

# ASEAN Green Financial Instruments Guide

## Debt

GREEN  
CORPORATE  
BOND

GREEN  
SECURITI-  
SATION

GREEN  
SOVEREIGN  
BOND

GREEN  
PROJECT  
BOND

GREEN  
LOAN

## Debt/Equity

GREEN  
SUKUK

GREEN  
PERPETUAL  
BOND

GREEN  
CONVERTIBLE  
BOND

GREEN  
MEZZANINE  
BOND

## Equity

PUBLIC  
PRIVATE  
PARTNER-  
SHIP

PRIVATE  
EQUITY

JOINT  
VENTURE

INVESTMENT  
TRUST

## Credit Enhancement

GUARANTEES

A/B LOANS  
OR GRANTS

FIRST-  
LOSS  
PIECE

VIABILITY  
GAP  
FUNDING



# Introduction

With an estimated combined GDP of USD2.57tn in 2016 and a real GDP growth rate of 4.8%, the ten members of the Association of Southeast Asian Nations (ASEAN) – Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam – taken together, represent the sixth largest economy globally.<sup>1</sup>

However, growth in the region has come at great environmental expense. Air pollution, water contamination and deforestation are just a few of the issues that affect ASEAN countries. The region’s high vulnerability to climate change exacerbates these negative trends contributing further to negative social and economic impacts.

Transitioning to a green, climate resilient economy is paramount to ensure that the region can reduce its greenhouse gas (GHG) emissions, better hedge against climate change risks and thrive in the long-run.

**It is estimated that around USD3tn in green investments will be required between 2016 and 2030 to fill the funding gap needed for the region to achieve a low-carbon transition.**<sup>2,3</sup>

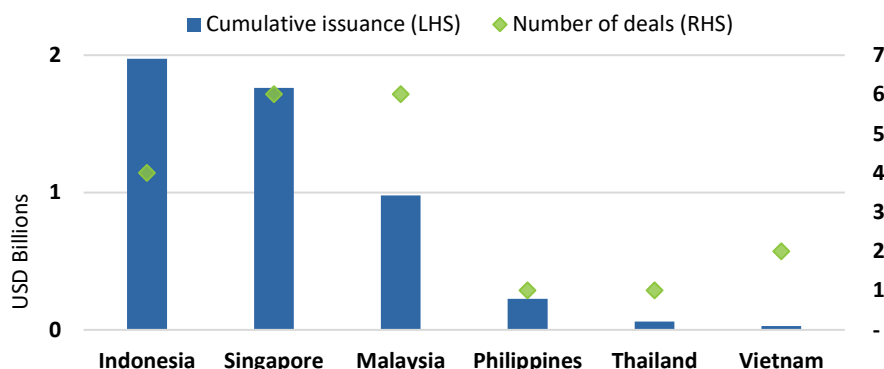
The involvement of both public and private investors will be essential to meet these investment targets. Since the signing of the Paris Agreement, governments have become increasingly involved in the development of green infrastructure to meet their emission reduction targets. Public finance is currently responsible for around 75% of infrastructure investments in ASEAN, with private capital flows coming largely in the format of commercial loans.

**Private finance will have to scale up rapidly to achieve the financing levels needed to accomplish sustainable growth.**

Promoting the development of local currency capital markets by sourcing local currency funding will be essential to attract capital from domestic institutional and retail investors, as well as reduce cross-currency risk exposure.<sup>4</sup>

Local banks are a key source of funding, given their expertise in markets at a regional and country level. However, international bond investors are also important given the scale of the financing required. As the appetite for green financing grows, local and international financial institutions are developing new products targeting investors interested in backing green and environmentally beneficial projects.

## Green bond issuance in ASEAN



### Green finance is developing rapidly

Financial products such as green labelled bonds, sukuk and loans have become globally recognised as an effective means of directing investment capital towards climate change mitigation as well as climate change resilience and adaptation projects.

Green financing instruments are structured as their vanilla counterparts, except that proceeds are earmarked to fund low-carbon assets and projects. Initiated in 2007 with a climate-awareness bond by the European Investment Bank, the green bond market has grown rapidly, with over USD500bn green bonds issued as the end of November 2018 ... and counting.

To combat the effects of climate change, it is estimated that green bond issuance needs to reach USD1tn per annum in 2020. A significant amount is expected to finance green infrastructure and assets in developing countries.

### ASEAN green bonds are on the rise

The first ASEAN country to enter the green bond market was the Philippines, with AP Renewables’ PHP10.7bn (USD226m) Certified Climate Bond, which financed geothermal assets. Since then, issuers from Indonesia, Singapore, Malaysia, Thailand and Vietnam have issued green debt for a cumulative total of USD5.03bn, as of the end of November 2018.

Regional issuance represents a very limited share of both global and emerging market (EM) figures: 1% and 5% respectively. Excluding China from EM volumes takes the ASEAN green bond market share to 14%. So, there is significant scope for upscaling future issuance to meet investment needs.

Indonesia has the largest green bond market in ASEAN, with a volume of USD1.98bn from four deals including Indonesia’s sovereign green sukuk and Star Energy Geothermal’s senior secured green bond.

Issuance from Singapore and Malaysia is most prolific with 6 deals from each. Real estate company Sindicatum Renewable Energy (Singapore) is the sole repeat green bond issuer so far.

For a full analysis of the ASEAN green and climate-aligned bond markets see our *ASEAN State of the Market 2018* report.

### About this guide

This guide highlights financial instruments and mechanisms available from and for public and private entities in the ASEAN region looking to fund green assets.

The document first lays out the main sources of financing available to entities looking to raise capital through equity, debt and partnerships. It also points to actors that can provide supporting tools such as credit enhancement mechanisms.

A general step-by-step guide to green financing is then provided, giving an overview of the whole financing process from asset identification to deal structuring and post-issuance reporting.

The implementation of green finance mechanisms in the region are analysed through brief case studies.

Finally, a detailed list of debt and equity instruments, credit enhancement mechanisms and risk transfer tools are set out in Annexes 1, 2, 3 and 4 respectively.

# Main sources of public and private funding

## Government support is unlocking green finance

Governments are increasingly involved in the development of green infrastructure to meet national emission reduction targets under the Paris Agreement.

Governments (central, local, cities) and government-related entities can seek to develop a green project pipeline and obtain funding through debt issuance in the capital markets. Subsidies, tax incentives and other policy instruments can be put in place to promote green investments from both private and public entities.

They can partner with other public entities, e.g. multilateral development banks, or the private sector to reduce the pressure on national balance sheets and share the risks that can arise from infrastructure project development (see Annex 2 for instruments).

## Two key policy changes underpin ASEAN green finance

In the area of green finance, the ASEAN Capital Markets Forum is the focal point for the ten ASEAN capital market regulators. In November 2017, ACMF released the **ASEAN Green Bond Standards** (AGBS, see box). In short order, three “firsts” were recorded:

- In December 2017, Permodalan Nasional Berhad became the first Malaysian government-backed entity to issue a green sukuk. It finances the Merdeka PNB118 tower, which benefits from three building certifications.
- Segi Astana (Malaysia) launched the first ASEAN Green medium term note (MTN) programme in January 2018. It will allow Segi Astana to raise funding repeatedly for certified buildings.
- Sindicatum Renewable Energy (Singapore) raised INR2.5bn (USD40m) in the first foreign-currency ASEAN green bond. The deal benefits from a guarantee by GuarantCo (see Annex 3).

The **ASEAN+3 Multi-currency Bond Issuance Framework**, released in 2015 by the ASEAN countries, China, Japan and the Republic of Korea, encourages domestic and regional issuers to take advantage of streamlined issuance approval processes and provides opportunities for bond issuance activity across the wider region.

## Banks play a key role

**Local banks** are a key source of funding, given their market expertise at a regional and country level. They can function as aggregators of green projects and refinance in the green bond market, or may be able to develop green securitisations. This would provide indirect capital market access for small- and medium-sized enterprises (SMEs), which cannot access debt capital markets directly due to limited project scale and lack of bond issuance expertise.

**Green banks and dedicated green divisions within banks** can contribute to accelerating private sector participation in green projects by offering dedicated green products in compliance with international definitions of green (see the CBI taxonomy in Annex 5).

**Development finance institutions (DFIs)** have a mandate to support developing countries and can achieve this through blended finance and credit enhancement mechanisms, by reducing risk exposure and enhancing market incentives for investors to mobilize private capital (see Annex 3).

### ASEAN Green Bond Standards

The ASEAN Green Bond Standards are based on the ICMA Green Bond Principles and seek to enhance transparency, consistency and uniformity to help reduce issuance and investment costs. Key elements of the standards 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 explicitly excluded;
- Information on the process for project selection and on the use of proceeds allocation, as well as the external review report must be made publicly available on a designated website;
- Recommendation to obtain an external review for the green bond framework, and is particularly recommended for the management of proceeds and annual reports; and
- Recommendation for the external review providers to disclose their relevant credentials and expertise and the scope of the review conducted.

This is particularly relevant for large-scale project such as infrastructure development. DFIs, such as the International Finance Corporation (IFC), Asian Development Bank (ADB), Asian Infrastructure Investment Bank (AIIB) and the World Bank, can subscribe to private placements or be anchor investors in debt issuance and IPOs to help the company seeking funding to build investor confidence and catalyse investments from a wider pool of private actors (see Annex 1 and Annex 2).

## Specialised financing is emerging

**Finance facilities**, such as Indonesia’s Tropical Landscapes Finance Facility and the Credit Guarantee Investment Facility, employ the blended finance approach to generate bankable project pipelines by providing technical support and facilitating access to funding (see the case studies section for more details).

**Specialised investment funds** are also a source of financing support. Regional examples include the ASEAN Infrastructure Fund, the Indonesia Infrastructure Guarantee Fund (IIGF), and LEAP, Leading Asia’s Private Sector Infrastructure Fund.

International funds focused on green bonds include the Green Cornerstone Bond Fund, created by the IFC and Amundi and launched in March 2018. The fund is the world’s largest targeted green bond fund focused on investing in emerging markets.<sup>5</sup>

## Mobilising institutional investors is essential to financing at scale

Mobilising institutional investors – pension funds, insurance companies, sovereign wealth funds, hedge funds, mutual funds – is essential to promoting green finance. Doing so creates market liquidity and enables primary lenders to free up capital and make space for new lending and investments. Institutional investors can also play a critical role in scaling up domestic currency financing through direct lending or equity investment in large, long-term projects such as green infrastructure and property.

For instance, Australian bank Westpac’s newly launched long-term investment product, the Green Tailored Deposit, uses deposits from large investors (minimum investment of AUD1m) to finance a pool of wind farm and low-carbon building assets, which meet the Climate Bonds Standard.<sup>6</sup>

# A step-by-step guide to green financing

Entities have a wide range of options to choose from when seeking to finance green infrastructure projects. The optimal financing structure will depend on the company and project-specific factors, as well as on regulations and general market conditions. As each financing structure will entail specific procedures, the steps provided below are intended to be a high-level guide highlighting the major aspects an entity should consider when planning to raise capital for a green project.

## Step 1: Develop green asset strategy and process

The first step for any private or public sector entity looking to finance a green project is to develop a green investment strategy and define a framework laying out the selection process and eligibility criteria for identifying the projects to be financed.

Procedures for the tracking and reporting of allocated and unallocated funds also need to be defined. Further, more and more investors are looking for impact reporting, so it is advisable to identify suitable metrics and initiate a monitoring process.

### Who can issue green bonds?

Any entity which has suitable green assets to finance can issue green bonds, green sukuk or obtain a green loan. The key aspect of green finance is that the proponent commits to investing the funds raised in green assets such as renewable power generation, low carbon transport, low carbon buildings, sustainable water management, sustainable waste management, sustainable land use, etc. and/or climate change adaptation or resilience measures such as flood defences. An overview of the Climate Bonds Taxonomy of sectors is provided in Annex 5.

In ASEAN, green bond issuance is not limited to domestic companies. International companies with a subsidiary in an ASEAN country are also eligible to come to market under the ASEAN Green Bond Standards.

### Is there guidance available?

When pursuing green bonds and green loans, the Green Bond Principles (GBP)<sup>7</sup> developed by the International Capital Markets Association (ICMA) and the Green Loan Principles (GLP)<sup>8</sup> published by the Loan Market Association (LMA) and the Asia-Pacific Loan Market Association (APLMA) provide useful guidance on four key aspects:

1. setting eligibility criteria,
2. asset / project screening,
3. management of proceeds and
4. post-issuance reporting.

The Climate Bonds Taxonomy builds upon the GBPs and provides definitions for asset and project types compliant with the Paris Agreement, i.e. decarbonisation by 2050 and limiting global warming to 2°C.<sup>9</sup>

Country-specific guidelines and frameworks should also be taken into account. For example, the Sustainable and Responsible Investment Sukuk Framework introduced by the Securities Commission Malaysia. Issuers should consider alignment with regional standards such as AGBS, which can facilitate access to a regional and/or international investor base.

### What's best practice?

It is market best practice to engage an external reviewer to evaluate the green credentials of the selected projects as well as the transparency and clarity of the framework. External reviews provide additional comfort to investors. There are a variety of external review formats (see box).

The Climate Bonds Initiative has developed the Climate Bonds Standard and sector specific criteria for a variety of asset categories – solar, wind, geothermal and marine renewable energy, low carbon buildings, low carbon transport, water infrastructure, forestry – and continues to develop metrics and criteria. The criteria metrics and assessment process are designed to ensure that the selected assets are on a trajectory to full decarbonisation by 2050 and limiting global warming to 2°C.

### Is there support for green bond issuers?

Singapore and Malaysia offer subsidies or grant schemes to cover the cost of external reviews to incentivise best practice and transparency.

In **Singapore**, the central bank, Monetary Authority of Singapore, has implemented a green bond grant scheme that can absorb the full cost of external reviews.

In **Malaysia**, tax deduction of issuance costs for issuers and tax exemptions for investors are in place until 2020 for socially responsible sukuk and green sukuk. A MYR6m Green SRI Sukuk Grant Scheme has also been set up to cover the cost of external reviews.

## External reviews

External reviews from an independent party, which confirm alignment with the Green Bond Principles (GBP) / Green Loan Principles (GLP) and/or compliance with the Climate Bonds Standard, have become common practice. The most common forms of review are:

- **Assurance report:** an external party confirmation of compliance with GBP.
- **Second Party Opinion:** an external assessment of the issuer's green bond framework, confirming GBP compliance and analysing the "greenness" of eligible categories.
- **Green rating:** an evaluation of the green bond or related framework against a third-party rating methodology, which considers the environmental aspects of the investments. These include products developed by international and domestic rating agencies, e.g. Moody's, S&P and RAM Malaysia.
- **Verification reports for Certified Climate Bonds:** third party verification, pre- and post-issuance, which confirms that the use of proceeds adheres to the Climate Bonds Standard and Sector Criteria.

## Certified Climate Bonds

Issuers can certify bonds, loans or sukuk under the Climate Bonds Standard. Certification confirms that the bond is aligned to the Paris Agreement and to keeping global warming under 2°C.

In order to receive the Certified Climate Bonds stamp of approval, a prospective issuer must appoint an Approved Verifier, who will assess the assets and issue a verification report to confirm that the bond meets the Climate Bonds Standard.

The Climate Bond Standard allows Certification of a bond prior to issuance, which enables the issuer to use the Climate Bond Certification Mark in the bond marketing efforts and investor roadshows. After the bond has been issued and allocation of the bond proceeds has begun, the issuer must confirm the Certification by obtaining a post issuance verification report annually to maintain its Certified status.



## Step 1

### Develop green asset strategy and process

- Develop **green asset strategy** at corporate level
- Define **eligibility criteria** for projects / assets and create **selection process**
- Prepare **green bond framework**
- Identify qualifying green projects or assets
- Set up **tracking and reporting procedures**
- **Best practice tip:** arrange an **external review**

## Step 2

### Determine appropriate funding sources

- **Direct investments:** equity, debt and project finance, including Public-Private Partnerships
- **Semi-direct investments:** pooled vehicles, including securitisation, covered bonds, investment trusts, venture capital and equity funds
- **Indirect investments:** publicly listed equity, corporate bonds, participation in debt financing

## Step 3

### Deal structuring

- Consider need for **partnerships** be it for co-financing or access to expertise and/or network
- Determine share of funding from **public and/or private** equity and debt
- Evaluate need for **credit enhancement** mechanisms
- Prepare required **documentation**

## Step 4

### Debt origination

- **Arranger:** structures deal in conjunction with issuer; coordinates transaction execution
- **Legal advisor:** prepares bond prospectus, transaction documentation, legal opinion
- **Auditor:** prepares audit report and signs off on financial disclosure in the prospectus
- **Credit rating agency (optional):** prepares credit rating report; assigns a credit rating
- **Underwriter/lead manager:** structures bond, manages transaction, acts as a book runner

## Step 5

### Post-issuance reporting

- **Report annually** to confirm that the funds are allocated to green projects/assets
- **Best Practice tip:** Disclose environment impacts of financial projects in absolute terms and relative to an appropriate benchmark

## Step 2: Source of financing

Once the assets have been identified, the entity needs to determine the most suitable way to obtain the required funding. Financing can be obtained through:<sup>10</sup>

- **Direct investments:** equity, debt and project finance, including Public-Private Partnerships
- **Semi-direct investments:** pooled vehicles, including securitisation, covered bonds, investment trusts, venture capital and equity funds
- **Indirect investments:** publicly listed equity, corporate bonds, participation in debt financing

Public-private partnerships (PPP) are one of the most frequently used methods globally to increase a public project's viability and attract private capital (see Annex 3). However, PPPs are not the most appropriate means of financing certain asset types, such as real estate and renewable energy power plants. These assets would typically be classified as infrastructure projects and financed through private sector equity and debt funding.

Equity markets are a potential source of funding for private projects, which can be achieved through publicly listed equity, mezzanine finance, venture capital or private equity funds and direct equity investments in the selected projects. Equity funding from venture capital funds is particularly useful at the early development stages of a company/product that is not market-ready (see Annex 2 for more).

Sometimes investments are entirely equity funded, but typically, the financing package a component of equity and a more significant amount of debt. There are a wide variety of debt instruments available, such as secured or unsecured senior loans or bonds, secured or unsecured subordinated / mezzanine loans or bonds, structured finance and securitisation (see Annex 1).

## Step 3: Deal structuring

The deal structure can entail a combination of different sources of financing, depending on the company, asset characteristics and macroeconomic factors.

The entity should consider if there is a need for a partner. Other than being an effective means of obtaining capital requirements, partnerships can cater to several other needs, such as expertise acquisition and risk distribution. Co-investors can come into a joint venture or a partnership, or they can invest in the company (see Annex 2).

The share of funding coming from public or private equity also has to be determined. Private companies with a history of profitability can consider going public and raising capital through an IPO. Companies can also look to mezzanine financing or forms of preferred equity or subordinated debt which have a higher claim on the company's assets compared to common stock (see Annex 2).

Debt financing can take many shapes and forms. Bonds may be backed by an issuer's balance sheet (e.g. corporate bond), by a specific pool of assets or revenue streams (e.g. securitisation) or by both (dual-recourse or covered bond) (see Annex 1).

When considering debt issuance, entities should evaluate if there is the need to use a credit enhancement mechanism to improve the risk-return profile of the deal in order to attract private capital. Credit risk, political risk and technological risk are all factors that have to be adequately addressed for a viable underwriting commitment (see Annex 3).

Issuers can list bonds publicly, i.e. make them available to a large number of potential investors. However, in emerging markets and for small issuers this could prove challenging if the issuer has limited credit history, a low credit rating and/or is financing a new asset type. A better alternative may be to sell the deal as a private placement directly to specific investors – often government or quasi-government entities, national banks and supranational banks – to demonstrate the viability of the project and build investor confidence for future deals.

During the structuring phase, the issuer can seek support from providers of finance services – including investment banks, guarantee providers and specialised facilities – to identify the best avenue to pursue. Any tax incentives for green products available to either issuers or investors should be taken into consideration at this point. In Malaysia, for instance, green SRI sukuk issuers benefit from tax deduction on the issuance costs until year of assessment 2020 and can defray external review costs between 2018 and 2020.

Subsidies to equipment manufacturers should be considered as they can potentially have a beneficial effect on pricing.

## Regulation and supporting documents

Having chosen the type of funding instrument, the issuer will have to prepare any documentation required by relevant regulations or by entities providing any credit enhancement mechanisms such as due diligence reports identifying the specific

project risks, cash flow projections and/or valuation as appropriate, financial accounts, technical assessments such as building survey or certification, environmental report or climate change vulnerability assessment.

## Step 4: Debt origination

Debt origination involves a number of parties that help the issuer structure and execute the transaction. Highlighting the deal's green credentials by developing a Green Bond Framework and obtaining an external review demonstrates a high level of transparency which can benefit the origination process and attract investors.

There are a number of parties involved in the origination process:

- **Arranger:** structures the deal in conjunction with the issuer to address the latter's goals effectively. Treasury teams within the issuing entities can bring to the table extensive knowledge of local capital markets to support the process. The arranger's role is primarily to advise on the most appropriate financing approach and structure, but they also coordinate transaction execution and the parties involved.

The issuer can also appoint the arranger as "green structuring agent" to advise on green bond aspects, e.g. the green bond framework and/or arranging an external review.

- **Legal advisor:** prepares the bond prospectus and all underlying transaction documentation, provides legal structuring advice and delivers a legal opinion.
- **Auditor:** prepares the audit report and signs off on financial disclosure in the bond prospectus/loan syndication pack.
- **Credit rating agencies (optional):** prepare a credit rating report and assign the deal a credit rating.
- **Underwriter / lead manager / bookrunner:** underwrites the deal and manages the process of selling the bonds/loan/sukuk to investors.

## Step 5: Post-issuance reporting

After a green bond, sukuk or loan be issued, issuers should publish a public report annually on proceeds allocations, with details on the financed projects and the management of any unallocated proceeds. Disclosing the environmental impacts of financed projects using appropriate metrics and benchmarks is aligned to best practice.

# ASEAN highlights:

## Green debt issuance case studies and support mechanisms

### Green Sukuk

A sukuk is an Islamic financial certificate in compliance with the Sharia law. The certificates give partial ownership in the underlying nominated assets or earnings from those assets.

In the case of a green sukuk, the financed assets must yield environmental benefits. An advantage of green sukuk as it has the potential to attract both green investors and those with Shariah-compliant mandates.

The world's first green sukuk was issued in July 2017 by Tadau Energy. The MYR250m (USD58m) deal will finance solar projects in Malaysia. The market has now grown to a cumulative total of USD2.13bn, with all deals but the Indonesian sovereign sukuk coming from Malaysian issuers.

The Republic of Indonesia's USD1.25bn green sovereign sukuk is the largest green sukuk to date, as well as the first green sovereign bond from Asia. The Indonesian sovereign's Green Bond and Sukuk Framework<sup>11</sup> includes a wide range of eligibility categories, which is not unusual for a sovereign bond as ministries and agencies usually apply for funding of specific projects after the bond has been issued. The issuer's reporting on proceed allocation will be essential to determine the share of funds allocated to each eligible category.

Malaysian state-backed investment company Permodalan Nasional Berhad issued the first (and so far only) green sukuk which allocates proceeds solely to property financing: the Merdeka PNB118 Tower, which aims to secure LEED certification.<sup>12</sup>

The green sukuk market has the potential for scaling up significantly, especially in Indonesia and Malaysia. This instrument is well positioned to fund solar projects, low-carbon buildings, water and wastewater management, low carbon vehicles and public transport, as well as other mitigation and adaptation investments.

### Private placements

Private placements are directly placed with investors and are typically not listed. This gives the issuer the flexibility of negotiating certain deal terms such as tenor and currency to match investor preferences. Details of the deal such as pricing and maturity may remain confidential.

However, in the case of green private placements, the issuer is expected to disclose information on the nominated projects and assets to be financed, at least initially to allow classification (see Annex 1).

For issuers debuting in the green bond market, private placements provide the advantage of building an investor base before coming to market with a public issuance. Multilateral development banks, such as the IFC, EBRD and ADB, have been active as investors in a range of green bond deals of first-time issuers, some of which also coincide with the first green bond from a specific country.

While private placements can be very beneficial for raising capital, the lack of publicly available information can lead to a bond being excluded from green bond lists or from investor consideration if it is not possible to determine the green credentials of the assets/projects being financed.

Below are two examples of private placements from ASEAN issuers fully subscribed by IFC that have been classified differently by Climate Bonds Initiative based on the degree of disclosure on allocations.

- **TMB Bank** issued a USD60m green private placement in June 2018, becoming the first green bond issuer from Thailand. Proceeds will finance solar, waste to energy, biomass and bagasse projects. To be eligible, biomass projects must exclusively use sustainable biomass feedstocks. The deal was originally classified as pending due to insufficient information, but clarifications provided by the IFC, sole investor in the deal, confirmed that the eligibility categories are aligned with the Climate Bonds Taxonomy.
- **BDO Unibank** came to market with a USD150m green private placement in December 2017. According to BDO's press release, proceeds will finance renewable energy, energy-efficient equipment and green building projects in the Philippines.<sup>13</sup> Due to insufficient information on the energy efficient projects and whether they allow efficiency improvements to fossil fuel-based technologies, the deal has been classified as excluded under the CBI Green Bond Database Methodology.<sup>14</sup>

Clear definitions of eligible categories are always recommended. For instance, energy efficiency is best qualified as to the sector it relates to – e.g. buildings, transport, grid infrastructure.

Specifics may not be possible pre-issuance in the case of banks, but post-issuance disclosure on allocations can provide the needed transparency and clarity. Ideally, all disclosure on assets' green credentials should be publicly available to provide visibility, improve investor confidence and enhance market credibility.

### Credit guarantees

Credit guarantees can provide default risk coverage of a commercial infrastructure project for a portion or the whole debt obligation subscribed by private investors, regardless of the reason for default. Through this mechanism, the issuer is able to improve the credit worthiness of the project, thereby attracting a wider range of investors and potentially achieving better terms for the deal.

Credit guarantees are particularly helpful to finance green infrastructure projects in emerging markets which have a high credit risk profile. Two examples from the green bond market in ASEAN are described below.

- Philippines-based energy company **AP Renewables** issued a PHP10.7bn (USD226m), 10-year, senior secured Certified Climate Bond to finance the Tiwi-MakBan geothermal power plants, which have a combined capacity of 390MW. The Asian Development Bank (ADB) provided a Partial Credit Guarantee covering up to 75% of scheduled principal repayments and interest payments.<sup>15</sup> The ADB also provided a limited recourse direct senior secured loan of PHP1.8bn.
- **Sindicatum Renewable Energy** (Singapore) issued a two-tranche 7-year senior secured green bond totalling INR2.5bn (USD40m) in January 2018. Later in the year, the issuer returned to the market with another senior secured green bond of PHP1.1bn (USD20m). GuarantCo provided a 100% credit guarantee for both deals.

There are a wide variety of guarantees available to issuers that fully cover or minimise different types of risk, such as



currency exchange volatility, political risk and repayment risk (see Annex 3).

### Specialised finance facilities

Green finance facilities act as a bridge between governments, the private sector and communities to actively develop a suitable project pipeline that supports lending through green bond issuance.

A **blended finance** approach is adopted to channel capital flows into the pipeline, implementing risk cover and credit enhancement to improve the bankability of projects when required. Technical and knowledge support is also usually provided during the project preparation stage to improve project quality.<sup>16</sup>

Indonesia's **Tropical Landscapes Finance Facility (TLFF)** is a government supported partnership between the United Nations Environment Programme, World Agroforestry Centre, ADM Capital and BNP Paribas launched in 2016. The aim of the facility is to deploy public capital to catalyse private investments into commercial projects with a clear environmental and social benefit, mainly related to sustainable agriculture – including improved forest management and biodiversity preservation – and renewable energy.<sup>17</sup>

The facility issued its inaugural transaction in the green bond market in February 2018 with a USD95m multi-tranche sustainability bond deal as part of a USD350m project. The deal was arranged by BNP Paribas and issued through the financing vehicle TLFF I Pte Ltd for a joint venture between France's Michelin and Indonesia's Barito Group. Proceeds are earmarked for the creation of sustainable rubber plantations on heavily degraded land in the Jambi and East Kalimantan provinces of Indonesia. USAID provided a partial credit guarantee of USD70m, protecting investors from 50% losses in principal on the guaranteed portion of the deal.<sup>18</sup>

To date, TLFF is the only facility from ASEAN to come to market with a green bond. There is large scope for similar facilities in the region to follow this structural approach.

An example of a regional facility that could provide **support for green infrastructure investments** is the **Credit Guarantee Investment Facility (CGIF)**. This multilateral facility was established in 2010 by ASEAN+3 (China, Japan and South Korea) and the Asian Development Bank (ADB) to provide credit guarantees for local currency bonds issued by investment grade companies in ASEAN+3 countries. The guarantees enable issuers in the region to access capital for longer-dated debt and reduce the local capital market's mismatches between currency and maturity. This, in turn, contributes to increasing the region's overall market stability.<sup>19</sup>

At a national level, **Credit Guarantee Corporation Malaysia (CGC)** facilitates access to funding for small and medium enterprises (SMEs) through the provision of loan guarantees and financing facilities, advisory services, credit rating services in collaboration with SME Corp and Credit Bureau Malaysia Sdn.Bhd. In December 2018, MARC affirmed the institution's triple-A rating. As a key DFI in supporting the development of SMEs in Malaysia, CGC is well positioned to take up a bigger role in increasing financing directed to low carbon projects.<sup>20</sup>

### Funds supporting infrastructure investment in ASEAN

Specialised green funds aim to raise capital to finance companies and/or projects deemed to be environmentally beneficial. A brief description of regional funds already supporting infrastructure development that could be leveraged to finance green projects is presented below.

The **Indonesia Infrastructure Guarantee Fund (IIGF)** is financed by authorized capital of ca. USD1bn from the Government of Indonesia's budget, with financial assistance provided by the World Bank. The fund's objective is to support PPP infrastructure projects through the provision of government guarantees.<sup>21</sup> As of Q1 2018, 21 projects had been appraised by the IIGF.<sup>22</sup>

The **ASEAN Infrastructure Fund (AIF)** is a multilateral fund established by ADB and ASEAN members to help mobilise regional savings, including foreign exchange reserves, to fund infrastructure projects – with co-financing by ADB funds.<sup>23</sup> The fund's first lending transaction was a USD25m participation in a loan to finance the Java-Bali 500-Kilovolt Power Transmission Crossing Project.<sup>24</sup> The AIF recently approved a 'green window' specifically to finance ASEAN green infrastructure.

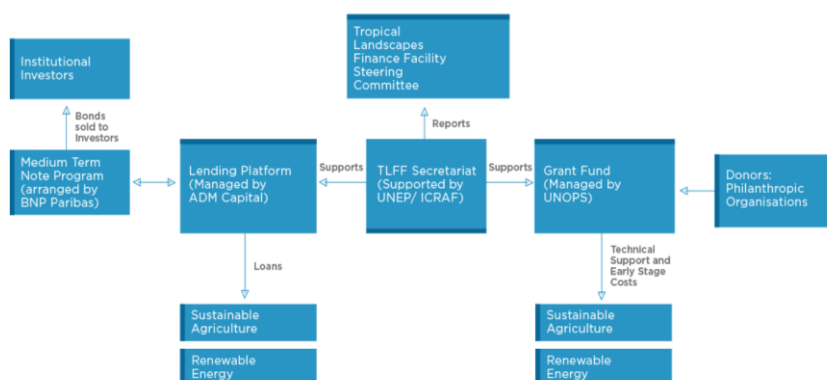
**GuarantCo**, a subsidiary of the Private Infrastructure Development Group, encourages infrastructure development in low income countries through the provision of credit guarantees that enable infrastructure projects to raise debt finance. It is sponsored by five G12 governments.<sup>25</sup>

**Leading Asia's Private Sector Infrastructure Fund (LEAP)** is an infrastructure co-financing fund, established by ADB, that supports PPPs, joint ventures, private finance initiative projects, and privatizations, as well as conventional project finance by providing financing to companies, projects, and financial intermediaries (e.g. holding companies and local currency vehicles) linked to Infrastructure. The fund is supported by the Japan International Cooperation Agency (JICA).<sup>26</sup>

The **Currency Exchange Fund (TCX)** was set up in 2007 by a group of 22 DFIs and microfinance investment vehicles, alongside the Dutch and German governments to offer currency risk hedging solutions in developing and frontier markets.<sup>27</sup> This is made possible by pooling the risk of currencies for which there are no long-term hedging products, or, in some cases, no market at all. TCX has, for example, provided hedging to facilitate local currency bond issuance in Myanmar in 2017/18.<sup>28</sup>

Currency risk can be a significant barrier to emerging market bond issuance. Accessing hedging solutions through DFIs or TCX can help catalyse capital from international investors to deals denominated in local currency or backed by local currency revenues. It can also help grow a domestic, local currency bond market, decreasing reliance on hard currency for funding..

#### TLFF Governance Structure



Source: Tropical Landscapes Finance Facility



# Annex 1: Debt instruments

Debt instrument	Definition	Example
<b>Supra-national and sovereign green bonds</b>	Proceeds are allocated to nominated projects and assets. Debt securities carry the credit rating of the issuing State. However, an independent rating may be assigned by ratings agencies.	The Republic of Indonesia issued a USD1.25bn 5-year green sovereign sukuk in 2018 to finance eligible projects under a range of categories: renewable energy, energy efficiency, adaptation, transport, green buildings, sustainable agriculture, sustainable management of natural resources and green tourism.
<b>Sub-sovereign green bonds</b>	Proceeds are allocated to nominated projects and assets within the sponsoring region. Credit rating is based on that of the issuing municipality and the credit quality of the underlying assets.	In 2016, the Vietnam Ministry of Finance approved a pilot project for municipal green bonds. <sup>29</sup> In September the People's Committee of Ba Ria Vung Tau Province came to market with a VND80bn (USD4m) 5-year green bond to finance a water resource management project. Shortly after, Ho Chi Minh City Finance and Investment State-Owned Company issued a VND523.5bn (USD23m) 15-year green bond with proceeds allocated to 11 projects related to the water, adaptation and infrastructure sectors.  Government-backed infrastructure financing company PT Sarana Multi Infrastruktur (Indonesia) issued a 2-tranche IDR500bn (USD50m) unsecured green bond in 2018. Proceeds will be allocated to refinancing three light rail transit projects, two mini hydro power plants, a water treatment plant and irrigation systems.
<b>General obligation green bond</b>	Proceeds are allocated to nominated projects and assets within the sponsoring region. As the green bonds are backed by balance sheet assets, the bond will carry the credit rating of the issuing entity.	Singapore state development bank DBS Group issued a USD500m 5-year green bond in July 2017. Proceeds will be allocated to green buildings, transport, renewable energy, energy efficiency, waste and adaptation.
<b>Green revenue bond</b>	Proceeds are allocated on nominated projects and assets. As the green bonds are backed at least partially by the issuer's revenue stream, bonds carry the credit rating of the issuing entity.	In 2014 the State of Hawaii issued GEMS 2014-1, an ABS deal secured on the green infrastructure fee collected by three state utility companies via electricity bills. The bond raised funds for the Hawaii Green Infrastructure Loan Program, which aims at providing loans to finance the installation of renewable energy power systems and for energy efficiency projects.  In 2017 Beijing Enterprises Water Group, which operates 19 water treatment plants under contracts with 16 municipalities, issued a securitisation backed by water treatment service fee receivables. The proceeds are to be invested in 9 new water infrastructure projects.
<b>Green structured finance</b>	Debt securities backed by a pool of underlying assets. Proceeds are allocated only to nominated projects and assets. The credit risk is dependent on the asset risks.	National Australia Bank placed AUD200m of secured notes for the refinancing of wind and solar assets in June 2018. The structure is backed by loans to Australian renewable energy developers.
<b>Green securitisation</b> <b>Green tranches in ABS and MBS deals</b>	Debt securities backed by a pool of underlying assets. Proceeds are allocated only to nominated projects and assets. Often an independent credit rating is issued by a rating agency, but this is not a requirement. The credit risk is dependent on the asset risks.	FlexiGroup (Australia) has closed three ABS deals with green tranches, mostly senior (Class A), for the refinancing of solar rooftops. Its 2018 deal contained a B note too.  Harvest Capital (China) has issued Green CMBS secured on a LEED Gold Certified office building owned by China Energy Conservation and Environmental Protection Group (CECEP).

<b>Green convertible bond</b>	Proceeds are allocated on nominated projects and assets. The security can be converted into a predetermined amount of the company's common stock. The bond will carry the credit rating of the issuing entity.	Japan-based Sumitomo Forestry Co., Ltd issued the first green convertible in September 2018 to refinance the acquisition of 30,000 hectares of FSC certified timberlands and plantation forests in Nelson, New Zealand. The Stock Acquisition Rights give bondholders the option to acquire the company's common stock.
<b>Green project bond</b>	Proceeds are allocated on nominated projects and assets. Credit rating is based on the quality of the backing green assets and the returns stream of the underlying project.	In August 2017, the Inter-American Investment Corporation (IIC), the private sector branch of the IDB Group, arranged a USD135.8m 20-year B-bond to finance a 70MW wind farm located in Uruguay and developed by US-based energy company Invergy. The B-bond was sold to institutional investors to refinance the A/B loan previously provided by IIC and DNB Bank for the construction of the wind farm.
<b>Environmental impact bonds / pay-for-results green bonds</b>	Proceeds allocated to nominated green projects/assets. Part of the project's risk is transferred from the issuer to investors. The payments to investors are conditional to the project achieving an expected outcome after a third-party evaluation has been conducted.	DC Water and Sewer Authority issued a USD25m private placement in 2016 to finance the construction of green infrastructure designed to mimic natural processes to absorb and slow surges of stormwater during periods of heavy rainfall. If the outcome of the project meets expectations, no contingent payment will be due to investors. If it exceeds expectation, investors will make a Risk Payment Share of USD 3.3m to DC Water, if it does not achieve expectations, DC Water will make an outcome payment to investors. <sup>30</sup>  US cities of Atlanta and Baltimore recently announced plans to issue environmental impact bonds in the course of 2019. <sup>31</sup>
<b>Private placement</b>	Green bond placed directly with the investor/s. Details of the deal such as pricing and maturity may remain confidential, but the issuer is expected to disclose details on the nominated projects and assets to be financed.	Thailand-based TMB Bank issued a USD60m 7-year green private placement in June 2018 to finance solar, biomass and waste to energy projects. The IFC was the sole investor in the deal.
<b>Green loans, syndicated loans and credit lines</b>	Provide lending to encourage market development in climate-aligned sectors in line with the Climate Bonds Taxonomy and in compliance with the Green Loan Principles. Interest rates are based on borrower credit scores or an ESG score assigned by an ESG rating agency.	Fraser Property Limited (Singapore) issued a SGD1.2bn (USD876m) 5-year green loan to refinance existing loans relating to the development of the Fraser Tower.
<b>Mezzanine and subordinated debt</b>	Proceeds are allocated on nominated projects and assets. Hybrid capital investments, from development banks seeking to support private investment in the senior debt or from investors with a higher risk appetite.	Global investment manager AMP Capital provided a EUR245m mezzanine finance facility of EUR245m to Neoen, a French renewable-energy provider.  In May 2018, Canadian insurance company Manulife Financial issued a CAD600m (USD464m) 10-year green subordinated secured bond.

## Annex 2: Equity instruments

Equity instruments <sup>32</sup>	Definition	Example
<b>Islamic finance, including Sukuk</b>	Islamic financial certificate in compliance with the Sharia law. The certificates give partial ownership in the underlying assets and/or the earnings from those assets.	Malaysian project company Tadau Energy issued the world's first green sukuk in July 2017. The 16-year MYR250m (USD58m) deal was issued to finance solar power assets. Five other green sukuk issuers have come to market since, totalling USD2.13bn in cumulative issuance.
<b>Public-Private Partnership</b>	A long-term contract between a public entity and a private party aimed at developing and supporting a public asset or service. The private party takes on significant risk and management responsibility, and remuneration is linked to performance. <sup>33</sup>	PT Sarana Multi Infrastruktur (PT SMI), a state-owned infrastructure financing company, plays an active role in facilitating infrastructure financing, project development and infrastructure advisory services in Indonesia. PT SMI supports the Government's infrastructure development agenda for Indonesia through partnerships with private and/or multilateral financial institutions in PPP projects. <sup>34</sup>
<b>Joint venture, partnership</b>	Business agreement between two or more parties that pool their capital, skills and resources to achieve a specific project or business activity.	SunPower Capital and Hannon Armstrong Sustainable Infrastructure Capital entered into a joint venture - SunStrong Capital Holdings, LLC - to acquire, manage and finance a portfolio of residential solar PV systems. The JV issued a USD400m solar ABS in November 2018. <sup>35</sup>
<b>Private equity, venture capital and unlisted equity funds</b>	Fund allocations to innovative pilot-scale green projects including for qualified green infrastructure. Aid project developers and entrepreneurs to secure a funding stream for green projects. PE often incorporates green indicators into process.	In April 2017, the Clean Energy Innovation Fund invested AUD5m in Zen Ecosystems' series-B funding round.
<b>Mezzanine/subordinated debt and preferred stock (B-shares)</b>	Hybrid financing typically from development banks and international finance institutions supported by subordination of equity tranches. Often, lenders are allowed to convert the loan into subordinate equity shares according to pre-specified conditions. Alternatively, shares may be used as loan collateral.	AMP Capital's GBP37m mezzanine investment stake in a GBP247m refinancing of UK solar parks.
<b>Subsidiary / project financing vehicles / YieldCos</b>	Use of proceeds to fund a portfolio of (off-balance sheet) green projects. Private or publicly traded vehicle consisting of pools of long-term cash-generating green assets, may have tax advantages.	City Developments Limited (CDL) issued an SG100m (USD71m) senior secured Certified Climate Bond in April 2017 through its wholly owned subsidiary CDL Properties Ltd to refinance an intercompany loan extended by CDL to CDLP for Republic Plaza, one of Singapore's tallest skyscrapers and a premium Grade A office building in the heart of Singapore's Central Business District.  US YieldCos Terraform Global and Terraform Power were established by SunEdison in 2015 and issued green bonds to finance solar, hydro and wind assets.
<b>Investment Trusts</b>	Use of proceeds to fund a portfolio of green projects. Publicly traded vehicle consisting of pools of long-term cash-generating green assets, may have tax advantages.	US REIT Hannon Armstrong issued a debut USD100m ABS in 2013. The deal was secured on ground lease receivables from 78 solar and wind farms. Leasing land to renewable energy operators carries lower risk than owning and operating the solar and wind farms. Pooling the leases creates diversity of income streams, a prized feature of securitisations, which further lowers deal risk. <sup>36</sup>
<b>Infrastructure/property funds</b>	Fund directly investing in nominated infrastructure projects. Funds can have a mixed financing structure by both investing directly in assets and through debt subscription.	Glennmont Partners is a European-based fund manager focusing on clean energy infrastructure investments. In October 2017, the fund completed a EUR190m refinancing of a portfolio of operating wind turbines located in Sicily and Puglia, Italy. <sup>37</sup>

## Annex 3: Credit enhancement mechanisms

Credit enhancement mechanisms <sup>38, 39, 40, 41</sup>	Definition	Example
<b>Full or partial credit guarantee (PCG)</b>	A credit guarantee or PCG is created to absorb part or all the debt service default risk of an infrastructure project, irrespective of the cause of default. PCGs can be used for any commercial debt instrument (loans, bonds) from a private lender. The existence or proposed implementation of a PCG is indicative of confidence in the product being floated by the guaranteeing entity and can even assist in bringing new lenders to the table.	<p>Sindicatum Renewables (Singapore) issued a two-tranche 7-year senior secured green bond deal totalling INR2.5bn (USD40m) in January 2018. Later in 2018, it returned to the market with a senior secured green bond of PHP1.1bn (USD20m). GuarantCo provided a 100% credit guarantee for both deals.</p> <p>Energy company AP Renewables (Philippines) issued a PHP10.7bn (USD226m) 10-year senior secured Certified Climate Bond to finance the Tiwi-MakBan geothermal power plants, which have a combined capacity of 390MW. The Asian Development Bank (ADB) provided a Partial Credit Guarantee covering up to 75% of scheduled principal repayments and interest payments. The ADB also provided a limited recourse direct senior secured loan of PHP1.8bn.<sup>42</sup></p>
<b>Partial risk guarantee / Political risk guarantee</b>	PRGs cover private lenders and investors for certain risks of lending to sovereign or sub-sovereign borrowers. A PRG needs to include private participation in the project. A PRG can cover a number of sovereign or sub-sovereign risks such as currency inconvertibility, repatriation, expropriation, political force majeure such as war, regulatory risk and government payment obligations (such as tariffs).	There have been no green bonds using this type of guarantee to date. However, PRGs are used quite often and favourably in renewable energy and energy efficiency projects.
<b>Partial risk swap guarantees</b>	Partial Swap Guarantees cover investors against the risks arising from currency swaps in cross-border transactions or where the debt service cash flow is in a different currency from the deal cash flows, which would require the issuer to hedge the currency mismatch to provide comfort to investors that payments can be made in the debt currency.	Brazil-based private sector bank Unibanco issued JPY25bn 10-year amortising notes backed by the banks' USD-denominated offshore remittance flows. The deal was placed with Japanese institutional investors, who required a hedging on the currency mismatch. To reduce the credit exposure for the institution providing the currency swap, the issue obtained a PSG from the IFC. <sup>43</sup>
<b>First-loss provisions</b>	First-loss provisions refer to any device designed to protect investors from the loss of capital that is exposed first if there is a financial loss of security. These could be debt, equity or derivatives instruments including mezzanine finance, cash facilities or guarantees. They could also take the form of insurance that insures debt security providers who are liable to pay compensation to the investors, irrespective of the cause of the loss.	<p>The Green Cornerstone Bond Fund, created by the IFC and Amundi and launched in March 2018, is the world's largest targeted green bond fund focused on investing in emerging markets. To lower risk and attract private sector investments, the IFC will provide a first-loss coverage through a junior tranche.</p> <p>The Credit Guarantee Investment Facility provides credit guarantees for local currency denominated bonds issued by investment grade companies in ASEAN+3 countries (see p5).</p>
<b>Contingent loans</b>	Contingent loans are often used in project finance to backstop the main debt by providing a payment option for specific case scenarios. For instance, if the government fails to obtain quality cash flows, the contingent loan is triggered, and investors are paid.	There have been no green projects using contingent loans to date.

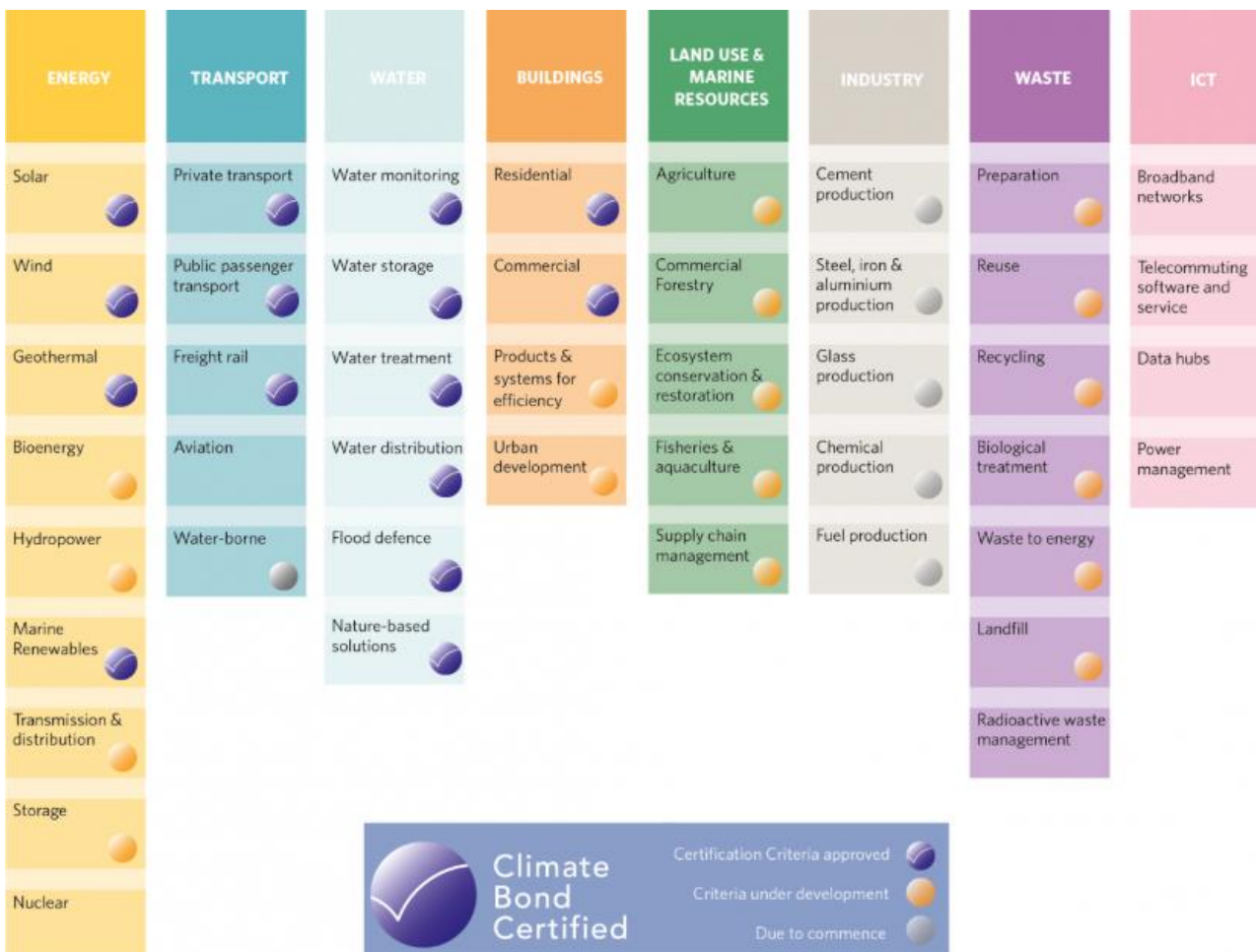


<b>Concessional loan</b>	Concessional loans are loans that are granted on substantially more generous terms compared to market loans, which is achieved through below-the-market interest rates, longer grant periods or a combination of both.	The Republic of Seychelles issued the world’s first blue bond of USD15m in October 2018 to finance sustainable marine and fisheries projects. GEF provided a USD5m concessional loan that will partially cover the bond’s interest payments. The deal is also supported by a USD5m partial guarantee from the World Bank. <sup>44</sup>
<b>ESCOs</b>	Energy Service Companies (ESCOs) provide technical and financial services for the implementation of energy efficiency solutions. Under a Guaranteed Saving Schemes, the ESCO guarantees a certain level of energy savings, thus assuming the performance risk. With a Shared Savings Model, higher energy savings determine a lower cost of the energy service. In both schemes, financing can come either from the ESCO or a third party.	Malaysia Debt Ventures, a government-backed technology financier, set up an Energy Performance Contracting fund to provide credit financing to ESCOs for implementing energy efficiency projects. <sup>45</sup>
<b>Viability gap funding (VGF)</b>	VGF is used specifically in infrastructure to cover for the heavy upfront funding that is required to kick start projects. An analysis of the viability of a proposed project points out the weak areas that prevent large-scale funding from being obtained. A VGF scheme can be implemented through capital grants, subordinated loans or even interest subsidies to target specific issues that are affecting the viability of the project. A blended finance approach could also be used to reduce project risk.	The Government of India launched in 2004 a Viability Gap Funding (VGF) scheme for public-private partnerships infrastructure projects. The scheme was also used to set up 5,000MW of grid-connected solar PV projects.
<b>A/B loans or grants</b>	A/B loans or grants are where a Multilateral Development Bank (MDB) offers the “A” portion of the loan while attracting other lenders to join in a second (or “B”) tranche. The MDB will be the lender-of-record, lead lender and administrative agent in the transaction. This reduces part of the risks of the operations, by also being covered by the “umbrella” of the MDBs that include a preferred creditor status and de jure immunity from taxation.	Italian transmissions system operator Terna issued a USD81m green loan in project finance format in July 2017. The Inter-American Development Bank offered the USD56m A loan and BBVA subscribed a B loan for USD25m. The deal will finance the design and construction of a 213km transmission line of 500kv in the north-east of Uruguay.

# Annex 4: Risk transfer / risk sharing mechanisms

Risk transfer instruments	Definition	Example
<b>First-loss capital</b>	May provide a risk-buffer for green structures and thereby encourage institutional investors. First loss capital incorporated into the capital structure usually as a junior equity tranche or as subordinated debt.	The Clean Energy Finance Corporation’s (CEFC) AUD100m equity investment in Australian Prime Property Fund Commercial.
<b>Synthetic green capital notes or securitisation</b>	Risk management (de-risking) to release loss reserves, with the use of freed capital to fund green projects. Reduce risk weighting of assets, while keeping the assets tied to the banks’ balance-sheet and the current operations.	A global example is Credit Agricole’s USD3bn synthetic ABS used to free up risk capital for green loan origination.
<b>Loan loss reserves</b>	Pooled public funds set aside by a financial institution to partially recover loss in their loan portfolio in the event of borrower defaults. If the institution issues green bonds, loan loss reserves can improve the risk profile of the deal by providing additional assurance on the issuer’s cash flows.	
<b>Risk sharing facility (RSF)/Default swap</b>	These structures support a transaction involving a loss-sharing agreement, where the originator will be reimbursed in the case of a loss of principal on a portfolio of eligible assets (mortgages, consumer or student debt, energy efficiency loans, SME loans, receivables). Originators are mainly banks and corporations.	In jurisdictions where securitisation is not yet feasible due to legal or institutional constraints – or originators have not yet been able to develop a performance history for the relevant product line – an RSF may be used as a preparatory step towards securitisation. <sup>46</sup>

# Annex 5: Climate Bonds Taxonomy



# More on green finance and low carbon investment opportunities in ASEAN

## ASEAN State of the Market 2018



Climate Bonds' new ASEAN State of the Market 2018 report covers the progress of the region's green finance market to date and the opportunities lying ahead in ASEAN countries. The report looks at regional themes in green bond issuance and issuance from companies, which operate in climate-aligned sectors such as rail transport. It also provides country-level overviews for Indonesia, Singapore, Malaysia, the Philippines, Thailand and Vietnam.

## Coming soon: Green Infrastructure Investment Opportunities in ASEAN



As part of the Green Infrastructure Investment Opportunities (GIIO) report series, Climate Bonds is investigating green and climate resilient infrastructure projects in the ASEAN countries to develop a pipeline of investment opportunities. The research aims to facilitate engagement on this topic between project owners and developers, and investors.

## Endnotes

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# How to issue a green bond/sukuk/loan

## Who can issue green bonds?

Any entity which has suitable green assets can issue green bonds, green sukuk or obtain a green loan. Suitable green assets include renewable energy, low carbon transport, low carbon buildings, sustainable water and waste management, sustainable land use as well as climate change adaptation measures such as flood defences.



## 1 Develop a green bond framework

- Define eligibility criteria for projects/assets
- Create selection process
- Set up tracking & reporting

### Available guidelines & standards:

**International:** Green Bond Principles (GBP), Green Loan Principles, Climate Bonds Taxonomy and Climate Bonds Standard

**Regional:** ASEAN Green Bond Standards

**Country-specific:** Sustainable and Responsible Investment Sukuk Framework (Malaysia)



## 2 Best practice: Arrange an external review



**Assurance report:** an external party confirmation of compliance with GBP/GLP

**Second Party Opinion:** an external assessment of the issuer's green bond framework, confirming GBP compliance and analysing the eligible asset categories

**Green rating:** an evaluation of the green bond and framework against a third-party rating methodology, which considers the environmental aspects of the investments. These include products developed by international and local rating agencies such as RAM Malaysia

**Verification report for Certified Climate Bond:** third party verification, pre- and post-issuance, which confirms that the use of proceeds adheres to the Climate Bonds Standard and Sector Criteria and the Paris agreement to keep global warming to 2°C and achieve full decarbonisation by 2050

## 3 Check for local subsidies & support mechanisms:

**Singapore:** Monetary Authority of Singapore's green bond grant scheme can absorb the full cost of external reviews

**Malaysia** offers tax deduction of issuance costs for issuers and tax exemptions for investors until 2020 for socially responsible sukuk and green sukuk. The Green SRI Sukuk Grant Scheme is available to cover the cost of external reviews



## 4 Issue the bond, sukuk, loan!



## 5 Post-issuance reporting

**Report annually** to confirm that the funds are allocated to green projects / assets

**Best practice:** Disclose environmental impacts of financed projects in absolute terms and relative to an appropriate benchmark

