standard, as well as a number of country-specific guidelines. The key is that the use of proceeds (UoP) are financing 'green' assets.

### Green definitions

While there is no single set of global definitions for green bonds and loans, the Climate Bonds Initiative uses the Climate Bonds Taxonomy, which features eight categories: Energy, Buildings, Transport, Water, Waste, Land use, Industry and ICT.

CBI develops Sector Criteria with expert input from the international science

community and industry professionals, against which issuers can apply to certify their green issuance under the Climate Bonds Standard V3.0 using an independent Approved Verifier. The verifier provides a third-party assessment that the use of proceeds complies with the objective of capping global warming at 2 degrees celsius.

### Inclusion in the CBI green bond database

Only bonds with at least 95% proceeds dedicated to green assets and projects that are aligned with the Climate Bonds Taxonomy are included in our Green Bond Database and figures. If there is insufficient information on allocations, a bond may be excluded.

**Notes:** For the purposes of this report, 'country' reflects the country of the issuing entity; in our global green bond database and statistics, 'country' reflects the country of risk, which may be different if the parent of the issuing entity is from another country. For example, ICBC Singapore issued three green bonds in April 2019 totaling USD2.2bn; these are classified as 'Singapore' in this report but as 'China' in the database. Unless stated otherwise, analysis reflects the amount issued (not the number of bonds or issuers).

# ASEAN green finance market overview

The first green bond from an ASEAN country was issued in 2016 by Philippines-based AP Renewables. It was a local currency green bond partially guaranteed by Asian Development Bank (ADB) and Certified under the Geothermal Criteria of the Climate Bonds Standard. Four years on, the green finance market is continuing to mature, with multiple issuance from financial and non-financial corporates across several core markets.

In **Indonesia**, there has been some active engagement by public authorities and the regulator, with the implementation of guidelines for the domestic market, as well as leadership from the government with two sovereign green sukuk in 2018 and 2019. Despite this, there has been limited follow-on from the private sector.

In contrast, **Thailand's** private sector has seen real progress following the first steps taken by Thai Military Bank (TMB) in 2018. Two renewable energy companies and one transport company have issued green bonds, all of which were Certified under the Climate Bonds Standard.

**Singapore** saw several deals in 2019, though highly concentrated in loan form in the real estate sector, while some non-financial corporates also reached out overseas to raise green finance. Ongoing government support for Singapore to be a regional hub for green finance is also evident.<sup>1</sup>

The **Philippines** saw seven green bonds issued in 2019 including a noteworthy issuance by Bank of the Philippines Islands in the Swiss markets at a negative yield (the first for a green bond from Asia). The authorities are making a strong push to advance their sustainability roadmap for the country which is expected to result in issuance growth in the future.

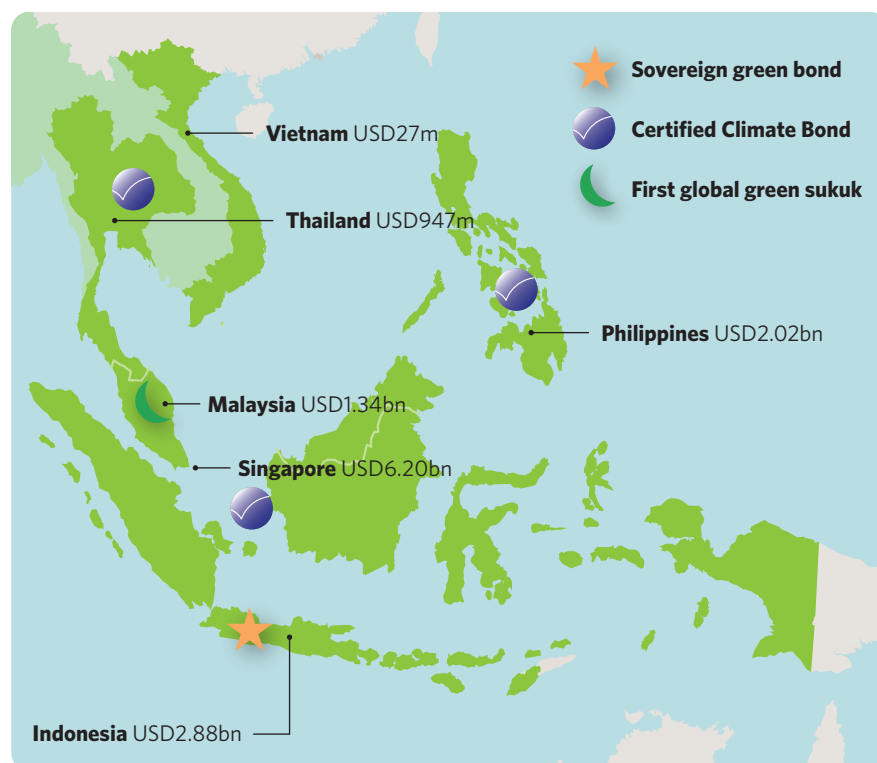
**Malaysia** continued its growth in 2019, becoming a location of choice for green sukuk transactions. To date **Myanmar, Laos and Cambodia** have yet to see green bond issuance.

## ASEAN now has 39 green bond and loan issuers

**The largest South East Asian issuer is ICBC Singapore**, with its multi-tranche triple-currency USD2.2bn green bond. The Republic of Indonesia is the next largest, with USD2bn of green sukuk outstanding, and remains the only ASEAN green sovereign issuer.

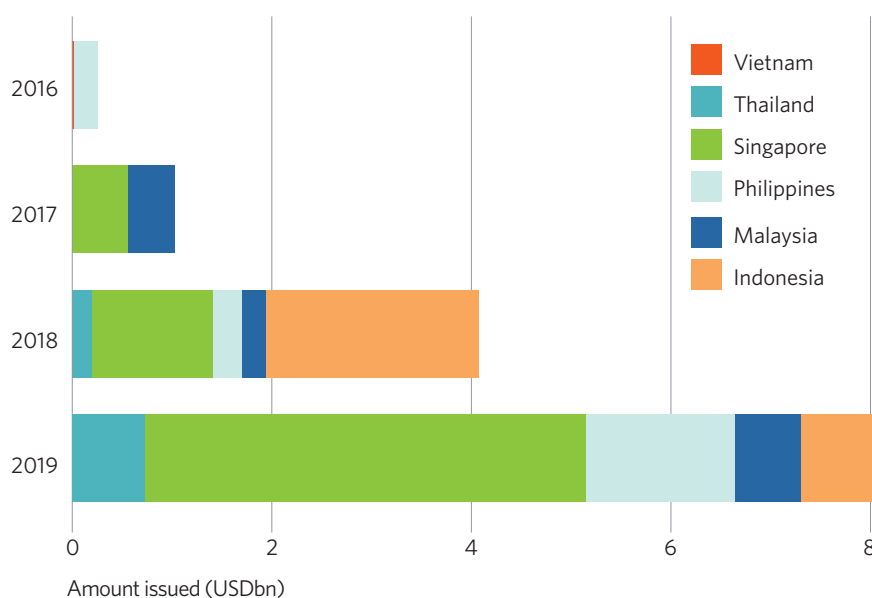
**The number of issuances rose to 32 in 2019** from 16 in 2018, while the number of issuers increased less, with 20 in 2019

## Singapore has become ASEAN's largest market



Climate Bonds Initiative. Cumulative issuance up to 31 December 2019

## 2019 saw the rise of Singapore as a regional leader



compared to 15 in 2018. 2019 saw 15 green bonds from several repeat issuers. Examples include Philippines-based AC Energy (four green bonds issued in 2019), the Republic of Indonesia (with its second green sukuk transaction) and Malaysian PNB Merdeka Ventures Sdn Bhd.

Strong issuance growth reflects positive investor sentiment and anecdotal evidence

of favourable book building; the transaction by Thailand's BTS Group, for instance, was upsized and heavily oversubscribed.

There were two key 'firsts' in 2019: the first green bond in Asia to receive **CBI Certification under the Low Carbon Transport Criteria** (BTS Group) in Thailand and the **first mini-hydro sukuk** (Telekosang Hydro One Sdn Bhd) in Malaysia.

## Some nations have seen stronger growth

While Indonesia led the region in terms of amount issued in 2018, thanks to its sovereign green sukuk, **Singapore achieved the largest share in 2019 with 55%**, followed by the Philippines at 19%. Indonesia dropped to just below 10%, with Thailand closely behind at 9% and Malaysia at 8%. With the recent announcement by the Singaporean Government of strong public support for green finance, we expect issuance to remain strong. The weaker issuance from Indonesia is somewhat surprising, given the strong public support by President Jokowi for sustainable development and the involvement of the financial regulator, OJK, in developing sustainable finance guidelines for the domestic markets. This may be due to the political cycle, which has slowed down the decision process, in particular for state-owned enterprises, which are strong candidates for green bond issuance going forward. Malaysia remains an active market for Islamic (sukuk) transactions and, supported by its socially responsible investment framework, has ambitions to become a regional and global hub for green and sustainable sukus.

## Financial corporates have become the largest issuer type

Significant growth in financial corporate issuance has resulted in that issuer type becoming the largest in ASEAN, representing 29% of the total, overtaking non-financial corporates with 27% and sovereign issuers with 15%.<sup>2</sup> Green loans also feature strongly in the ASEAN market, with USD2.9bn issued, representing 22% of the total, largely related to Singapore's real estate sector.

**Among debut issuers, 2019 saw 12 non-financial corporates** compared to four financial institutions, demonstrating that ASEAN corporates are increasingly turning

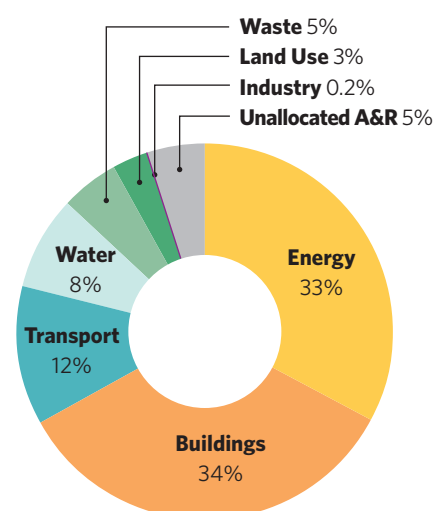
to the green bond and loan markets. The only issuance from a local government was a small deal from Vietnam (issued in 2016), and, so far, there have been no green asset-backed securities.

## Two-thirds of proceeds allocated to Buildings and Energy

Green bond and loan proceeds in ASEAN are mainly allocated towards Buildings and Energy, consistent with these as largest sectors globally, followed by Transport and Water. Adaptation and Resilience projects have a higher share of allocations than the global average. The allocation of proceeds is notably different for each country with Buildings dominating in Singapore, Energy the largest in the Philippines, Thailand and Indonesia, while Malaysia is almost evenly split between Buildings and Energy.

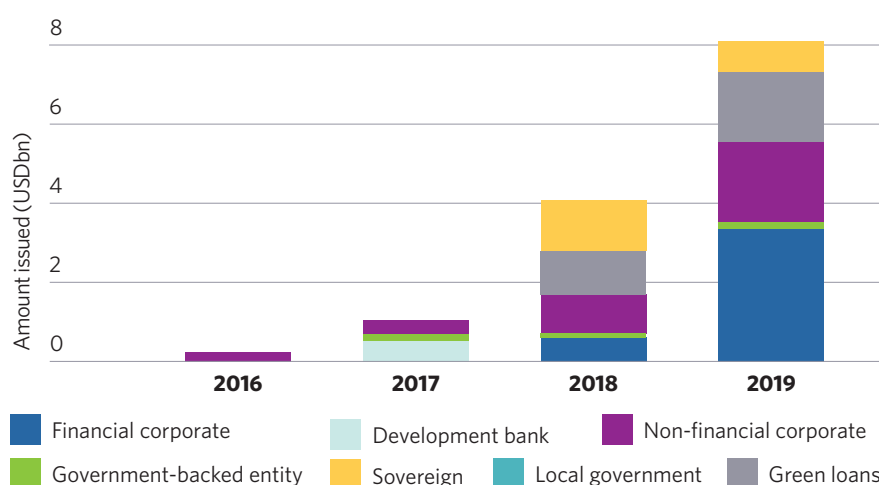
Issuance by government-backed entities focuses heavily on Buildings, while development banks and the Indonesian sovereign have a more balanced and diverse allocation to use of proceeds (UoP) categories. In the private

## Buildings and Energy represent the majority of investments

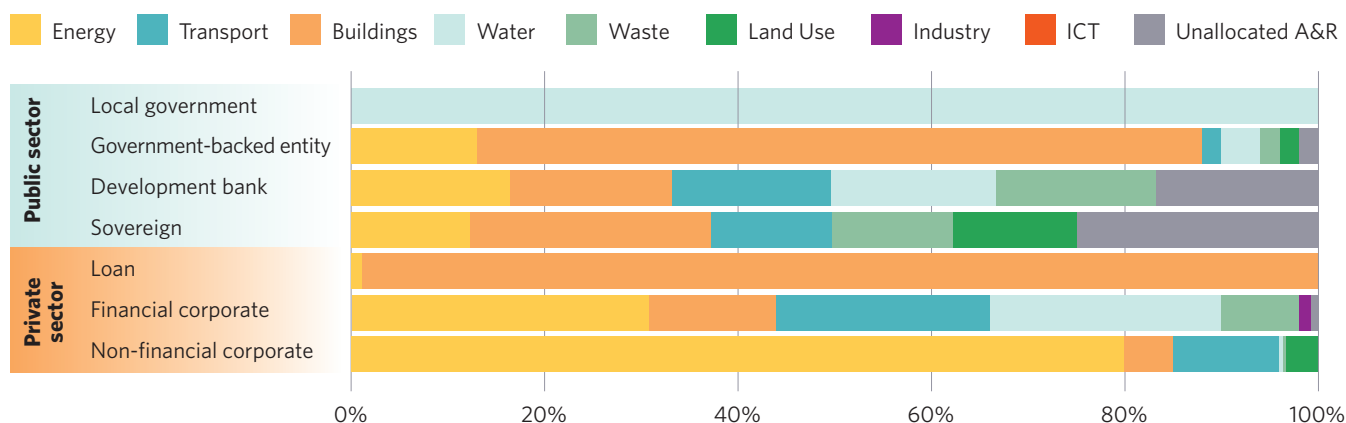


sector, non-financial corporates focus on the Energy sector, while financial corporates tend to fund a greater variety of projects.

## The mix of issuer types is dominated by financial and non-financial corporates



## Non-financial corporates primarily finance Energy, others are more diverse



### Case study: Certified green bond issuance for Low Carbon Transport

In May 2019, **BTS Group** issued a THB13bn (USD408m) green bond funding new stations and a doubling of the Skytrain urban transit network.

#### Low Carbon Transport Criteria

The issuer included clear environmental considerations in the site selection and assessment process. The site had to be located more than 5km from any forest reserve area and shoreline.

#### First green bond under Thai Securities and Exchange Commission (SEC) green bond notification

The Thai SEC asks green bond issuers to notify under which criteria the green bond is issued. BTS Group selected both the ASEAN Green Bond Principles and the Climate Bond Standard for this issue and benefited from a subsidy for the listing fees from the SEC.

#### Strong response from investors

The issuer initially came to market with THB5bn but upsized to THB13bn following strong investor demand, with the oversubscription reaching 8 times the amount on offer.

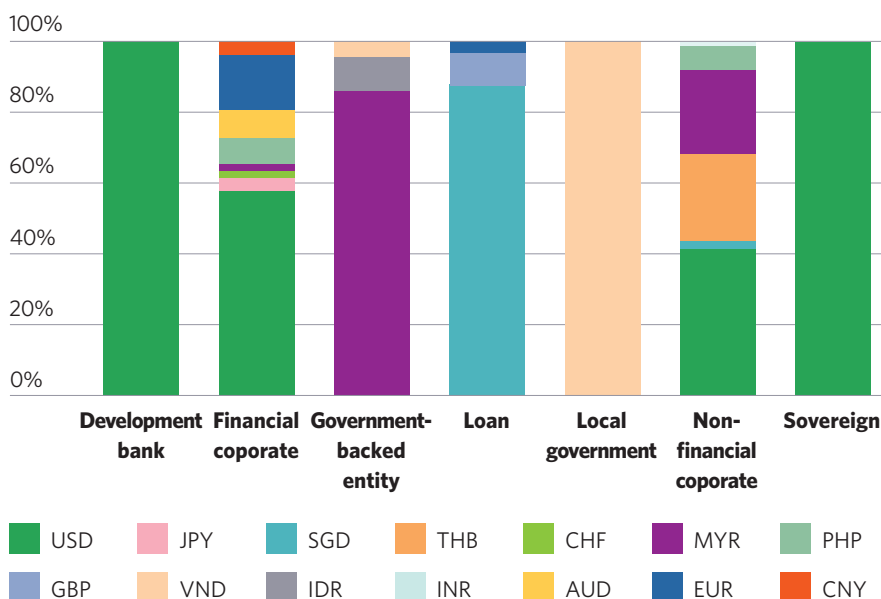
### Hard currencies dominate

ASEAN issuers continue to favour USD for their green bond issuance but, with 41% issued in the local ASEAN currencies, the regional markets offer attractive investment opportunities for domestic investors and foreign funds looking to invest in local currencies. A highlight of 2019 was the issuance by Bank of the Philippines Islands in CHF, raising CHF100m in the Swiss markets at a coupon of 0% and a yield of -0.02%, the first negative-yielding green bond in the region. Foreign entities have issued non-ASEAN currency bonds, such as Chinese bank ICBC through its Singapore branch. Supranationals have not issued in local ASEAN currency in 2019, although four deals have come to market from the International Finance Corporation (IFC) (in IDR and PHP), EBRD (in IDR) and IBRD (in MYR).

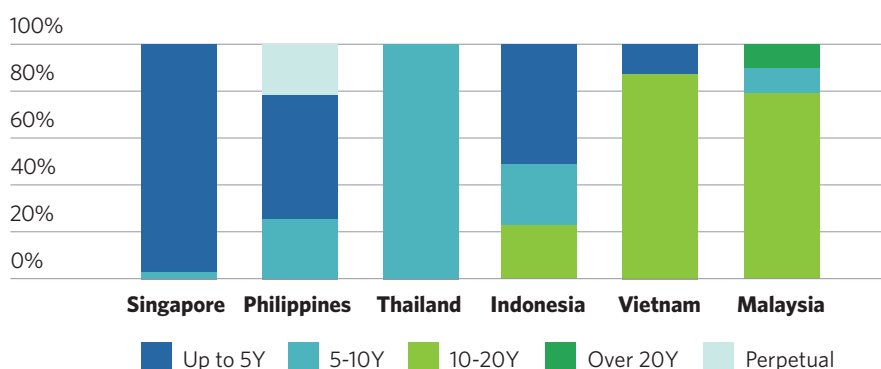
### Maturities and bond types diversify

The ASEAN markets continue to see a preference for shorter dated bonds, with 13 green bonds issued with a maturity up to five years in 2019 (two in 2017, four in 2018). However, the use of longer maturities is also growing, with nine green bonds with a 5-10 year maturity (one in 2017, five in 2018) and six

### USD issuance dominates, but denomination spans many currencies



### Most deals in the largest green bond markets are up to 10 years



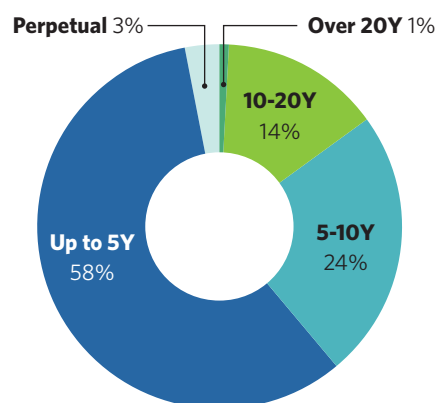
long-dated ones (three in 2017, four in 2018), mostly sukus: the 13-year deals by repeat issuer PNB Merdeka, two 18-year sukus from Telekom and Edra Solar, a 21-year sukuk by Cypark Ref, and the perpetual bond by AC Energy. Green bonds are increasingly used for long-term financing. Interestingly, **among new issuers, there were 19 green bonds with a maturity longer than 5 years**, compared to seven shorter than 5 years.

**AC Energy** issued the first – and only – perpetual green bond from ASEAN in December 2019, for an amount of USD400m. The bond is callable after the third year and demonstrates how a repeat issuer can progressively move from a 5-year green bond (issued in January 2019) to a 10-year (February 2019) and then a perpetual.

The average size of ASEAN green bonds has remained between USD200-250m over the last three years. Apart from the Republic of Indonesia's USD1.25bn green sukuk in 2018, ICBC Singapore's USD1.5bn deal from April 2019 was the only one to exceed USD1bn. In addition, five issuances have

been benchmark-sized, all of which are from either Indonesia or Singapore: two from 2019 (Indonesia's USD750m sovereign and ICBC Singapore's EUR500m/USD563m), two from 2018 (Fraser's Property's SGD1.2bn/USD876m and Star Energy's USD580m), and one from 2017 (DBS Group, USD500m). The average ASEAN transaction size is small compared to more developed markets, both for vanilla and green bonds.

### Majority of ASEAN tenors in 0-5Y range



The largest form of green finance instrument issued was senior unsecured bond with 43% share, followed by sukuk (reflecting the strong focus of Indonesia and Malaysia on Islamic finance) at 23%, and loans at 21%.

### Case study: first Perpetual Green Bond in ASEAN

**AC Energy**, the subsidiary of the Ayala Group in the Philippines, issued the first perpetual bond with a size of USD400m in December 2019. This was its fourth green bond deal in 2019, raising USD810m across all of them. The other ones had maturities of five and ten years. The bonds were listed on the Singapore Exchange. The 2016 issue was purchased by the Asian Development Bank (ADB), but subsequent issues were sold to the market. The proceeds will go towards solar, wind and geothermal projects. A SPO was provided by Sustainalytics and three of the four issues were Certified under the Climate Bonds Standard.

### SPO increasingly common

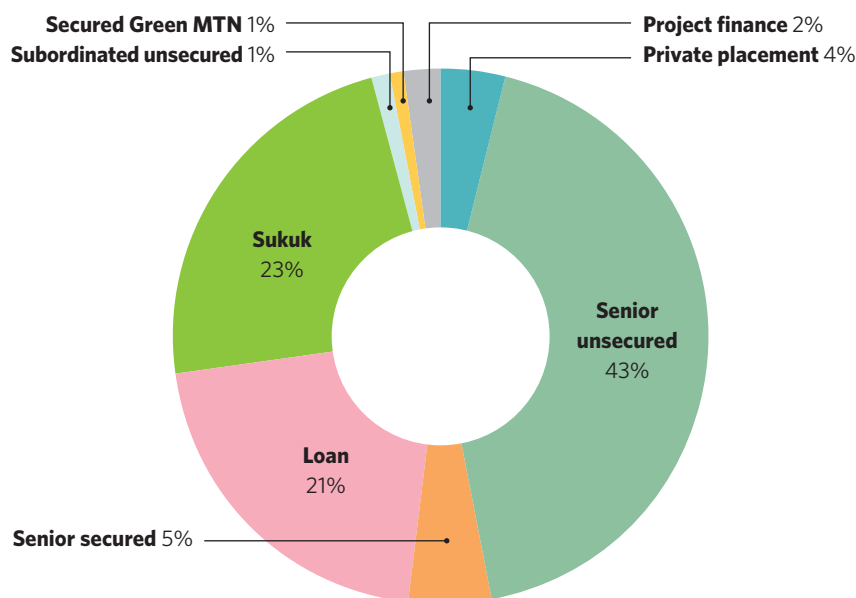
**Both the ASEAN Green Bond Standards and the Certification under the Climate Bonds Standard** require an independent review that the UoP is green. To comply with this requirement, most green bonds in ASEAN are issued with an external review, while most green loans in Singapore and two Malaysian sukuk did not.

Perhaps due to the relative ease of obtaining second-party opinion (SPO) and the greater range of providers, SPO are by far the most common type of review, representing 63% both in 2019 and cumulatively.

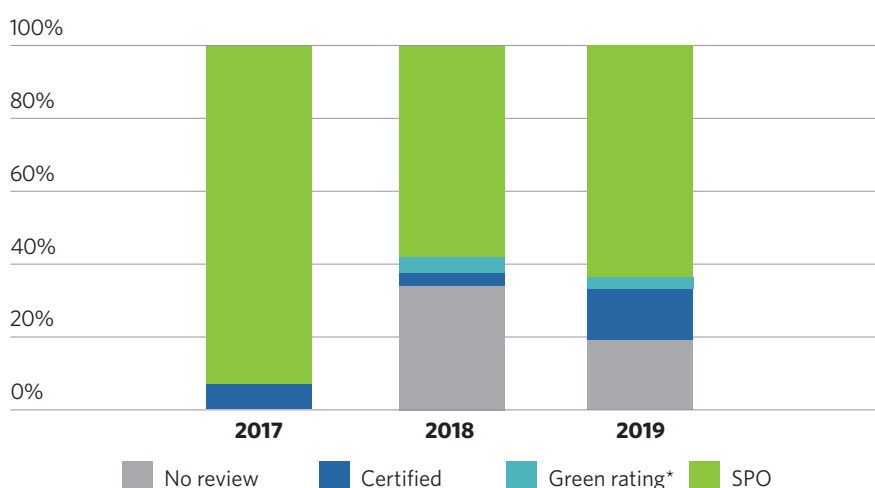
Certification under the Climate Bonds Standard was obtained by three issuers in 2019, representing USD1.6bn in amount issued: AC Energy in the Philippines (against the Solar, Wind and Geothermal criteria) and from Thailand, BTS Group (Low Carbon Transport) and Energy Absolute (Wind).

**This brings the total of ASEAN Certified Climate Bonds to ten** from six issuers in three sectors (low carbon transport, low carbon buildings and renewable energy). An indication of commitment to best practice, Certification under the Climate Bonds Standard is an assurance that the use of proceeds goes towards projects that are in line with the Paris Agreement's goal of limiting global warming well below two degrees against pre-industrial levels.

### ASEAN green finance instruments



### SPO very popular, whilst Certification is emerging



\*Green ratings provided by RAM

### The providers of SPO in ASEAN are dominated by Sustainalytics and CICERO

Rank*	External reviewer	Countries	Number of reviews	Type(s) of review
1	Sustainalytics	ID, PH, MY, TH, SG	17	SPO + Verification**
2	CICERO	ID, MY, SG	12	SPO
3	DNV GL	PH, TH	5	Verification**
4	RAM Malaysia	MY	4	Green rating
5	Vigeo Eiris	ID	1	SPO
	KPMG	SG	1	Verification**
	Carbon Trust	ID	1	SPO

ID: Indonesia, PH: Philippines, MY: Malaysia, TH: Thailand, SG: Singapore

\*Ranked by number of deals reviewed (ranking by volume is very similar)

\*\*Verification is against the Climate Bonds Standard for Certification



The profile of external reviews varies between countries. SPO dominate in Indonesia and, to a lesser extent, in Singapore, the Philippines and Malaysia. Malaysia is the only country with green ratings, all of which were provided by RAM.

Meanwhile, apart from Thailand's inaugural issuance by TMB Bank, all Thai deals obtained CBI Certification, and the two from Vietnam (from 2016) did not carry any external review. Notably, each country has at least some labelled green debt with no review.

### ASEAN Green, Social and Sustainability Bond Standards

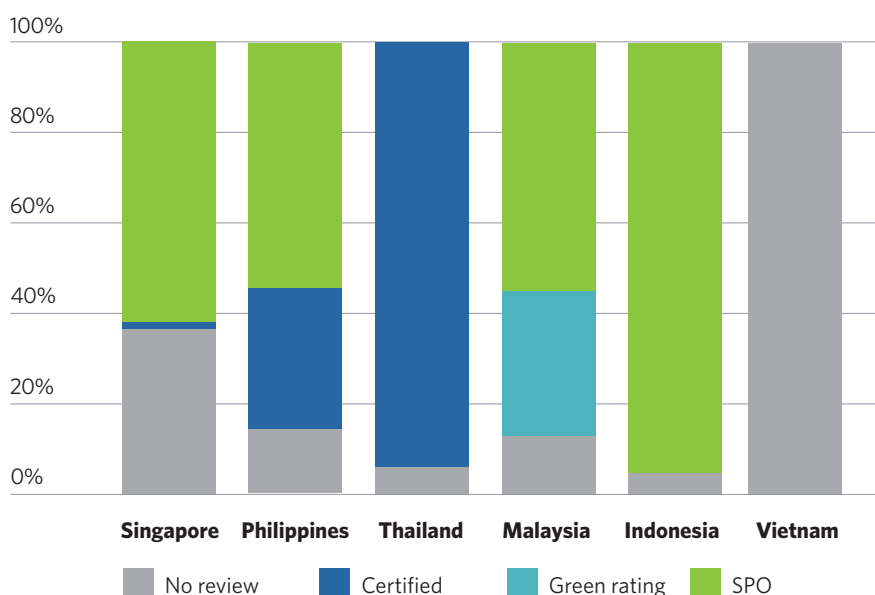
In November 2017, the ASEAN Capital Markets Forum (ACMF), comprising market regulators from the ten ASEAN countries, released the ASEAN Green Bond Standards, a set of voluntary guidelines based on the international Green Bond Principles, to create a green asset class for the ASEAN region.

The ASEAN Green Bond Standards seek to enhance transparency, consistency and uniformity to help lower costs for issuers and investors. Key elements include:

- The issuer or issuance of the green bond must have a geographical or economic connection to the region;
- Fossil fuel power generation projects are excluded;
- Information on the process for project selection and the UoP, as well as external review reports, must be made publicly available on a designated website;
- Recommendation to obtain an external review for the green bond framework, particularly for the management of proceeds and annual reports;
- Recommendation for external review providers to disclose their relevant credentials and expertise and the scope of the review conducted.

ACMF also released the ASEAN Social Bond Standards and ASEAN Sustainability Bond Standards in October 2018.

### The profile of external reviews varies by country



### Top 5 underwriters of ASEAN green bonds

Rank	Underwriter	Country	Deals	Amount issued (USDm)
1	HSBC Holdings PLC	UK/HK	8	800
2	Malayan Banking Bhd	Malaysia	5	448
3	Dubai Islamic Bank PJSC	UAE	2	400
4	Citi	USA	5	393
5	CIMB Group Holdings Bhd	Malaysia	2	368

### Both local and foreign banks active in underwriting

The table above is based on lead manager and bookrunner data from Refinitiv, which covers 49% of the bonds and 52% of the amount issued in ASEAN.

Although HSBC still leads the underwriter ranking, both by number of deals and

amount issued, participation of regional banks (especially from Malaysia and, further down, Singapore) is strong and growing.

One bank from the United Arab Emirates (Dubai Islamic Bank) made it into the top 5, reflecting the strong interest from Islamic investors.

### Case study: negative yield on green bond

**Bank of the Philippines Islands** issued two green bonds in September 2019.

Demonstrating that issuers can access favorable terms in overseas markets, the first one, denominated in CHF for a term of three years, was issued in the Swiss markets and listed on the Frankfurt

exchange. It raised CHF100m at a coupon of 0% and a reoffer yield of -0.02%.

The second bond, denominated in USD for a term of five years, was issued for USD300m.

Both bonds received SPOs from Sustainalytics. The UoP includes on-lending for projects in the Energy, Green Buildings, Water and Waste Management sectors.

# The wider labelled bond and loan market in ASEAN

## Thematic labels outside green

As explained at the start of the report, the bonds included in CBI's green bond database are those labelled as green bonds (or loans), where 95% or more of the proceeds are expected to go to climate change mitigation, adaptation or resilience projects.

Some labelled debt instruments are thus excluded, the most common reasons being that a) the UoP is not aligned to our screening criteria and the Climate Bonds Taxonomy, and/or b) more than 5% of the proceeds are allocated to social categories that are not also green, which often happens with social, sustainability, SDGs<sup>3</sup> or other bond labels.

While not included in the green bond database, wider labels do have value and usually do finance climate projects to a significant degree.

As such, we also track this market and keep a note of bonds and loans issued under other labels that have been excluded from the green bond database.

Reflecting the global expansion of this market, several ASEAN issuers have come to market with thematic issuances, such as **Social, Sustainable, SRI<sup>4</sup> or SDGs linked bonds and loans** using the Social Bond Principles, Sustainability Bond Principles, ASEAN Social or Sustainability Bond Standards, Sustainability Linked Loan Principles or Malaysia's SRI framework. These frameworks are proving popular for issuers, whose green projects have not reached a size sufficient to issue a bond specifically for them. By including some additional projects with a wider scope, issuers are able to tap the market in sizes that are more in line with investors' requirements.

## Labelled bond and loan examples

While not exhaustive and primarily intended to provide some examples, the list below includes several non-green labelled deals that hit the market in 2019. They were all issued by corporates (financial and non-financial), some of which have already issued green bonds.

The emergence of sustainable loans and bonds is an opportunity for issuers to link their objectives of social and environmental improvement with the cost of their borrowing. **Olam International's** revolving credit facility includes an interest margin

ASEAN issuance of thematic bonds and loans wider than green ones have hit the market in 2019, here are a few examples.

Issuer	# Deals	Amount	Date	Country	SRI type
<b>Olam International Ltd</b>	1	USD525m	Sep-19	Singapore	Sustainability-linked credit facility
<b>Louis Dreyfus Co Asia</b>	1	USD650m	Aug-19	Singapore	Sustainability-linked credit facility
<b>CapitaLand</b>	1	SGD150m	Jul-19	Singapore	Sustainability-linked term loan
<b>PT Bank Rakyat Indonesia Tbk</b>	1	USD500m	Mar-19	Indonesia	Sustainability bond
<b>Rizal Commercial Bank (RCBC)</b>	2	USD300m & PHP8bn	Jun-19 & Sep-19	Philippines	Sustainability bonds
<b>Indorama Ventures</b>	2	EUR100m & USD100m	Apr-19	Thailand	ESG-linked loans

that is linked to meeting key performance sustainability indicators such as supporting farmers' and food systems' prosperity, developing thriving communities, and regeneration of the living world.

Similarly, **Louis Dreyfus Co Asia**, the Singapore-based subsidiary of the Dutch group, renewed a USD650m revolving credit facility with a pricing mechanism that is linked to its performance in four KPIs: i) CO<sub>2</sub> emissions, ii) electricity and energy consumption, iii) water usage and iv) solid waste sent to landfill. Every year, a reduction of the interest rate margin can be achieved if these KPIs improve, as validated by an independent auditor.

**PT Bank Rakyat Indonesia Tbk** issued a USD500m five-year sustainability bond under the ASEAN Sustainability Bond Standards in March 2019, the first such issuance in Indonesia. The bank focuses on micro and SME finance, with the proceeds expected to finance a range of social and environmental projects in the country.

The sustainability bonds issued by **Rizal Commercial Bank (RCBC)** from the Philippines were reviewed by Sustainalytics and issued under the Sustainability Bond Principles and ASEAN Sustainability Bond Standards, requiring an annual allocation as well as impact report in line with market practice.

The eligible green categories include renewable energy, green buildings, clean transportation, energy efficiency, pollution prevention and control, sustainable water management and sustainable management of living natural resources and land use; the

## Climate-aligned terminology

**Fully-aligned climate issuers:** Bond issuers that derive >95% of revenues from climate-aligned assets and green business lines. These are also referred to as 'fully-aligned' issuers.

**Strongly-aligned climate issuers:** Bond issuers where 75%-95% of revenues are derived from climate-aligned assets and green business lines. For bonds from strongly-aligned issuers, we consider a pro rata amount corresponding to the green revenue rather than the full outstanding value.

**Climate-aligned bond universe:** This term is used to describe the full universe of aligned outstanding bonds<sup>5</sup> - i.e. from fully-aligned issuers, strongly-aligned issuers and green bond issuers.

eligible social categories include affordable basic infrastructure, access to essential services, employment generation, affordable housing and socioeconomic advancement.

However, not all such loans have strong impact measures: for example, the SGD150m sustainability-linked term loan facility secured by **CapitaLand** can be used for general corporate purposes, with the only conditions set on the borrower to trigger a lower interest rate being that it remains listed in some sustainability indices.



# ADB's support for green bond market development in ASEAN+3

## Formation of Asian Bond Markets Initiative

Efforts to develop the green bond market in ASEAN plus the People's Republic of China (PRC), Japan, and the Republic of Korea (collectively known as ASEAN+3) are underway under the Asian Bond Markets Initiative (ABMI). The ABMI was launched in December 2002 by the Finance Ministers and Central Bank Governors of the ASEAN+3 member countries to boost development of local currency bond markets to help mitigate the currency and maturity mismatch problems.

As a result of the Asian financial crisis in 1997, policymakers recognised that having more developed bond markets would not only help the region mobilise local currency savings to meet its long-term investment needs, particularly for infrastructure development, but would also reduce its vulnerability to the sudden reversal of foreign capital inflows, thereby strengthening its financial stability.

In other words, the local bond markets in ASEAN+3 served as a "spare tire" when other financing channels were impaired at the onset of the financial crisis, thus mitigating its impacts. Since its establishment, the ADB has been tasked by ASEAN+3 governments to support and play the role of Secretariat of the ABMI.

## Road map to develop green bond markets

Activities of the ABMI are guided by the ASEAN+3 ABMI Medium-Term Road Map 2019–2022<sup>6</sup> (Road Map), which was endorsed by the ASEAN+3 Finance Ministers and Central Bank Governors in May 2019. One of the key initiatives highlighted in the Road Map was to develop the green bond market to support much-needed infrastructure investment, taking

into account exposure to a range of climate conditions and extreme events facing the region.

Despite increased awareness among issuers and investors of the impact of natural disasters and climate change, the majority of green bonds issued in ASEAN+3 were denominated in hard currencies (such as USD) to attract responsible investors in more mature markets, where green verification and certification are well-recognised.

Accordingly, it is important for ASEAN+3 policymakers to create an accommodative environment to facilitate green bond issuance in local currencies.

## Technical assistance for issuers

Together with national authorities in ASEAN+3 member countries, the ADB introduced the technical assistance (TA) program<sup>7</sup> to create the necessary ecosystems for green local currency bonds for infrastructure development in ASEAN+3 in March 2020. The primary objective of this TA is to support corporate bond issuers in bringing green bonds to the market, from both the supply and demand sides.

On the supply side, the TA will partner with industry experts such as the Climate Bonds Initiative (CBI), the Private Sector Operations Department (PSOD) of ADB and the Credit Guarantee and Investment Facility (CGIF),<sup>8</sup> the International Capital Market Association (ICMA), national securities regulators, stock exchanges, bond market associations, and rating agencies in ASEAN+3 to address binding constraints in issuing green bonds, including but not limited to the lack of market awareness, additional issuance costs, and lack of understanding on eligible projects and underlying assets.

The TA will contribute to creating an environment conducive to the development of green bond markets in the region, paving the

way to establishing regional market practices. The TA will also explore the feasibility of enhancing the capacity of service providers such as rating agencies and guarantee companies to provide advice and external review services to issuers in the region.

## Supporting investor demand

On the demand side, the TA will partner with **AsianBondsOnline** (ABO)<sup>9</sup> to create a regional green bond information platform on ABO, so as to enhance information dissemination of green bond market developments in ASEAN+3 and make more investors know about recent advances in regional green bond market developments.

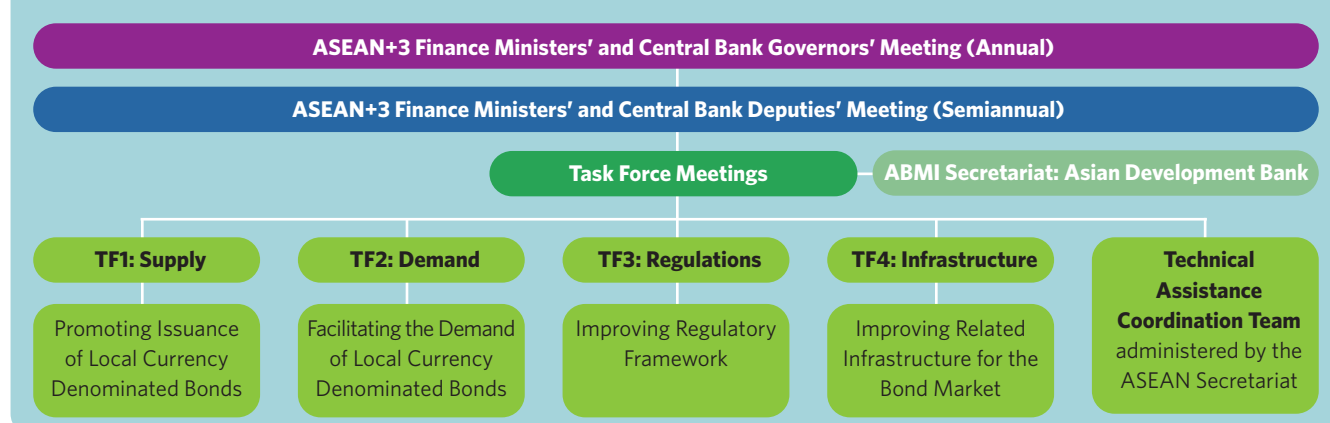
The TA will also link up ASEAN+3 initiatives with relevant regional initiatives such as the ASEAN Capital Markets Forum, ASEAN's Working Committee on Capital Market Development, and the ASEAN Green Catalytic Facility, administered by ADB to promote the ASEAN Green Bonds Standards to investors in ASEAN+3 member countries and thus facilitate intra-regional investment.

The TA will also promote the use of the ASEAN+3 Multi-Currency Bond Issuance Framework (AMBIF), which is a common regional bond issuance programme to standardise different bond issuance procedures. AMBIF sets common elements so that issuers can issue bonds in multiple jurisdictions with the same document, known as the single submission form (SSF) and investors can invest in ASEAN+3 bonds by looking at the SSF without specific knowledge of a local market.

To date, seven markets have already adopted ABMIF, namely Cambodia, Hong Kong, Japan, Malaysia, Philippines, Singapore, and Thailand.

*Special contribution from ADB*

## Asian Bond Markets Initiative (ABMI) Organisational Chart





## Indonesia

### Indonesia has a USD2.9bn green bond market

2019 started off well for Indonesia's green bond market, with the second deal issued under the Government's Sovereign Sukuk programme (USD750m); however, there was no other issuance during the year.

While the country was the largest ASEAN green bond market in 2018, it has now fallen to third.

Six bonds have been issued, these are two sovereign sukuks, two by banks (**PT SMI** and **PT Bank OCBC NISP**), and two by non-financial corporates (**Star Energy** for renewable energy and **TLFF** for land use).

#### Other thematic issues

**PT Bank Rakyat Indonesia Tbk** issued a USD500m five-year global sustainability bond under the ASEAN Sustainability Bond Principles in March 2019, the first such issuance by a state-owned lender or financial institution in Indonesia.

The bond was heavily oversubscribed, attracting 8.2x more demand than what was offered.

Among eligible green categories, the use of proceeds includes renewable energy, green buildings, pollution prevention and control, clean transportation, sustainable water and wastewater management.

The social categories include affordable basic infrastructure, affordable housing, access to essential services, employment generation, and socioeconomic advancement and empowerment.

The bond received an SPO from Sustainability.

#### Sector growth and future potential

Indonesia has set ambitious renewable energy targets under its current medium-term (2020-2024) development plans, which are part of a series of five-year plans within its long-term (2005-2025) development plans.<sup>10</sup>

These targets include increasing renewable energy capacity to be 23% of the total primary energy supply by 2025, which is over three times its initial goal, and to produce 40GW from renewables by 2024 up from 9.5GW as at the end of 2018.<sup>11</sup>

In August 2019, President Joko Widodo announced plans to create a new capital city in East Kalimantan, as the current capital, Jakarta, is under threat from rising sea levels and flooding. According to government estimates, the move will represent a cost of USD32.7bn with the Indonesian government covering 19% of this; the remaining 81% will come from the private sector, state-owned enterprises and public-private partnerships.

This is a huge opportunity for the green bond market, as it could help channel offshore investment into building climate-resilient infrastructure.

This could take the form of green buildings, renewable energy, low carbon transportation, water and waste management, as well as land use.

To support the risk appetite of investors for financing Indonesia's infrastructure projects, a Guarantee Fund (IIGF) has been created to give certain guarantees for public-private partnership projects.

CBI's **Green Infrastructure Investment Opportunities (GIIO) Indonesia** reports contain in-depth coverage of additional green investment opportunities across the nation that could be funded by green bonds, loans and green sukuk.

The emphasis is on low carbon, climate resilient developments and both reports reference detailed case studies on low-carbon transport, clean energy, water, waste management and low carbon buildings.

Included are a pipeline of projects, both planned and in-development, to highlight the type of green infrastructure investment opportunities open to investors that would align with the Climate Bonds Taxonomy.

Complementing the GIIO reports is **Unlocking green bonds in Indonesia: a guide for issuers, regulators and investors**, providing practical information on overcoming some of the main hurdles to international green bond issuance.



#### Indonesian green bond issuers to date

Issuer name	Amount issued	Issue date	Use of proceeds
<b>Republic of Indonesia</b>	USD750m	Feb-19	Energy, Buildings, Transport, Waste, Land use, Unallocated A&R
<b>PT Sarana Multi Infrastruktur</b>	IRD500m (USD50m)	Jul-18	Energy, Transport, Water, Waste, Land use
<b>Star Energy Group Holdings</b>	USD580m	Apr-18	Energy
<b>TLFF I PTE Ltd</b>	USD95m	Feb-18	Land use
<b>Republic of Indonesia</b>	USD1,250m	Feb-18	Energy, Buildings, Transport, Waste, Land use, Unallocated A&R
<b>OCBC NISP</b>	USD150m	Jan-18	Energy, Buildings, Water, Waste, Industry
<b>Total</b>	<b>USD2.9bn</b>		



## Singapore

### Singapore dominated by green loans and real estate

**Singapore is the largest ASEAN green finance market, standing at USD6.2bn in cumulative issuance.** 2019 was a strong year, with volumes reaching USD4.4bn, an almost four-fold increase on 2018. A total of 14 issuers have come to market, eight in 2019.

The growth of Singapore's green finance market has largely come due to the prevalence of **green loans, which account for almost half (47%) of cumulative** and 40% of 2019 volumes; and while bonds still represent most of the amount issued, nine of the 14 deals in 2019 were loans.

Furthermore, and understandably given the local context, several deals have been by

real estate companies (including REITs), with most or all of the proceeds targeting certified green buildings and/or energy efficiency in buildings. **In 2019, 43% of the amount issued was allocated towards buildings projects** (52% of the cumulative total).

2019 saw issuance in six different currencies, including the first from the country in EUR, CNY, AUD and JPY. Eight of the nine green loans were denominated in SGD, while the five bonds were all in foreign currencies. Singaporean issuers have now denominated in nine different currencies (USD, GBP, PHP and INR being the others), making Singapore by far the most diverse ASEAN country in this regard.

In the renewable energy sector, **Sunseap Group Pte** borrowed SGD50m through a bilateral green loan from UOB Bank in Singapore to fund the installation of solar PV systems on rooftops at 210 sites, including commercial, industrial and government premises.

There were also several loans in the real estate sector in 2019. **Keppel REIT**, 85%

owned by Ocean Properties, borrowed twice this year from OCBC Bank, firstly with a SGD505m green loan facility in June and then a SGD150m bilateral green loan in December, to fund its green building portfolio. **Soilbuild Group Holdings** issued an SGD248m three-year green loan, in accordance with the GLP, with the proceeds used for the redevelopment of Soilbuild's Solaris@Tai Seng business complex and for the development of 1.1m sq ft of green buildings expected to receive the Building and Construction Authority (BCA) Green Mark Platinum certification standard.

Singaporean companies have also been active in raising green bonds overseas. **OCBC Corp** via its Sydney branch, issued an AUD500m three-year green floating-rate notes (FRN) in the Australian bond market. **Oxley Holdings Limited** raised a EUR77m green loan in Ireland, the country's first GLP-compliant green loan.

*Continued page 12*

### 20 Singaporean deals denominated in nine different currencies

Issuer name	Amount issued	Issue date	Use of proceeds
<b>CapitaLand Commercial Trust*</b>	JPY10bn (USD91m)	Dec-19	Buildings
<b>Keppel REIT</b>	SGD150m (USD110m)	Dec-19	Buildings
<b>Mapletree Commercial Trust</b>	SGD670m (USD491m)	Oct-19	Buildings
<b>CapitaLand Mall Trust Management Ltd</b>	SGD200m (USD145m)	Oct-19	Buildings
<b>Soilbuild Group Holdings</b>	SGD248m (USD180m)	Sep-19	Buildings
<b>Keppel REIT</b>	SGD505m (USD370m)	Jun-19	Buildings
<b>Oxley Holdings Plc</b>	EUR77m (USD87m)	May-19	Buildings
<b>OCBC*</b>	AUD500m (USD342m)	May-19	Energy, Buildings, Transport, Water, Waste, Unallocated A&R
<b>ICBC Singapore*</b>	EUR500m (USD563m)	Apr-19	Energy, Transport, Water
<b>ICBC Singapore*</b>	CNY1bn (USD149m)	Apr-19	Energy, Transport, Water
<b>ICBC Singapore*</b>	USD1.5bn	Apr-19	Energy, Transport, Water
<b>City Developments Limited</b>	SGD100m (USD74m)	Apr-19	Buildings
<b>City Developments Limited</b>	SGD400m (USD295m)	Apr-19	Buildings
<b>Sunseap Group</b>	SGD50m (USD37m)	Apr-19	Energy
<b>Frasers Property Limited</b>	SGD1.2bn (USD876m)	Sep-18	Buildings
<b>Ho Bee Land</b>	GBP200m (USD256m)	Aug-18	Buildings
<b>Sindicatum Renewable Energy</b>	PHP1,060m (USD20m)	Aug-18	Energy
<b>Sindicatum Renewable Energy</b>	INR2,536m (USD40m)	Jan-18	Energy
<b>DBS Group*</b>	USD500m	Jul-17	Energy, Buildings, Transport, Water, Waste, Unallocated A&R
<b>City Developments Limited</b>	SGD100m (USD71m)	Apr-17	Buildings
<b>Total</b>	<b>USD6.2bn</b>		

\*Green bond issuance; all other deals in the table are green loans.

Continued from page 11

**Frasers Property Australia**, a foreign subsidiary of a Singapore corporate, has secured an AUD500m green loan linked to the BCA Green Mark to refinance property loans. The loan interest will reduce after the second year if the properties maintain their green standards. This was accompanied by an AUD250m five-year tranche for general corporate purposes and working capital.

Similarly, Singaporean subsidiaries of foreign companies have used the local debt market to raise funding via green bonds. The most notable example is the Chinese state-owned bank **ICBC**, with its multi-tranche triple-currency USD2.2bn green bond issued in April 2019. It is also the world's first Green Belt & Road Inter-Bank Regular Cooperation Bond (BRBR Bond).

The use of external reviews remains relatively high in Singapore. In 2019, 69% of issuance received an SPO (all by Sustainalytics and CICERO), compared to 63% for the region.

**In 2020, we expect green bonds to pick up.** The Monetary Authority of Singapore (MAS) expanded its Green Bond Grant Scheme to the Sustainable Bond Grant Scheme<sup>12</sup> in February 2019. The new Scheme includes social and sustainability bonds and features a lower minimum issuance size requirement.

Last November, the **MAS announced a USD2bn green investment programme (GIP) to channel funds to assets managers with a green finance mandate.** The first such investment is a USD100m placement with the Green Bond Investment Pool of the Bank for International Settlements (BIS).<sup>13</sup> The two sectors most likely to see green issuance is expected to be real estate and renewable energy.

The Singaporean Government has announced it is targeting 350MWp of solar energy by 2020 and 2GWp by 2030,<sup>14</sup> representing 4% of Singapore's total electricity demand today and a departure from a heavy reliance on natural gas. In the Renewable Energy sector, in addition to more green loans or bonds from Sunseap and Sindicatum, there is a strong potential for other developers to issue bonds.

Some public sector entities could become green bond issuers, such as Singapore Telecommunications (ICT sector), Housing and Development Board (housing), Land Transport Authority (transport) and Neptune Orient Lines (shipping). Also, Temasek, announced ambitious carbon targets for its operations by 2020 and for its investment portfolio by 2030.<sup>15</sup>

Some other labels have been used in the country. For example, **City Developments Ltd (CDL)** borrowed SGD250m via a three-year sustainability-linked loan. Although it will be used for general working capital and corporate funding, CDL will see the interest rate lowered if it achieves sustainability-related performance targets linked to the United Nations SDGs, under the condition that the company remains in at least one leading global sustainability index.

Similarly, Credit Agricole CIB extended an SGD150m five-year sustainability-linked term loan to **CapitalLand** for general corporate purposes benchmarked against some ESG indicators, including the listing in several sustainability indices.



## Vietnam

### USD27m of green bonds issued

According to German development agency GIZ, Vietnam will need roughly USD31bn by 2020 to move its current carbon-dependent development onto a more sustainable path, in line with its Nationally Determined Contribution.<sup>16</sup>

Under the Vietnam Green Growth Strategy (VGGS),<sup>17</sup> approved by the Government for the 2011-2020 period, capital markets should play a key role in achieving the country's targets. Green bonds are important to meeting these objectives by raising funds specifically for green projects and enterprises, creating a platform for green products' derivatives trading, and

tapping into private sector investment for sustainable development.

Local government issued two small green bonds in 2016 to finance water projects including adaptation. They remain the only local government green bond issuances in ASEAN. There have been no issuance in the following three years. In January 2020, **VP Bank** issued a green bond for USD71m with proceeds allocated to the energy and buildings sectors.

#### Potential public sector issuers

Vietnam Development Bank, Vietnam Bank for Social Policies and VietinBank could support the VGGS and boost the nation's sustainable development by further encouraging green investments. These provide opportunities for further green bond issuance.

Amongst the most vulnerable cities to coastal flooding, both Hải Phòng and Đà Nẵng could enter the green bond market to increase their adaptation and resilience to climate change.

Other avenues for green bond growth lie in addressing water and waste management.

Climate Bonds inaugural **Green Infrastructure Investment Opportunities (GIIO) Vietnam** report has been prepared to help meet growing investor demand for green investment opportunities and to support the domestic transition to a low carbon economy.



### Vietnamese green bond issuers to date

Issuer name	Amount issued	Issue date	Use of proceeds
<b>Ho Chi Minh City Finance</b>	VND525.5bn (USD23m)	Oct-16	Water, Unallocated A&R
<b>People's Committee of Ba Ria Vung Tau Province</b>	VND80bn (USD4m)	Sep-16	Water
<b>Total</b>	<b>USD27m*</b>		

\*Adding the deal by VP Bank from 2020 would take the total to USD98m



## The Philippines

**The Philippines features USD2bn of green bonds, 75% of which was issued in 2019**

**2019 saw seven green bonds issued in the Philippines, mostly in USD,** increasing the number of issuances to ten. Most of the proceeds were allocated to Renewable Energy.

The largest issuer of green bonds in the Philippines is AC Energy, with four green bonds outstanding, ranging in size from USD75m to USD400m, and terms of five-, ten-year and perpetual.

Four banks have issued green bonds in the Philippines, with **Rizal Commercial Banking Corporation (RCBC)** and BBB+-rated **Bank of the Philippines Islands (BPI)** making their debut in 2019.

The issue by **BPI** was particularly noteworthy, as it was the first CHF-denominated, offshore green bond for the Swiss market and achieved a negative yield of -0.02%, which was inside the initial price guidance. This issuance received significant interest from investors, being heavily oversubscribed in a short timeframe, and, according to some market participants, achieved the largest issuance discount for a Southeast Asian bank since 2016. It was also followed five days later by the issuance of a USD300m senior unsecured five-year green bond. The Green Finance Framework published by BPI is in line with the ASEAN Green Bond Standards and the use of proceeds includes renewable energy, energy efficiency, sustainable water and wastewater management, pollution prevention and control, and green buildings.

**RCBC** issued PHP15bn of 1.5-year green bonds, a three-fold increase from the PHP5bn initially planned in response to “overwhelming” demand from investors. The proceeds from the issuance were earmarked for the refinancing of loans and

new lending in renewable energy, green buildings, clean transportation, energy efficiency, and pollution prevention and control. Later in the year, it issued its first sustainability bond, a USD300m five-year deal to finance energy, buildings, transport and waste projects.

**AC Energy**, a subsidiary of Ayala Corporation, first issued a USD300m five-year green bond in January 2019, partly subscribed for USD75m by the IFC acting as an anchor investor. Proceeds are allocated to 5GW of renewable energy projects in East Asia and the Pacific. It was the first Certified Climate Bond listed on the Singapore Exchange, qualifying under the Thermal, Solar, Wind and Geothermal Criteria of the Climate Bonds Standard. Following this, was a private placement of USD110m with a ten-year term, of which USD20m was invested by the ADB. The issuance was also Certified under the Climate Bonds Standard. Finally, the energy producer issued a USD400m perpetual green bond under the ASEAN Green Bond Standards.

### The Philippines' green bond issuers to date

Issuer name	Amount issued	Issue date	Use of proceeds
<b>Ayala Corporation</b>	USD400m	Dec-19	Energy
<b>BPI</b>	CHF100m (USD101m)	Sep-19	Energy, Buildings, Water, Waste
<b>BPI</b>	USD300m	Sep-19	Energy, Buildings, Water, Waste
<b>RCBC</b>	PHP15bn (USD287m)	Feb-19	Energy, Buildings, Transport, Waste
<b>Ayala Corporation</b>	USD110m	Feb-19	Energy
<b>Ayala Corporation</b>	USD75m	Jan-19	Energy
<b>Ayala Corporation</b>	USD225m	Jan-19	Energy
<b>China Banking Corp</b>	USD150m	Oct-18	Energy, Buildings, Water, Waste
<b>BDO Unibank</b>	USD150m	Dec-17	Energy, Buildings, Water
<b>Aboitiz Equity Ventures</b>	PHP10.7bn (USD226m)	Feb-16	Energy
<b>Total</b>	<b>USD2.0bn</b>		





## Malaysia

### USD1.3bn of green bonds

The Malaysia Securities Commission issued a Sustainable and Responsible Investment Roadmap for the Malaysian Capital Market,<sup>18</sup> which introduced a strategy for developing the market for SRI investments. In 2018, a Green SRI Sukuk Grant Scheme was established, providing tax exemption benefits. The Securities Commission and Bank Negara Malaysia, in the newly-formed Joint Committee on Climate Change (JC3), are discussing the development of a taxonomy for Malaysia. In a Discussion Paper,<sup>19</sup> Bank Negara Malaysia launched a public consultation on the impact of climate change on the financial system. By requiring financial institutions to report data on their climate exposure, this new taxonomy will support the issuance of green bonds and the purchase of green bonds issued in the Malay market by financial institutions.

**The country's green bond market had six issuances in 2019**, mostly in the energy sector and long-dated. Four of the five issuers were debuts, continuing a trend in Malaysia that has only seen one repeat issuer coming to market. A green sukuk was issued by **Pasukhas Group Bhd** for MYR158m (USD39m) with a 20-year term,

with proceeds allocated to a hydropower plant. The sukuk is guaranteed by Danajamin Nasional, the financial guarantor co-owned by Bank Negara Malaysia and the Ministry of Finance. An SPO and green rating were provided by RAM.

Another 2019 issuer was **Telekosang Hydro One Sdn Bhd** with a MYR120m (USD42m) 20-year green junior bond and a MYR470m (USD166m) 18-year green sukuk, both allocated to a 24MW "run-of-river mini-hydro" plant, the first of its kind. RAM also provided a green rating of Telekosang's Green Sukuk Framework.

Two new deals came to market in early October. **Edra Solar Sdn Bhd** issued an 8-tranche MYR245m (USD58m) Sustainability SRI sukuk, with maturities ranging from one to 18 years. While it will primarily refinance the Kuala Ketil solar farm, part of the proceeds will fund the cultivation of pineapples and other crops by the surrounding local community. Given its social angle, this is the country's first bond aligned with the requirements of the Securities Commission Malaysia's Sustainable and Responsible Investments (SRI) Sukuk Framework, the ASEAN Green Bond Standards, the ASEAN Social Bond Standards and the globally recognised GBP, SBP and Sustainability Bond Guidelines. It is also the first to carry three different types of rating from RAM: financial, green (Tier-1 GB) and social (Tier-3 SB).

**Cypark Red Sdn Bhd** issued MYR550m (USD131m) under an SRI Sukuk Murabahah programme, also in October. The deal, which has 19 tranches with terms varying between three and 21 years, will finance three solar PV plants (with 30-MWAC capacity) in Malaysia.

Finally, **PNB Merdeka Ventures** became Malaysia's first repeat issuer with two more sukuk totalling USD213m. They are part of its MYR2bn programme to finance the Merdeka PNB118 Tower.

Among outstanding bonds, energy (49%) and buildings (48%) represent almost all the allocations. The remaining 3% are spread across Water, Waste, Land use and Adaptation funded predominantly by the Pasukhas deal.

The **largest issuer** in the buildings sector is **Permodalan Nasional Berhad** (PNB Merdeka Ventures), while the largest related to energy is **Quantum Solar Park** (Semenanjung Sdn Bhd).

All 12 green bond and sukuk deals have been issued in domestic currency, ranging in USD-equivalent size from about USD50m to USD500m, and tending towards longer terms. This demonstrates the Malaysian bond market is sufficiently mature to support the development of a local green bond market. It is also a potential hub for green Islamic transactions, with 75% of outstanding green bonds offered in sukuk format.

### Malaysian green bond issuers to date

Issuer name	Amount issued	Issue date	Use of proceeds
<b>PNB Merdeka Ventures Sdn Bhd</b>	MYR435m (USD105m)	Dec-19	Energy
<b>Cypark Ref Sdn Bhd</b>	MYR550m (USD131m)	Oct-19	Energy
<b>Edra Solar Sdn Bhd</b>	MYR245m (USD58m)	Oct-19	Energy, Land use
<b>Telekosang</b>	MYR590m (USD208m)	Aug-19	Energy
<b>PNB Merdeka Ventures Sdn Bhd</b>	MYR445m (USD108m)	Jun-19	Energy
<b>Pasukhas Group</b>	MYR158m (USD39m)	Feb-19	Energy, Buildings, Water, Waste, Land use, Unallocated A&R
<b>Universiti Teknologi Mara (UiTM)</b>	MYR222m (USD57m)	Apr-18	Energy
<b>Mudajaya Group Berhad</b>	MYR245m (USD63m)	Jan-18	Energy
<b>SEGI Astana SDN Bhd</b>	MYR415m (USD104m)	Jan-18	Buildings
<b>PNB Merdeka Ventures Sdn Bhd</b>	MYR690m (USD170m)	Dec-17	Buildings
<b>Quantam Solar</b>	MYR1,000m (USD236m)	Oct-17	Energy
<b>Tadau Energy</b>	MYR250m (USD58m)	Jul-17	Energy
<b>Total</b>	<b>USD1.3bn</b>		





## Thailand

### The Thai green bond market expanded strongly in 2019 with four Certified deals

In 2019, there were four green bond issuances by Thai entities for USD734m, representing 77% year on year growth, bringing the total to USD947m. All four issuances were Certified Climate Bonds.

**BTS Group Holdings PCL** issued a THB13bn (USD408m) senior unsecured green bond in May 2019, which was placed with institutional and high-net-worth investors. The proceeds are used to finance Bangkok's Pink Monorail Line (for the section between Khae Rai to Min Buri) and the Yellow Monorail Line (from Lat Phrao to Samrong), both important projects to the development of public transport in the Thai capital. The bonds carry a local A/Stable rating by TRIS Rating and were offered in five tranches with two, three, five, seven- and ten-year terms. All were Certified under the Low-Carbon Transport Criteria of the Climate Bonds Standard. It is the first green bond in Thailand issued under the criteria of the Green Bond Notification of the Thai SEC.<sup>20</sup> The bonds received strong investor interest, reflected in heavy oversubscription and resulting in an upsizing from the initial bond offering.

**Energy Absolute PCL**, an A-locally rated company established in 2006 to produce palm oil and listed on the Stock Exchange of Thailand (SET) in 2013, issued a series of three bonds between July and October 2019 for THB10bn (USD330m), all Certified Climate Bonds. The proceeds are used for wind projects, in particular the 260MW Hanuman wind farm in Chaiyaphum Province which is the largest wind farm in the country. The

ADB invested THB3bn (USD100m) into the bonds. Energy Absolute currently has 664MW of renewable energy capacity, with four solar and two wind parks.

**B.Grimm Power PCL** issued THB5bn of five-year and seven-year green bonds in December 2018, both of which received a Certification under Climate Bonds Standard and are 100% subscribed by the ADB. The proceeds are being used to finance nine operational solar power plants with a total capacity of 67.7MW and seven solar plants under construction for an additional 30.8MW. B.Grimm Power PCL is one of Thailand's biggest energy producer with 15 gas-powered plants. It is in the process of diversifying its production into renewable energy, with 15 solar power plants in operation.

The first green bond from a Thai entity was raised in June 2018 by **TMB Bank** in a private placement of USD60m. The IFC was the sole investor. The proceeds are used to finance renewable energy.

#### Other potential issuers

Climate-aligned issuers of non-labelled bonds could potentially issue green bonds. Among such candidates, the State Railway of Thailand offers the opportunity for green bond issuance in the low carbon transport sector. The second largest climate-aligned sector is energy, where fully-aligned issuers such as SPCG PCL, Energy Absolute PCL, Thai Solar Energy PCL and Super Energy Corp PCL could become active in the green bond market. Finally, fully-aligned issuers identified in the water sector include TTW PCL and Eastern Water Resources Development and Management PCL.

In an article published in the Bangkok Post<sup>21</sup> in November 2019, as many as ten Thai companies, listed and non-listed, were said to be preparing to launch green bonds in 2020. We identified several potential issuers from companies listed on the SET:

**Energy sector** - Banpu, Banpu Power, Glow Energy, Global Power Synergy, IRPC, PTT, Ratchaburi Electricity Generating Holding,

**Real Estate sector** - Central Pattana, Land And Houses, Pruksa Real Estate

**Healthcare sector** - Bangkok Dusit Medical Services, Bumrungrad Hospital

**Telecommunications** - Advanced Info Service, Total Access Communication, Intouch Holdings, True Corporation

**Retail sectors** - CP All, Home Product Center, Robinson.

#### Potential public sector issuers

Several state-owned enterprises have issued domestic bonds, without labelling as green, and could potentially raise financing through green bonds. These include Bank for Agriculture and Agricultural Cooperatives, Government Housing Bank, Government Savings Bank and EXIM Thailand, Provincial Electricity Authority, Electricity Generating Authority of Thailand, Metropolitan Electricity Authority, and Bangkok Mass Transit System.

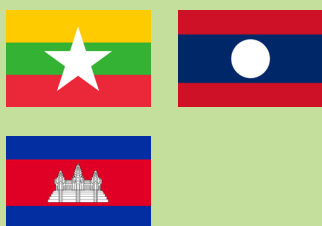
#### Other labelled bonds in Thailand

Kasikornbank was the first Thai and ASEAN bank to issue a sustainability bond, doing so with a USD100m deal in November 2018. The proceeds were allocated to both green and social projects. The senior unsecured bond, which had a five-year maturity, was in line with international standards (including the ASEAN Bond Standards) and fully subscribed on the day of the launch.

Bank of Ayudhya, Thailand's fifth largest lender, is currently evaluating the possibility of issuing a green bond in 2020 to finance alternative energy and green building projects. It has already accessed the wider labelled bond market, having issued a USD220m seven-year gender bond in October 2019 targeted at female entrepreneurs, which was fully subscribed by IFC and the German Investment Corporation.

#### Thai green bond issuers to date

Issuer name	Amount issued	Issue date	Use of proceeds
Energy Absolute	THB3bn (USD98m)	Oct-19	Energy
Energy Absolute	THB4bn (USD130m)	Aug-19	Energy
Energy Absolute	THB3bn (USD97m)	Jul-19	Energy
BTS Group Holdings	THB13bn (USD408m)	May-19	Transport
B Grimm Power	THB5bn (USD153m)	Dec-18	Energy
TMB Bank	USD60m	Jun-18	Energy
<b>Total</b>	<b>USD947m</b>		



## Myanmar, Laos & Cambodia

### Green bonds yet to be issued, but nations offer potential

The bonds markets in these three countries are in their infancy, with notable progress achieved with the first corporate bond issued in local currency in Cambodia's market by Hattha Kaksekar Limited (HKL). The three countries are also looking towards their neighbours, as they have more developed bond markets and could support domestic green bond issuance.

**Myanmar** has been working on a 'Capital Markets Development Roadmap' since 2008 and is making progress towards a sovereign bond market to reduce the borrowing from the Central Bank in order to fund the fiscal deficit. In February 2020, OCBC Bank and UOB, both from Singapore, granted a SGD44m green loan to Shwe Taung Group for a variety of

green buildings projects, including offices, a shopping mall and a hotel. The development will include some measures to increase energy efficiency, such as installing double-glazed windows and rooftop solar panels, with the objective of reducing energy usage by 15% to 20%.

The **Laos** Government has issued bonds in the Thai market to finance electricity generation projects, and is also looking to issue in Chinese market. EDL-Generation Public Company (EDL-Gen), is a BBB TRIS rated state-owned company with several generation assets. Its core business is to generate and sell wholesale electricity as well as operate, acquire and maintain generation assets. EDL-Gen has issued bonds in Thailand since 2014, with 14 bonds currently outstanding, three of which are USD denominated for USD312m while the other 11 are THB denominated for THB22.5bn (USD750m).

Also, the World Bank announced in May 2019 to provide a credit of USD40m, towards its Second Programmatic Green Growth Development Policy Operation, to support the Laos Government with its green growth reform. As part of this, the government will look at various sectors eligible for financing via green bonds, such as water management for river basins, sustainable forest management, national parks for biodiversity protection, and others.

Similarly, **Cambodia** is looking to develop its debt capital markets. HKL, the third largest microfinance bank in Cambodia and a subsidiary of Bank of Ayudhya of Thailand, issued the first corporate bond by a Cambodian entity in December 2018. The three-year deal raised KHR120bn (USD30m) and the proceeds will go towards lending to farmers and owners of small businesses. As well as this, NagaCorp, a gaming business, raised USD300m in 2018 in the Hong Kong market.

Building on these deals, there is the potential for the country to progress towards the issuance of green bonds in the near future.

There are five companies listed on Cambodia's stock exchange, including Phnom Penh Water Supply Authority, Grand Twins International (garment manufacturer), Phnom Penh Autonomous Ports, Sihanoukville Autonomous Port (both port operators), Phnom Penh SEZ PLC (special economic zone). The Association of Banks in Cambodia has signed a memorandum with USAID Green Invest Asia<sup>22</sup> to create national risk management and sustainable finance principles, which, through the 53 member banks, could pave the way for the development of green finance in the country going forward.

### Green bonds have also been issued by Multilateral Development Banks (MDBs)

The development of green bond markets in ASEAN is supported by a number of international organisations, in particular the development banks active in the region. They act as a core pillar in the development in the market, by showing the way (for example, through the development of their own green bond framework and impact reporting) and acting as anchor investor in some new transactions.


ADB has been a core investor in a number of green bonds in the ASEAN region. For example, it was the sole investor in B.Grimm's THB5bn green bond and invested THB3bn in the bond issue by Energy Absolute PCL in Thailand or USD20m in the AC Energy climate bonds in the Philippines.

ADB's 26 green bonds, including seven in 2019, have been mostly issued in USD and other hard currencies. As of the end of December 2019, USD7bn have been

cumulatively issued, including USD2.6bn in 2019. These proceeds are used to finance a number of projects within the ASEAN region, in accordance with ADB's green bond framework, which has

been reviewed by CICERO.<sup>23</sup> In addition, a number of international financial institutions have issued green local ASEAN currency bonds to finance green projects in the larger ASEAN countries.

### MDB issuance in local ASEAN currencies has provided an important signal for the green bond market

Currency	Bond type	IFC	EBRD	IBRD	ADB	EIB
IDR 	Green bond	✓	✓			
	Vanilla bond	✓	✓	✓	✓	✓
SGD 	Green bond					
	Vanilla bond	✓	✓	✓	✓	
PHP 	Green bond	✓				
	Vanilla bond	✓	✓	✓	✓	✓
MYR 	Green bond			✓		
	Vanilla bond	✓	✓	✓	✓	
THB 	Green bond					
	Vanilla bond			✓	✓	

# Conclusions and Outlook

The ASEAN region has witnessed solid year on year growth in its green and sustainable bond and loan markets in 2019 compared to 2018, in line with the global momentum. However, the growth remains fragmented and many national markets are still in early stage development.

**Singapore** is emerging as a regional leader of green lending, but its bond market remains relatively inactive despite its stated objective of becoming a green finance hub. With a new impetus from the Singapore Government to boost green finance and some strong commitments coming from Temasek, it is expected that its market will accelerate in 2020 and beyond.

## Certifications from Thailand and green sukuks from Malaysia

**Thailand** is seeing some positive signs, particularly with regards to the quality of the green bonds brought to the market and widespread Certification under the Climate Bonds Standard. The **Philippines** and **Malaysia** have seen a strong rise in the number of issuers, with Malaysia demonstrating its leadership in green Islamic securities. **Indonesia** was the largest market in ASEAN in 2018 and followed this with a second sovereign green issuance in February 2019, however there have been no further issuances since. Outside of the core markets, the development of green bonds remains very low in Vietnam, Cambodia, Laos and Myanmar.

Buildings and Energy remain the main sectors in the region, followed by Transport and Water, with a dominance of lending to the real estate sector in Singapore. To date

funding for the renewable energy sector is prominent in Thailand and the Philippines, whereas real estate and renewable energy sectors are predominant in Malaysia and Indonesia. Some promising opportunities exist in water and waste management, low carbon transport and land use. With relevant regulations now in place in ASEAN at the regional level via the ASEAN Green Bond Standards and domestic guidelines in Thailand, Indonesia, Malaysia and Singapore, the conditions exist for green and sustainable bond markets to develop further.

## Sovereigns need to issue green to support market development

With Indonesia as the sole sovereign green issuer there is a need for other governments in the region to act. Additional sovereign green issuance would signal to private sector bond market participants the importance of developing the market. Further support for private sector issuance will come as ABMI develops its activities, awareness of the MAS Sustainable Bond Grant Scheme grows along with the standardised local currency bond issuance framework from the ABMI.

There is also a greater role that MDBs and DFIs could play to assist de-risking initial green issuances and support ongoing green bond programs from the private sector.

## Institutional investor and pension fund engagement

At an institutional investor level, the landmark 2019 agreement between Government Pension Investment Fund (GPIF) and the ADB where the pension fund

supports green project financing through investments in ADB's green bonds is a model that could be replicated and expanded to help grow regional markets. Australia, with its proximity and pension funds with an appetite for infrastructure and Canada with its global size retirement funds are obvious prospects.

## Transition and opportunity

ASEAN is highly exposed to the impacts of climate change. Higher temperatures, droughts, floods, extreme weather patterns, is set to experience increase severe economic and social impacts. Rapid increases in green investment and capital allocations towards climate resilient and adaptive infrastructure is one of the responses required for sustainable low carbon growth paths.

A transition is underway to replace brown activities – i.e. with a negative impact on the environment – to green products and services that have a lower carbon footprint. This will bring some disruption in several sectors but is also a source of opportunity for new economic growth and development models that have a net zero objective

National and local governments, as well as financial and non-financial corporates and local institutions all have a responsibility to face the climate challenge as part of national development policies and directions. By building green finance markets, establishing green finance hubs promoting green bonds, loans and sukuk as financial instruments of choice to attract long-term capital, ASEAN nations will be preparing their economies for a better, safer future.

### Endnotes

1. <https://www.mas.gov.sg/development/sustainable-finance>
2. The high share of financial corporate deals is largely driven by ICBC Singapore classified as Singapore in this report, rather than as China (i.e. based on the parent) in the Climate Bonds Database and global figures.
3. Sustainable Development Goals (SDGs)
4. Socially Responsible Investment (SRI)
5. The term aligned outstanding bonds underscores the fact that this report does not analyse the full outstanding volume of bonds from strongly-aligned issuers (see definition of strongly-aligned climate issuers). For simplicity, 'aligned outstanding' bonds are always implied throughout the report when referring to the climate-aligned universe, although the term may not be used in full.
6. A copy of the ASEAN+3 Asian Bond Markets Initiative Medium-Term Road Map, 2019-2022 can be found here: [https://asianbondsonline.adb.org/documents/abmi\\_medium\\_term\\_road\\_map.pdf](https://asianbondsonline.adb.org/documents/abmi_medium_term_road_map.pdf)
7. For more information on the TA program, as well as other ABMI initiatives, please contact: Satoru Yamadera, Principal Financial Sector Specialist ([syamadera@adb.org](mailto:syamadera@adb.org)); Kosintr Puongsofhol, Financial Sector Specialist ([kpuongsofhol@adb.org](mailto:kpuongsofhol@adb.org)); and/or Richard Supangan ([rsupangan@adb.org](mailto:rsupangan@adb.org)).

8. The CGIF was established in November 2010 under ABMI to provide guarantees on local currency denominated bonds issued by corporates in ASEAN+3 member countries. Such guarantees will help companies that otherwise would have difficulty tapping local bond markets to secure long-term financing, reducing their dependency on short-term foreign currency borrowing to mitigate currency and maturity mismatches. Since its inaugural guarantee issuance in April 2013, CGIF has, to date, issued 37 guarantees for bonds issued by 27 companies from 10 economies in the ASEAN+3 region in Thai Baht, Indonesian Rupiah, Singapore Dollar, Vietnamese Dong, and Philippine Peso bond markets, in a cumulative total guarantee amount of USD2.0bn. More information on CGIF can be found at <http://www.cgif-abmi.org/>
9. ABO: <https://asianbondsonline.adb.org/>
10. <https://www.indonesia-investments.com/projects/government-development-plans/item305>
11. <https://climateactiontracker.org/countries/indonesia/>
12. <https://www.mas.gov.sg/schemes-and-initiatives/sustainable-bond-grant-scheme>
13. [https://www.mas.gov.sg/news/media-releases/2019/new-us\\$2-billion-investments-programme-to-support-growth-of-green-finance-in-singapore](https://www.mas.gov.sg/news/media-releases/2019/new-us$2-billion-investments-programme-to-support-growth-of-green-finance-in-singapore)

14. <https://www.ema.gov.sg/ourenergystory>
15. <https://www.eco-business.com/news/singapore-state-investor-temasek-to-be-carbon-neutral-by-2020/>
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17. <https://www.giz.de/en/downloads/VietNam-GreenGrowth-Strategy-giz2018.pdf>
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19. [https://www.bnm.gov.my/index.php?ch=en\\_announcement&pg=en\\_announcement&ac=767](https://www.bnm.gov.my/index.php?ch=en_announcement&pg=en_announcement&ac=767)
20. [https://www.sec.or.th/EN/Pages/News\\_Detail.aspx?SECID=7513](https://www.sec.or.th/EN/Pages/News_Detail.aspx?SECID=7513)
21. <https://www.bangkokpost.com/business/1800359/over-10-firms-to-launch-green-bonds-next-year>
22. <https://greeninvestasia.com/usaid-green-invest-asia-formalizes-green-finance-work-with-association-of-banks-in-cambodia/>
23. <https://www.adb.org/sites/default/files/ADB051114final.pdf>

# Regional and domestic measures across ASEAN in support of green bond issuance

## 2014

**Malaysia** – Securities Commission launches the Sustainable & Responsible Investment (SRI) Sukuk framework

**Indonesia** – Financial Services Authority (OJK) launched the Roadmap for Sustainable Finance.

## 2015

**Vietnam** – Directive on Promoting Green Credit and Managing Environmental and Social Risk in Lending Activities.

## 2018

**Philippines** – Securities and Exchange Commission approves guidelines on the issuance of Green Bonds under the ASEAN Green Bonds Standards.

**ASEAN** – ACMF publishes the ASEAN Social Bond Standards and the ASEAN Sustainability Bond Standards

## 2017

**Singapore** – Monetary Authority of Singapore (MAS) launches the Green Bond Grant Scheme to offset the cost of the external review for green bonds, up to SGD100k per issuance for first-time issuers. The bonds must be listed in Singapore with a minimum size of SGD200m and at least three years of maturity. MAS is a founding member of the Network for Greening the Financial System (NGFS)

**ASEAN** – Green Bond Standards are launched by the ASEAN Capital Markets Forum (ACMF), aligned to the Green Bond Principles but excluding fossil fuel power generation and promoting accessibility to information and frequent reporting.

**Malaysia** – Financial Services Authority enacted green bond requirements regulation.

## 2019

**Indonesia** – Demonstration issuance of a Sovereign Green Sukuk (USD1.25bn)

**Malaysia** – Securities Commission introduced a tax exemption for recipients under its Green SRI Sukuk Grant Scheme of MYR6m (USD1.5m) administered by the Capital Markets Malaysia and targeted at the expert review costs incurred by sukuk issuers.

**Indonesia** – Second Demonstration issuance of a Sovereign Green Sukuk (USD750m). Bank of Indonesia joins the Network for Greening the Financial System (NGFS)

**Malaysia** – Bank Negara Malaysia releases Climate Change and Principle-based Taxonomy Discussion Paper for public consultation

**Malaysia** – Securities Commission updates SRI Sukuk framework and Sustainable & Responsible Investment Roadmap

**Singapore** – MAS renames the Green Bond Grant Scheme to the Sustainable Bond Grant Scheme to include social and sustainability bonds and lower minimum issuance size to SGD20m. MAS launches the Green Finance Action Plan.

**Thailand & the Philippines** – The SECs launch their Guidelines for the offering and sale of green bonds

**Malaysia & Thailand** – Bank Negara Malaysia and Bank of Thailand become a member of the NGFS

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