

# **GREEN FINANCE**

## **in Singapore and ASEAN: Opportunities and Challenges**

**EUROCHAM POSITION PAPER 2020**



**European Chamber of Commerce (Singapore)**

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## EXECUTIVE SUMMARY

This position paper was drafted by the Financial Services Committee of the European Chamber of Commerce (FSCECCS) in collaboration with Accenture as a strategic partner. The paper examines the state of Green Finance in Singapore and ASEAN with the aim of creating an understanding and awareness of the sector to facilitate an open and constructive dialogue with the green finance ecosystem in Singapore. The main focus of the paper is Green Finance in Singapore and how to evolve this further. The paper is based on research and interviews of experts from key members and Singaporean stakeholders, including Banks, Insurance companies and Governmental entities.

In the light of the growing focus on sustainability it is only natural that there is an increased focus on Green Finance as well. Green Finance is growing not only in Singapore but in the entire region. From the paper, it was identified that Green Finance is becoming a high priority for the Singapore Government which has started a range of new initiatives such as a Green Finance Action Plan and a US\$ 2 billion Green Investment Programme. Despite the increasing efforts from the government and industry initiatives in the area several major challenges still need to be addressed.

The following key challenges for Green Finance have been identified by the members of the Financial Services Committee of the European Chamber of Commerce in Singapore.

- **Greenwashing**  
The absence of official taxonomy or green bond standard increases the risk of greenwashing.
- **Data, Benchmarking & Verification**  
No standard approach exists for ESG ratings at the moment, which results in potentially significant differences in the rating of the same company by different rating agencies.
- **Misalignment between supply & demand**  
There is a misalignment between corporates and banks in relation to funding green projects. The banks are eager to fund green projects but they are looking for larger projects whereas corporates would like to start at a smaller scale. The sector lacks high-quality projects that are ESG-compliant and commercially viable.

The FSCECCS members acknowledge the strong and steady development of Green Finance in the region, and would like to propose several key measures to advance Green Finance in Singapore and ASEAN:

- **Driving Convergence of Green Finance Standards**

A dialogue between the EU Platform on Sustainable Finance and Asian regulators is necessary to discuss the different perspectives and identify how national standards can be aligned. The FSCECCS members also recommend for regulators to mutually recognise each national standard when appropriate as it could be the key to drive Green Finance forward.

- **Improving ESG Ratings practices**

The FSCECCS members propose three different solutions including the (1) Endorsement of ESG rating providers, (2) developing an Ecolabel for financial products and/or (3) regulation of ESG rating providers

- **Building a Green Finance Talent Pool in Singapore**

It is equally important to have individuals with a strong skillset in both sustainability and finance. Internships and dedicated courses are the best way to build the necessary skills and experience.

- **Leveraging Technology**

As in many other sectors, technology can help advance Green Finance and ease the regulatory burden.

## FOREWORD

### INTRODUCTION & OBJECTIVES

This position paper was produced by the Financial Services Committee of the European Chamber of Commerce in Singapore (FSCECCS) in collaboration with Accenture. The FSCECCS represents the European financial services industry in Singapore.

The paper addresses various issues related to the development of green finance in Singapore and ASEAN, largely from the perspective of financial institutions that are members of EuroCham (SG). Throughout, it touches upon Singapore's current situation, opportunities and challenges, in addition to providing a comprehensive comparison between the policymaking and business approaches adopted by Singapore and the European Union.

The key objectives of this paper are:

- To contribute to the awareness on and understanding of green finance in Singapore.
- To encourage European businesses in Singapore to harness new opportunities presented by this emerging and fast-growing economic sector.
- To facilitate open and constructive dialogue to make Singapore's green finance ecosystem more comprehensive.
- To propose key recommendations to the Singaporean government to help enhance further development of green finance in Singapore.

In order to craft this position paper, the FSCECCS established a task force consisting of financial services experts (including bankers, insurance professionals, asset managers and consultants). All views and statements expressed in this position paper



are based on reports, market observations and the knowledge and expertise of the members of the FSCECCS. In addition, interviews were conducted with Singaporean stakeholders like the Monetary Authority of Singapore (MAS).

## CONTEXT

Green Finance promotes and supports the flow of financial investments and related services towards the development and implementation of sustainable business models, investments, trade, economic, environmental and social projects and policies. Green Finance offers tremendous opportunities for the financial sector through innovative financial mechanisms and by supporting the investments in projects with positive and sustainable externalities.

For the longest time, green finance has not been aggressively pushed by the market – due to different reasons. One is that some financial institutions feel there are still several risks associated with new technologies from clean energy or that the infrastructure related to the new technologies seem overwhelming. However, the urgency of climate change has put more pressure on all participants to increase the focus on the topic.

Green projects can offer a lower rate of return. However, in order to transition to lower carbon emissions, green financing needs to be scaled up. This can be achieved through new financial instruments and new policies, such as green bonds, green banks, green central banking, financial technologies, community-based green funds, etc., which are collectively known as “green finance”.

Green finance consists of the integration of environment, social and governance (ESG) criteria into financial services. For the purposes of this paper, the focus will solely be on the environmental aspect of green finance.

# GROWTH OF GREEN FINANCE IN ASEAN

## ASSOCIATION OF SOUTH-EAST ASIAN NATIONS (ASEAN)

There is an increased focus on green finance, and it is gaining interest and growing rapidly. According to the report “ASEAN Green Finance State of the Market 2019” from the Climate Bond Initiative<sup>1</sup>, the volume of green bond and loan issuance has strongly increased between 2013 and 2019.

The Asia-Pacific issuance (in turquoise below) has kept growing and now represents 23% of the global total. The numbers for 2019 illustrate that the ASEAN<sup>2</sup> region makes up 3% of the global total and 1.2% of the Asia-Pacific region.

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

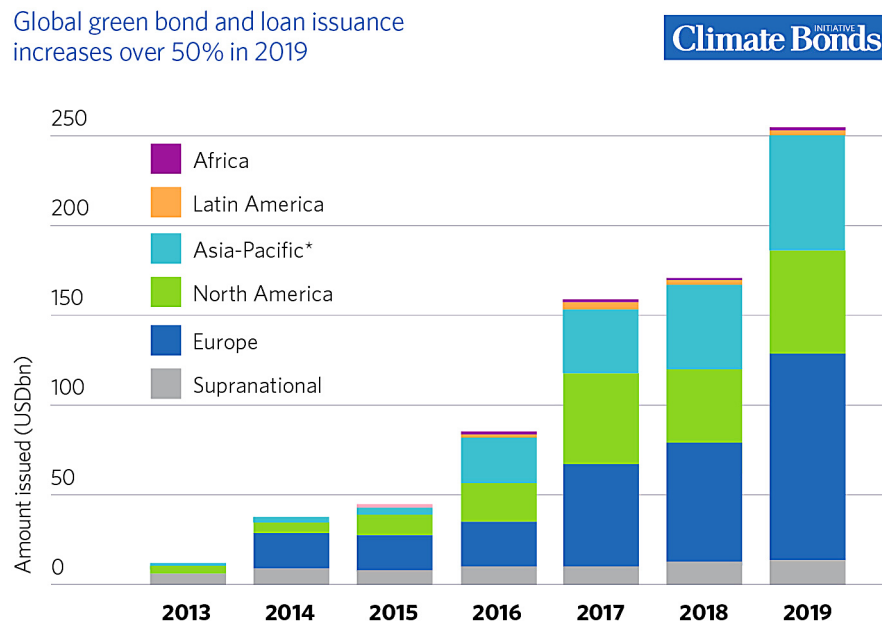


Figure 1: Green bond and loan issuance in the world since 2013

<sup>1</sup> Rimaud, Cedric, Haran Siva, Miguel Almeida, Andrew Whitley and Krista Tukjainen. “ASEAN Green Finance State of the Market 2019”. Retrieved from <https://www.climatebonds.net/resources/reports/asean-green-finance-state-market-2019>

<sup>2</sup> The Association of Southeast Asian Nations (ASEAN) comprises ten countries: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam

As stated in the Climate Bond Initiative report, the six biggest ASEAN countries measured by GDP have all issued green debt instruments such as green bonds, loans or sukuk. In 2016, the first green bond in ASEAN was issued in the Philippines. In Indonesia, the authorities have been actively engaged in green finance by implementing guidelines for the domestic market as well as issuing two sovereign green sukus in 2018 and 2019. In Thailand, green finance is driven by the private sector which has been issuing green bonds, all of which were certified under the Climate Bonds Standards. As for Singapore, the majority of green finance deals were loans for the real estate sector so far. Finally, Malaysia is mainly focused on the energy sector and green finance keeps growing in the country with six issuances in 2019 alone.

As evident in figure 2, both financial and non-financial corporates represented the bulk of the issuer types (29% and 27% respectively) in ASEAN in 2019<sup>3</sup>. Sovereign issuers were the third largest issuer type with 15%. Green loans also made up a significant portion of the total issuance, which was largely due to Singapore's real estate sector.

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

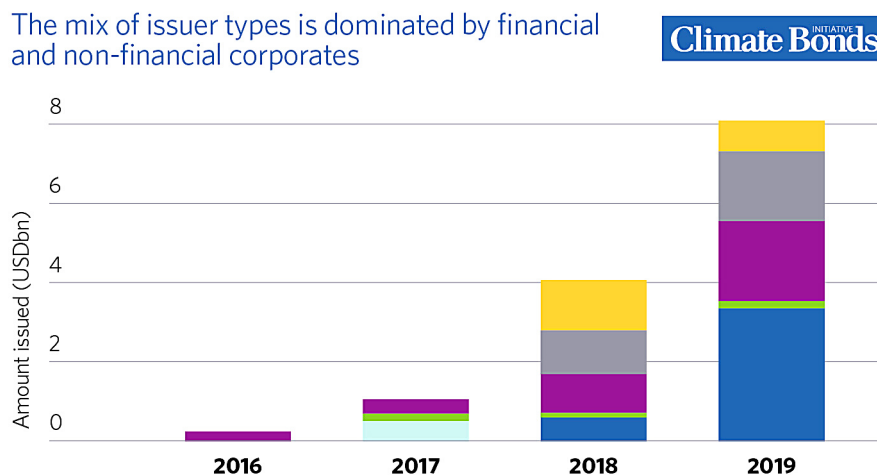
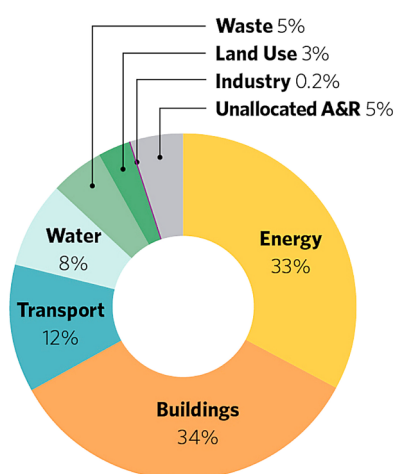


Figure 2: Overview of issuer types in ASEAN since 2016

As described in Figure 3 from the Climate Bond Initiative report, green finance proceeds in ASEAN are mostly allocated to buildings and energy related projects with a smaller focus on transport and water. However, the proceeds allocation varies across countries. Singapore, for example, mainly focuses on building, whereas green finance in Thailand, Indonesia and the Philippines largely focuses on the energy sector. In Malaysia, there seems to be a more equal allocation of green finance between buildings and energy.

### Climate Bonds INITIATIVE

Buildings and Energy represent the majority of investments



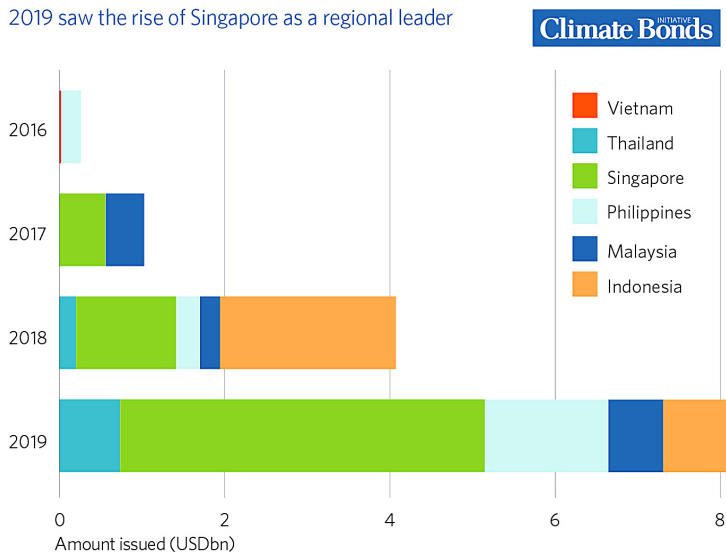
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Figure 3: Overview of sectors in which green bond and loan proceeds have been allocated in ASEAN in 2019

As per Figure 4, since 2017, issuance of green finance loans and bonds in Singapore has grown significantly. In 2019, Singapore became the largest ASEAN green finance market, a position previously held by Indonesia (2018) which is now in third place. It is worth noting that despite the active bond issuance by the Indonesian authorities to implement guidelines for the domestic market, there has been limited engagement from the private sector. The green bond market is still relatively new in Thailand, but it is a market in growth with no less than four green bond issuances by non-financial Thai corporations amounting to USD 734 million.

<sup>3</sup> The high share of financial corporates deals is largely driven by ICBC Singapore classified as Singapore in the Climate Bond Initiative report, rather than as China. Please refer to endnote #2 in the Climate Bond Initiative report page 17.

2019 saw the rise of Singapore as a regional leader



© Climate Bonds Initiative 2020

Figure 4: Cumulative issuance of green finance in ASEAN up to 31 December 2019

In 2019, green bonds issuance in the Philippines was dominated by AC Energy, the power arm of conglomerate Ayala Corporation with a total issued amount of USD 810 million, representing 54% of the total amount issued through green bonds in 2019. Most of the proceeds were allocated to renewable energy.

In Malaysia, the green bond market saw six issuances in 2019, mainly from the energy sector. The proceeds were allocated to hydropower plants and solar power plants. A small portion was allocated to water, waste, land use and adaptation to increase the resilience of agricultural systems in the face of increasing climate threats.

The Vietnamese government issued two small green bonds in 2016 to provide funding for water projects. However, there were no new issuances prior to the completion of this paper.

## SINGAPORE

In Singapore, green finance issuance is dominated by green loans and real estate. As explained in the Climate Bond Initiative report and the table below, green loans account for almost half of the cumulative issuance in green finance and nine of the fourteen deals in 2019 were loans. Furthermore, in 2019, 43% of the amounts issued were allocated to building projects. Most, if not all, of the proceeds from deals issued to real estate companies were used for certified green buildings and / or energy efficiency in buildings.

However, there have been examples of green finance proceeds allocated to the energy sector in Singapore. As an example, Sunseap Group, a renewable energy firm that has operations in South East Asia and the Pacific region has secured an SGD 43 million green loan to install solar power systems on rooftops across Singapore in 2019<sup>4</sup>.



4 Tan, Lynette. "Sunseap gets S\$43m green loan to put solar power systems on rooftops in Singapore". Retrieved from <https://www.businessinsider.com.sg/energy-commodities/sunseap-gets-s43m-green-loan-to-put-solar-power-systems-on-rooftops-in-singapore>

Issuer	Green Finance Debt Issued	Bondholder / Lender	Year of Issuance	Nominal Value (SGD M)	Purpose
M+S	Green loan <sup>5</sup>	DBS, OCBC, UOB	2020	1950	Partially refinance the office and retail components of Marina One
City Developments (CDL)	Green loans <sup>6</sup>	DBS: 400M HSBC: 100M	2019	500	Finance green developments in Singapore and abroad
City Developments (CDL)	Green bond <sup>7</sup>	CDL Properties Ltd (CDLP)	2017	100	Enhance energy and water efficiency in Republic Plaza
Frasers Property Ltd	Syndicated green loan <sup>8</sup>	Consortium	2018	1,200	Refinance existing loans relating to the development of Frasers Tower
Capitalland	Green loan <sup>9</sup>	DBS: 150M HSBC: 250M	2020	400	Finance or refinance of the development, investment and acquisition of certified green buildings
DBS Group Holdings	Green bond <sup>10, 11</sup>	Non-U.S. investors outside the United States	2017	685	Provide financing for green assets such as green buildings
Olam	Green loan <sup>12</sup>	ANZ, DBS, Standard Chartered: senior mandated lead arrangers	2020	USD 250	Finance general corporate purposes
NUS	Green bond <sup>13</sup>	DBS Bank	2020	USD 300	Finance green projects under the University's new Green Finance Framework.

Figure 5: Overview of green finance issuance in Singapore in the past 3 years

The National University of Singapore (NUS) became the first university in Asia to issue a green bond, working with OCBC and DBS Bank. NUS issued SGD 300 million to finance projects targeted at green buildings, renewable energy, and sustainable management of water and land.

## EUROCHAM'S PERSPECTIVE ON GREEN FINANCE MARKET

Sustainability will eventually permeate every economic activity, not just the financial sector. In the future, FSCECCS members believe green bonds will become an essential debt instrument in the debt market due to increasing demand from both retail and institutional investors.

As an example, FSCECCS members believe that in the future, if a bond is not labelled as a Green Bond (i.e. not certified under the Climate Bonds Standard or without a second-party opinion that the Use of Proceeds (UoP) is green), the cost of capital for issuing a conventional bond will be higher, leading to higher yield and to such bonds trading at a discount in the market.

The first reason for green bonds trading at a premium in the market is that there is a higher demand for such bonds. Funds dedicated to following environmental principles can only buy green bonds while conventional bonds can be bought by anyone<sup>14</sup>. Therefore, higher demand lead to high prices and green bonds trading at a premium (and consequently lower

5 The Strait Times. "M+S bags \$1.95b green loan for Marina One. Retrieved from: <https://www.straittimes.com/business/companies-markets/ms-bags-195b-green-loan-for-marina-one>

6 Mui, Rachel. "CDL bags S\$500m in green loans for new property developments. Retrieved from <https://www.businesstimes.com.sg/companies-markets/cdl-bags-500m-in-green-loans-for-new-property-developments>

7 Ming, Yiong Yim and Esther An. "Republic Plaza Green Bond – Final Report" Retrieved from [https://www.cdlsustainability.com/pdf/CDL\\_Final\\_Bond\\_Allocation\\_Report.pdf](https://www.cdlsustainability.com/pdf/CDL_Final_Bond_Allocation_Report.pdf)

8 Rimaud, Cedric and Loo Choo Leong. "Growing evolution of green finance in Singapore". Retrieved from <https://www.businesstimes.com.sg/wealth-investing/growing-evolution-of-green-finance-in-singapore>

9 Capitalland. "Capitalland secures S\$400 million in green loans to catalyse greening of global portfolio by 2013". Retrieved from [https://www.capitalland.com/international/en/about-capitalland/newsroom/news-releases/international/2020/apr/400\\_million\\_green\\_loans\\_to\\_green\\_global\\_portfolio.html](https://www.capitalland.com/international/en/about-capitalland/newsroom/news-releases/international/2020/apr/400_million_green_loans_to_green_global_portfolio.html)

10 DBS. "DBS Group Holdings Ltd's first green bond offering attracts strong interest. Retrieved from [https://www.dbs.com/newsroom/DBS\\_Group\\_Holdings\\_Ltds\\_first\\_green\\_bond\\_offering\\_attracts\\_strong\\_interest](https://www.dbs.com/newsroom/DBS_Group_Holdings_Ltds_first_green_bond_offering_attracts_strong_interest)

11 Today Online. "DBS raises S\$685m through first green bond by local financial institution". Retrieved from <https://www.todayonline.com/business/dbs-raises-685m-through-first-green-bond-local-financial-institution>

12 Leow, Anabeth. "Olam International secures US\$250m sustainability-linked loan". Retrieved from <https://www.businesstimes.com.sg/companies-markets/olam-international-secures-us250m-sustainability-linked-loan>

13 <https://news.nus.edu.sg/highlights/nus-green-bond>

14 Gilbert, Mark. "The explosion in Green Bonds Comes Without a Premium. Retrieved from <https://www.bloomberg.com/opinion/articles/2019-10-28/exploding-demand-for-green-bonds-doesnt-come-with-a-premium>

yield which means lower cost of capital), all else being equal. The second reason is that investors would, in theory, be willing to sacrifice some yield in exchange for the knowledge that their money is benefiting the planet<sup>15</sup>. The third reason is that corporations are increasingly starting to realise that managing environmental exposure may be more than just risk management and it may improve their economic performance<sup>16</sup>. Therefore, investors in green bonds tend to believe that such bonds hedge risk better which is a trade-off for lower yield. The hope is that in the future green bonds will be cheaper to issue as demand and supply of green bonds will grow.



## ONGOING EFFORTS TO ADVANCE GREEN FINANCE

### WORLDWIDE

#### ICMA GREEN BOND PRINCIPLES

The International Capital Markets Association (ICMA) is a not-for-profit association which aims at promoting high standards of market practice and appropriate regulation amongst others<sup>17</sup>. The ICMA's Green Bond Principles (GBP) are voluntary process guidelines that list down high-level categories for eligible green projects. They were put together by major private financial institutions under the auspices of the ICMA.

The GBP have four core components:

- Use of Proceeds
- Process for Project Evaluation and Selection
- Management of Proceeds
- Reporting

In terms of project categories of eligibility for Green Projects, they are aligned with the categories listed in the taxonomy and standards established by countries or other non-profit organisations<sup>18</sup>. Additionally a majority of the ICMA green bonds require a third-party verification.

#### CERTIFICATION UNDER THE CLIMATE BONDS STANDARD

The Climate Bonds Initiative and the Climate Bond Standards Scheme are funded by grants from non-profit and public organisations, revenues from public sector project contracts and by subscription fees from the Climate Bond Partnership program.<sup>19</sup>

The Climate Bonds Standard and Certification Scheme is a "labelling scheme for bonds, loans & other debt instruments"<sup>20</sup>. Bonds and loans which are confirmed to comply with the Climate Bonds Standard are labelled "Certified Climate Bonds". In order to receive the certification mark, a third-party reviewer appointed by the issuer must ensure that the bonds meet the Climate Bonds Standards' requirements. The Climate Bonds Standard Board would then provide the final confirmation of all Climate Bond Certifications.

Similarly, to the ASEAN Green Bond Standards, the Certification under the Climate Bonds Standard is done on a voluntary basis. If applied by market regulators and key players, the Certification can help level the playing field across the ASEAN region. At the time of writing, this standard has been used across the world by issuers in 30 countries. For investors, the Climate Bond Standard can be used as a screening tool to guarantee the low-carbon nature of their fixed-income investments. Compared to the Green Bond Principles, the CBI's Climate Bonds Standard defines sector-specific eligibility criteria to assess whether an asset is suitable for issuance as a green bond or not<sup>21</sup>.

15 Bachelet, Maria, Leonardo Becchetti and Stefano Manfredonia. "The Green Bonds Premium Puzzle: The Role of Issuer Characteristics and Third-Party Verification". Retrieved from [https://www.researchgate.net/publication/331225715\\_The\\_Green\\_Bonds\\_Premium\\_Puzzle\\_The\\_Role\\_of\\_Issuer\\_Characteristics\\_and\\_Third-Party\\_Verification](https://www.researchgate.net/publication/331225715_The_Green_Bonds_Premium_Puzzle_The_Role_of_Issuer_Characteristics_and_Third-Party_Verification)

16 International Capital Market Association. "Mission". Retrieved from <https://www.icmagroup.org/AboutICMA/mission/>

17 International Capital Market Association. "Green Bond Principles June 2018". Retrieved from <https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Green-Bonds-Principles-June-2018-270520.pdf>

18 International Capital Market Association. "Green Bond Principles June 2018". Retrieved from <https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Green-Bonds-Principles-June-2018-270520.pdf>. Refer to page 4 of the GBP guidelines for the list of project categories

19 Climate Bonds Initiative. "Our Founders". Retrieved from <https://www.climatebonds.net/about/funders>

20 Climate Bonds Initiative. "Certification under the Climate Bonds Standard". Retrieved from <https://www.climatebonds.net/certification>

21 Ehlers, Torsten and Frank Packer. "Green bond finance and certification". Retrieved from [https://www.bis.org/publ/qtrpdf/r\\_qt1709h.pdf](https://www.bis.org/publ/qtrpdf/r_qt1709h.pdf)

## EUROPEAN UNION (EU)

### EU TAXONOMY

The EU taxonomy is a classification system for environmentally sustainable economic activities and help set forth criteria for or such activities as shown below:<sup>22</sup>

Make a substantial contribution to one of the six environmental objectives that are:

- Climate change mitigation
- Climate change adaptation
- Sustainable and protection of water and marine resources
- Transition to a circular economy
- Pollution prevention and control
- Protection and restoration of biodiversity and ecosystems
- Do no significant harm (DNSH)



Economic activities making a substantial contribution to climate change mitigation or adaptation (#1 and #2 listed above) must be assessed to ensure they do not cause significant harm to all remaining environmental objectives (#3, #4, #5 and #6)<sup>23</sup>.

Seven macro-sectors that have large greenhouse gas emissions footprint have also been identified:

- agriculture and forestry
- manufacturing
- electricity, gas, steam and air conditioning supply
- water, sewerage, waste and remediation
- transport
- information and communication technologies
- buildings

The Technical Expert Group (TEG), mandated by the European Commission to develop the EU taxonomy does acknowledge that there is “no intention to bind third countries on their own sustainability or sustainable finance activities”<sup>24</sup>. The TEG also recognises that “locally relevant standards may reasonably be applied in countries outside the EU. [...] In cases where locally relevant threshold has been used to assess the environmental performance of an economic activity, [...], companies and investors may wish to provide an additional, second disclosure setting out the details and rationale for variation from the TEG standard.”

### EU GREEN BOND STANDARD

The EU Green Bond Standard (GBS) aims to address the key challenges issuers are facing in the bond market<sup>25</sup> :

- **Lack of green projects.** The EU GBS leverages the EU taxonomy to clarify and possibly expand the universe of eligible Green Projects.
- **Issuers’ concerns with reputational risks and green definitions.** The EU GBS provides a standardised reporting framework, giving issuers a common methodology to disclose sustainability initiatives.
- **Absence of clear economic benefits for issuers.** Some potential incentives to support green bonds issuance are a possible subsidy to offset the additional cost of external verification.
- **Complex and potentially costly procedures for reporting and external review.** Standardised verification process with a clear scope of services will streamline the verification process, avoid duplication of efforts and reduce costs of external reviews.
- **Labour intensive reporting procedures.** The EU-GBS simplifies the reporting requirements by distinguishing between the Allocation Reporting, which needs to be verified, and the Impact Reporting, for which verification is encouraged, but not required.

<sup>22</sup> EU Technical Expert Group on Sustainable Finance. “Financing a Sustainable European Economy. Technical Report”. Retrieved from [https://ec.europa.eu/info/sites/info/files/business\\_economy\\_euro/banking\\_and\\_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy\\_en.pdf](https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy_en.pdf)

<sup>23</sup> EU Technical Expert Group on Sustainable Finance. “Financing a Sustainable European Economy. Taxonomy Technical Report”. Retrieved from [https://ec.europa.eu/info/sites/info/files/business\\_economy\\_euro/banking\\_and\\_finance/documents/190618-sustainable-finance-teg-report-taxonomy\\_en.pdf](https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/190618-sustainable-finance-teg-report-taxonomy_en.pdf)

<sup>24</sup> EU Technical Expert Group on Sustainable Finance. “Financing a Sustainable European Economy. Taxonomy Technical Report”. Retrieved from [https://ec.europa.eu/info/sites/info/files/business\\_economy\\_euro/banking\\_and\\_finance/documents/190618-sustainable-finance-teg-report-taxonomy\\_en.pdf](https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/190618-sustainable-finance-teg-report-taxonomy_en.pdf). Section 2.1.6 International use of the EU Taxonomy.

<sup>25</sup> EU Technical Expert Group on Sustainable Finance. “Financing a Sustainable European Economy. Report on EU Green Bond Standard”. Retrieved from [https://ec.europa.eu/info/sites/info/files/business\\_economy\\_euro/banking\\_and\\_finance/documents/190618-sustainable-finance-teg-report-green-bond-standard\\_en.pdf](https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/190618-sustainable-finance-teg-report-green-bond-standard_en.pdf)

In the TEG report, Proposal for an EU Green Bond Standard<sup>26</sup>, published in June 2019, a few incentive schemes that “could contribute to establishing a “level-playing field” between green bond issuers and issuers of conventional bonds”<sup>27</sup> are discussed.

One of them consists of subsidising – totally or partially – the additional cost associated with external verification of EU Green Bonds in order to equalise issuance costs with mainstream bonds. However currently, as explained in the EU Green Bond Standard Usability Guide<sup>28</sup>, “there is no public sector-supported scheme in the EU that would compensate for the verification expenses”<sup>29</sup>.

Another potential scheme is tax incentives. Since taxation is mainly a prerogative of individual member states, “the European Commission could encourage member states to [...] support the green bond market through tax incentives for assets located in the EU”<sup>30</sup>. On the other hand, “examples of tax incentives in the fixed income market exist in jurisdictions outside the EU, such as, [...] the US federal government Clean Renewable Energy Bonds (CREBs) and Qualified Energy Conservation Bonds programmes”<sup>31</sup>.

## LMA GREEN LOAN PRINCIPLES

The Loan Market Association (LMA) was established in the late nineties to help develop the secondary loan market in Europe<sup>32</sup>. Its remit now covers Europe, the Middle East and Africa (EMEA) region.

The Green Loan Principles (GLP) were initially published in 2018 in order to provide a consistent methodology that can be used across the green loan market<sup>33</sup>. The GLP were built on the ICMA Green Bond Principles and are voluntary recommended guidelines.

As per the Green Loan Principles, green loans are “any type of loan instrument made available exclusively to finance or re-finance, in whole or in part, new and / or existing eligible Green Projects”<sup>34</sup>. GLP provide indicative categories of eligibility for green projects<sup>35</sup>.

The Green Loan Principles are based on the same framework as the Green Bond Principles which is around: use of proceeds, process for project evaluation and selection, management of proceeds and reporting.

## BENCHMARKS

The EU ETS (Emission Trading System), launched in 2005 is the largest international system for trading greenhouse gas emissions allowances. EU-ETS benchmarks are used as a proxy of the EU taxonomy thresholds<sup>36</sup>. The ETS benchmark is defined as the average of the first decile of the installations, ranked by emission efficiency.

In addition to the greenhouse gas intensity criteria (measured against the ETS benchmark), an economic activity has also to pass the DNSH criteria in order to meet the taxonomy requirements.

The combination of the ETS benchmark and the DNSH criteria allows to set a clear environmental yardstick to label an economic activity as green.

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- 26 EU Technical Expert Group on Sustainable Finance. “Financing a Sustainable European Economy. Report on EU Green Bond Standard”. Retrieved from [https://ec.europa.eu/info/sites/info/files/business\\_economy\\_euro/banking\\_and\\_finance/documents/190618-sustainable-finance-teg-report-green-bond-standard\\_en.pdf](https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/190618-sustainable-finance-teg-report-green-bond-standard_en.pdf)
- 27 EU Technical Expert Group on Sustainable Finance. “Financing a Sustainable European Economy. Report on EU Green Bond Standard”. Retrieved from [https://ec.europa.eu/info/sites/info/files/business\\_economy\\_euro/banking\\_and\\_finance/documents/190618-sustainable-finance-teg-report-green-bond-standard\\_en.pdf](https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/190618-sustainable-finance-teg-report-green-bond-standard_en.pdf)
- 28 EU Technical Expert Group on Sustainable Finance. “Financing a Sustainable European Economy. Useability Guide: EU Green Bond Standard”. Retrieved from [https://ec.europa.eu/info/sites/info/files/business\\_economy\\_euro/banking\\_and\\_finance/documents/200309-sustainable-finance-teg-green-bond-standard-usability-guide\\_en.pdf](https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-green-bond-standard-usability-guide_en.pdf)
- 29 EU Technical Expert Group on Sustainable Finance. “Financing a Sustainable European Economy. Useability Guide: EU Green Bond Standard”. Retrieved from [https://ec.europa.eu/info/sites/info/files/business\\_economy\\_euro/banking\\_and\\_finance/documents/200309-sustainable-finance-teg-green-bond-standard-usability-guide\\_en.pdf](https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-green-bond-standard-usability-guide_en.pdf). Page 31.
- 30 EU Technical Expert Group on Sustainable Finance. “Financing a Sustainable European Economy. Report on EU Green Bond Standard”. Retrieved from [https://ec.europa.eu/info/sites/info/files/business\\_economy\\_euro/banking\\_and\\_finance/documents/190618-sustainable-finance-teg-report-green-bond-standard\\_en.pdf](https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/190618-sustainable-finance-teg-report-green-bond-standard_en.pdf). Section 5.2.1 Tax Incentives.
- 31 EU Technical Expert Group on Sustainable Finance. “Financing a Sustainable European Economy. Report on EU Green Bond Standard”. Retrieved from [https://ec.europa.eu/info/sites/info/files/business\\_economy\\_euro/banking\\_and\\_finance/documents/190618-sustainable-finance-teg-report-green-bond-standard\\_en.pdf](https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/190618-sustainable-finance-teg-report-green-bond-standard_en.pdf). Section 5.2.1 Tax Incentives. Wikipedia. “Loan Market Associations”. Retrieved from [https://en.wikipedia.org/wiki/Loan\\_Market\\_Association](https://en.wikipedia.org/wiki/Loan_Market_Association)
- 32 Wikipedia. “Loan Market Associations”. Retrieved from [https://en.wikipedia.org/wiki/Loan\\_Market\\_Association](https://en.wikipedia.org/wiki/Loan_Market_Association)
- 33 Loan Market Association, LMA. “Green Loan Principles. Supporting Environmentally sustainable economic activity”. Retrieved from [https://www.lma.eu.com/application/files/9115/4452/5458/741\\_LM\\_Green\\_Loan\\_Principles\\_Booklet\\_V8.pdf](https://www.lma.eu.com/application/files/9115/4452/5458/741_LM_Green_Loan_Principles_Booklet_V8.pdf)
- 34 Loan Market Association, LMA. “Green Loan Principles. Supporting Environmentally sustainable economic activity”. Retrieved from [https://www.lma.eu.com/application/files/9115/4452/5458/741\\_LM\\_Green\\_Loan\\_Principles\\_Booklet\\_V8.pdf](https://www.lma.eu.com/application/files/9115/4452/5458/741_LM_Green_Loan_Principles_Booklet_V8.pdf). Page 1.
- 35 Loan Market Association, LMA. “Green Loan Principles. Supporting Environmentally sustainable economic activity”. Retrieved from [https://www.lma.eu.com/application/files/9115/4452/5458/741\\_LM\\_Green\\_Loan\\_Principles\\_Booklet\\_V8.pdf](https://www.lma.eu.com/application/files/9115/4452/5458/741_LM_Green_Loan_Principles_Booklet_V8.pdf). Appendix 1
- 36 EU Technical Expert Group on Sustainable Finance. “Financing a Sustainable European Economy. Technical Report”. Retrieved from [https://ec.europa.eu/info/sites/info/files/business\\_economy\\_euro/banking\\_and\\_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy\\_en.pdf](https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy_en.pdf)

## CORPORATE DISCLOSURES

Financial institutions that are offering financial products in the European Union and investors are required to make Taxonomy disclosures. That is mandatory for specific product and on a comply-or-explain basis for all others.

The main disclosure requirement is to disclose the proportion of underlying investments that are taxonomy-aligned, expressed as a percentage of the investment, fund or portfolio.

Taxonomy disclosure obligations are made at an aggregated level, not at the individual financial instrument level (e.g. bonds)<sup>37</sup>. For instance, products in scope for taxonomy disclosure are mostly funds (equity funds, exchange-traded funds (ETFs), real estate funds, private equity funds, pension products, insurance-based investment products (IBIPs)).

As for verification, the Taxonomy Regulation recommends corporate disclosures to be reviewed by a third-party independent firm but does not make it mandatory for companies and investors to do so:

- “The Taxonomy Regulation does not explicitly require any formal verification of Taxonomy-related disclosures”. [...] The TEG considers it good practice for issuers to seek external assurance on their Taxonomy-related disclosures”<sup>38</sup>.
- “The Taxonomy Regulation does not require that investors seek external verification or assurance of their disclosures”<sup>39</sup>.
- The Taxonomy Regulation does not impose fines or penalties for companies or investors not making full disclosure<sup>40</sup>.



## ASEAN

### ASEAN GREEN BONDS STANDARDS

In 2017, the ASEAN Capital Markets Forum (ACMF), composed of market regulators from the ten ASEAN countries published the ASEAN Green Bond Standards<sup>41</sup>. These standards are a set of voluntary guidelines and are based on the International Capital Market Association (ICMA)’s Green Bond Principles (GBP) as they are internationally accepted and widely used for the development of national green bond guidelines or standards issued globally. The ASEAN Green Bond Standards aim at increasing transparency, consistency and uniformity to reduce costs for issuers and investors.

Amongst the categories of eligibility for Green Projects<sup>42</sup> which contribute to environmental objectives defined within the ASEAN Green Bond Standards, there are:

- Renewable energy
- Energy efficiency
- Pollution prevention and control
- Clean transportation
- Green buildings which meet regional, national or internationally recognized standards or certifications

As mentioned by the ACMF, the Issuer of ASEAN Green Bonds must clearly communicate to investors<sup>43</sup>:

- The environmental sustainability objectives;
- The process by which the Issuer determines how the projects fit within the eligible Green Project categories identified

<sup>37</sup> EU Technical Expert Group on Sustainable Finance. “Financing a Sustainable European Economy. Technical Report”. Retrieved from [https://ec.europa.eu/info/sites/info/files/business\\_economy\\_euro/banking\\_and\\_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy\\_en.pdf](https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy_en.pdf). Section 3.3.2 Which products must complete Taxonomy disclosures?

<sup>38</sup> EU Technical Expert Group on Sustainable Finance. “Financing a Sustainable European Economy. Technical Report”. Retrieved from [https://ec.europa.eu/info/sites/info/files/business\\_economy\\_euro/banking\\_and\\_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy\\_en.pdf](https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy_en.pdf). Section 3.2.8 Verification

<sup>39</sup> EU Technical Expert Group on Sustainable Finance. “Financing a Sustainable European Economy. Technical Report”. Retrieved from [https://ec.europa.eu/info/sites/info/files/business\\_economy\\_euro/banking\\_and\\_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy\\_en.pdf](https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy_en.pdf). Section 3.3.10 Verification

<sup>40</sup> EU Technical Expert Group on Sustainable Finance. “Financing a Sustainable European Economy. Technical Report”. Retrieved from [https://ec.europa.eu/info/sites/info/files/business\\_economy\\_euro/banking\\_and\\_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy\\_en.pdf](https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy_en.pdf). Section 3.3.10 Verification

<sup>41</sup> ASEAN Capital Markets Forum. “ASEAN Green Bond Standard”. Retrieved from <https://www.theacmf.org/initiatives/sustainable-finance/asean-green-bond-standards>

<sup>42</sup> ASEAN Capital Markets Forum. “ASEAN Green Bond Standard” - section 4.1.5. Retrieved from <https://www.theacmf.org/images/downloads/pdf/AGBS2018.pdf>

<sup>43</sup> ASEAN Capital Markets Forum. “ASEAN Green Bond Standard” - section 4.2.1. Retrieved from <https://www.theacmf.org/images/downloads/pdf/AGBS2018.pdf>

- above; and
- The related eligibility criteria, including, if applicable, exclusion criteria or any other process applied to identify and manage potentially material environmental and social risks associated with the Green Projects.

In addition, the Issuer must make the following publicly available on a website designated by the Issuer at the time of the issuance and throughout the tenure of ASEAN Green Bonds<sup>44</sup>:

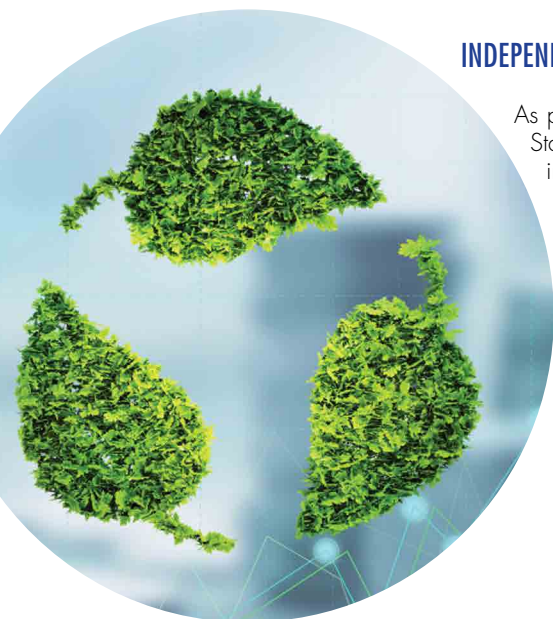
- The process for project evaluation;
- The use of proceeds; and
- External review report on the process (if any).

## MALAYSIA'S DEVELOPMENT OF A GREEN FINANCE TAXONOMY

In December 2019, the Central Bank of Malaysia (Bank Negara Malaysia or BNM) issued a discussion paper on "Climate Change and Principle-based Taxonomy".<sup>45</sup> BNM is working with the World Bank and the Malaysian Securities Commission to develop the principles that would support the Malaysian green taxonomy and help Malaysia's financial sector classify green assets transparently and consistently<sup>46</sup>. At the time of writing, BNM is seeking written feedback on the paper from relevant stakeholders.

This taxonomy would be the third categorisation system of this kind globally following the EU taxonomy and similar developments happening in Canada<sup>47</sup>. Malaysia would be the first emerging market country to introduce a green taxonomy to help financial institutions tackle climate-related risks<sup>48</sup>.

As explained in the response<sup>49</sup> from ASIFMA (Asia Securities Industry & Financial Markets Association<sup>50</sup>) to BNM's discussion paper, the Malaysian taxonomy considers the commitment and willingness to improve practices. The EU taxonomy only assesses whether activities are aligned with its taxonomy or not and does not take into account the company's motivation to follow regulations. It is worth noting that the ASIFMA does share its concerns around establishing regional and local taxonomies. That may "lead to unintended market fragmentation"<sup>51</sup> and may "hamper comparability of data and disclosure standards across jurisdictions"<sup>52</sup>.



## INDEPENDENT REVIEWS MORE AND MORE COMMON

As pointed out by the Climate Bonds Initiative report, "both the ASEAN Green Bond Standards and the Certification under the Climate Bonds Standard require an independent review that the UoP (Use of Proceeds) is green"<sup>53</sup>. Therefore, a third-party review is performed when most green bonds in ASEAN are issued. However, that is not the case for most green loans in Singapore and two Malaysian sukuk.

The two most prevalent types of independent reviews in 2019 in ASEAN are the obtention of second-party opinion (SPO) and the certification under the Climate Bonds Standard. The wide range of providers probably makes SPO the most common type of review. In ASEAN, Sustainalytics and CICERO are dominating the market. However, three issuers got their bond Certified under the Climate Bonds Standard.

44 ASEAN Capital Markets Forum. "ASEAN Green Bond Standard" - section 4.2.5. Retrieved from <https://www.theacmf.org/images/downloads/pdf/AGBS2018.pdf>

45 Bank Negara Malaysia. "Climate Change and Principle-based Taxonomy". Retrieved from <https://www.bnm.gov.my/index.php?ch=57&pg=144&ac=894&bb=file>

46 Hussain, Farah Imrana. "Defining green: Malaysia's big step towards sustainability". Retrieved from <https://blogs.worldbank.org/climatechange/defining-green-malaysias-big-step-towards-sustainability>

47 Robinson-Tillett. "Malaysian central bank calls for feedback on green taxonomy proposals". Retrieved from <https://www.responsible-investor.com/articles/malaysian-central-bank-calls-for-feedback-on-green-taxonomy-proposals>

48 ESG Clarity. "Malaysia targets green taxonomy". Retrieved from <https://esgclarity.com/malaysia-targets-green-taxonomy/>

49 AFISMA. "AFISMA Responds to Bank Negara Malaysia's Discussion Paper on Climate Change and Principle-based Taxonomy". Retrieved from <https://www.asifma.org/wp-content/uploads/2020/04/asifma-response-to-bnm-climate-change-taxonomy-dp-v20200331-final-draft-clean4.pdf>

50 Asian Securities Industry & Financial Markets Association. "About". Retrieved from <https://www.asifma.org/about/>

51 Asian Securities Industry & Financial Markets Association. "AFISMA Responds to Bank Negara Malaysia's Discussion Paper on Climate Change and Principle-based Taxonomy". Retrieved from <https://www.asifma.org/wp-content/uploads/2020/04/asifma-response-to-bnm-climate-change-taxonomy-dp-v20200331-final-draft-clean4.pdf>

52 Asian Securities Industry & Financial Markets Association. "AFISMA Responds to Bank Negara Malaysia's Discussion Paper on Climate Change and Principle-based Taxonomy". Retrieved from <https://www.asifma.org/wp-content/uploads/2020/04/asifma-response-to-bnm-climate-change-taxonomy-dp-v20200331-final-draft-clean4.pdf>

53 Rimaud, Cedric, Haran Siva, Miguel Almeida, Andrew Whitley and Krista Tukjainen. "ASEAN Green Finance State of the Market 2019". Retrieved from <https://www.climatebonds.net/resources/reports/asean-green-finance-state-market-2019>

## SINGAPORE

### GREEN FINANCE ACTION PLAN

Singapore through the Monetary Authority of Singapore, which is Singapore's central bank and integrated financial sector regulator, is actively driving the green finance agenda. Last year, it announced a Green Finance Action Plan which consists of three steps. The first is to "build financial system resilience to environmental risks". The second is to "develop green finance solutions and markets". The third is to "leverage innovation and technology". With its experience in financing the region and capabilities in technology, Singapore aims to make a significant contribution to the global green finance agenda and to be a leading centre for Green Finance in Asia and globally<sup>54</sup>.

### BUILDING FINANCIAL SECTOR RESILIENCE

In order to reinforce industry efforts and build financial resilience, MAS will issue Environmental Risk Management (ENRM) Guidelines across the banking, insurance and asset management sectors. <sup>55</sup>MAS has published a set of three consultation papers on its proposed Guidelines and has invited parties to submit their comments on the proposed Guidelines by August 2020. These guidelines will set standards on governance, risk management and disclosure of environment risk by financial institutions.

### DEVELOPING GREEN FINANCE SOLUTIONS AND MARKETS

As part of its action plan, MAS launched a US\$ 2 billion Green Investments Programme (GIP) in 2019 to invest in public market investment strategies that have a strong green focus.<sup>56</sup>

MAS has been at the forefront of supporting green, social and sustainable bond issuances in particular due to its Sustainable Bond Grant Scheme. The grant is open to all issuers and applies to bonds denominated in any currency with an external review or rating done to demonstrate alignment with internationally recognised green, social or sustainability bond principles. In 2019, MAS lowered the issuance size requirement from SGD 200 million to SGD 20 million to support more issuers.<sup>57</sup>The grant will fully offset cost incurred in respect of the above-said independent external review or rating done up to an amount of SGD 100,000.

To mainstream green and sustainable lending, MAS is developing a grant scheme for green and sustainability-linked loans. The scheme would defray the cost of external review and bank framework for such loans. To support an increase in activity, MAS is also working on an anchor sustainability advisory and assessment service provider who can strengthen local technical capacity for green finance-related assurance and verification, and play a key role in ensuring the transparency and integrity of green finance solutions.

MAS is planning to collaborate with local and international universities to establish Centres of Excellence in Singapore to drive Asia-focused green finance research and training. Such centres would "support the development of innovative green finance solutions, examine perspectives on financial policy and regulation, and grow the pipeline of green finance talent to support the financial sector"<sup>58</sup>.

To support the upskilling and growth of the green finance talent pool in Singapore, the Institute of Banking and Finance Singapore (IBF) offers courses spanning across sustainability and green finance. MAS and IBF have enhanced course fee subsidies for finance professionals attending such courses accredited or recognised by IBF up to 90%<sup>59</sup>. The IBF has also rolled out a 5% credit for their accredited and recognised courses, to further defray the cost of training for employers and individuals.

54 Excerpt of Keynote Speech by Mr Ong Ye Kung, Minister for Education, Singapore and Board Member, Monetary Authority of Singapore, at SFF x SWITCH 2019 on 11 November 2019. Retrieved from <https://www.mas.gov.sg/news/speeches/2019/green-finance-for-a-sustainable-world>

55 Monetary Authority Singapore. "MAS Consults on Environmental Risk Management Guidelines for Financial Institutions". Retrieved from <https://www.mas.gov.sg/news/media-releases/2020/mas-consults-on-environmental-risk-management-guidelines-for-financial-institutions>

56 Monetary Authority Singapore. New US\$2 billion Investment Programme to Support Growth of Green Finance in Singapore. Retrieved from [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)

57 Monetary Authority Singapore. "Reply to Parliamentary Question on Green Bond Grant Scheme." Retrieved from <https://www.mas.gov.sg/news/parliamentary-replies/2020/reply-to-parliamentary-question-on-green-bond-grant-scheme>

58 Monetary Authority Singapore. "Greening the Financial System". Retrieved from <https://www.mas.gov.sg/who-we-are/annual-reports/annual-report-2019-2020/greening-the-financial-system/developing-green-finance-solutions-and-markets>

59 The Institute of Banking and Finance. "ESG Programmes". Retrieved from <https://www.ibf.org.sg/programmes/Pages/ProgrammeFinder.aspx?keyword=ESG&type=1>

## LEVERAGING INNOVATION AND TECHNOLOGY

MAS launched the Global FinTech Hackcelerator, as part of 2020's Singapore FinTech Festival themed "Building Resilience, Seizing Opportunities, Emerging Stronger"<sup>60</sup>. The challenges seeks to recognise ground breaking solutions that enable the financial sector to respond better to (among others), green finance solutions that support the transition to low-carbon economic activities and provide coverage for climate and disaster risk as well as green finance enablers that support transparency and decision making for green transition.

## MAS' CONTRIBUTION TO INTERNATIONAL INITIATIVES

MAS is also involved in various international bodies set up to promote green financing and manage environmental risk. MAS is a founding member of the Network for Greening the Financial System (NGFS). Launched in 2017, the NGFS is a group of central banks and supervisors willing to share best practices around environment risk management and green financing.<sup>61</sup> In one of its latest reports, NGFS Climate Scenarios for central banks and supervisors published in June 2020<sup>62</sup>, a parallel is drawn between COVID-19 and the NGFS climate scenarios to show how sudden policy or behavioural changes could lead to a drop-in asset value.

MAS also joined the International Platform on Sustainable Finance in June 2020<sup>63</sup>. The IPSF, comprising government ministries and central banks from countries across regions, including the EU, China and India seeks to enhance global coordination in areas such as taxonomy, standards and labels, and disclosures to mobilise private capital towards environmentally sustainable investments.

## SUSTAINABILITY LINKED BONDS/LOANS: A MIDDLE GROUND?

The Malaysia taxonomy is offering a less strict approach on recognising green projects compared to the EU taxonomy. Likewise, Sustainability-Linked Bonds (SLBs) and Sustainability-Linked Loans (SLLs) allow issuers and borrowers access to the green debt market without committing to established standards such as the Green Bond Standards or the Climate Bonds Standard.

Under a SLB or a SLL, the issuer or the borrower is incentivised to improve its sustainability profile, by aligning bond or loan terms to the issuer or the borrower's performance against mutually agreed, pre-determined Sustainability Performance Targets (SPTs). The key advantage of a SLB or a SLL is to provide to issuers and borrowers a positive impact on reputation and credibility while not channelling the proceeds in green assets but, instead, towards initiatives defined between them as sustainable.<sup>64</sup>

SPTs are defined between the borrower and the lender and the SASB<sup>65</sup> Materiality Map is used as a benchmark. The SASB Materiality Map<sup>66</sup> provides metrics for a variety of industries across environmental issue categories. The SPTs "should be ambitious and meaningful to the borrower's business and should be tied to a sustainability improvement in relation to a predetermined performance target benchmark"<sup>67</sup>. Targets can either be internal (defined by the borrower with regards to their sustainability strategy) or external (verified by independent third-party firms against external rating criteria).

# ISSUES AND CHALLENGES IN GREEN FINANCE

## GREENWASHING

Greenwashing consists of providing misleading information about how a company's products are more environmentally sound<sup>68</sup>. In the context of green finance, greenwashing would be using the proceeds of a green bond or green loan for non-green activities.

60 Singapore Fintech Festival. "Global Fintech Hackcelerator 2020". Retrieved from <https://www.fintechfestival.sg/global-fintech-hackcelerator>

61 Climate Action in Finance. "Central Banks and Supervisors Networks for Greening the Financial System (NGFS)". Retrieved from <https://www.mainstreamingclimate.org/ngfs/>

62 Network for Greening the Financial System. "NGFS Climate Scenarios for central banks and supervisors". Retrieved from [https://www.ngfs.net/sites/default/files/medias/documents/ngfs\\_climate\\_scenarios\\_final.pdf](https://www.ngfs.net/sites/default/files/medias/documents/ngfs_climate_scenarios_final.pdf)

63 Monetary Authority Singapore. "Greening the Financial System. International corporation for green finance". Retrieved from <https://www.mas.gov.sg/who-we-are/annual-reports/annual-report-2019-2020/greening-the-financial-system/international-cooperation-for-green-finance>

64 Loan Syndication and Trading Association. "Guidance on Sustainability Linked Loan Principles (SLLP)". Retrieved from <https://www.lsta.org/content/guidance-on-sustainability-linked-loan-principles-sllp/>, page 2

65 The Sustainability Accounting Standards Board (SASB) is a non-profit organization founded in 2011 to develop sustainability accounting standards: [https://en.wikipedia.org/wiki/Sustainability\\_Accounting\\_Standards\\_Board](https://en.wikipedia.org/wiki/Sustainability_Accounting_Standards_Board) and <https://www.sasb.org/>

66 The Sustainability Accounting Standards Board. "SASB Materiality Map". Retrieved from <https://materiality.sasb.org/>

67 Loan Syndication and Trading Association. "Sustainability Linked Loan Principles (SLLP)". Retrieved from <https://www.lsta.org/content/sustainability-linked-loan-principles-sllp/>

68 Kenton, Will. "Greenwashing". Retrieved from <https://www.investopedia.com/terms/g/greenwashing.asp>

Taxonomies and green bond standards (whatever they are: ICMA Green Bond Principles, EU Green Bond Standards) were introduced to reduce greenwashing to a minimum.

Though the green bond market in ASEAN is relatively small, in 2019, green bond issuance grew to USD 7.8 billion<sup>69</sup>. The global bond market is estimated at USD 1,338 billion<sup>70</sup>, green bonds representing less than 1%. Creating a robust framework to avoid green washing is important for any market that wants to grow its credibility in this sector

## DATA, BENCHMARKING & VERIFICATION

There are a few ESG data providers in the markets that are assessing the bonds (use of proceeds, project selection and evaluation process and reporting) such as MSCI, Sustainalytics, Cicero and Vigeo Eiris. Some financial institutions in Singapore like DBS have adopted MSCI ESG ratings<sup>71</sup> for its wealth management business while SGX has partnered with Sustainalytics<sup>72</sup>.

The problem lies in the fact that ESG ratings providers can evaluate the same company very differently. As an example, some of these providers, such as MSCI, Sustainalytics, and Vigeo Eiris, rate companies globally, while others focus on comprehensive ESG ratings data for a specific country or region.

### THE 20 LARGEST MARKET-CAP COMPANIES IN THE UNITED STATES AS OF DECEMBER 31, 2017

Company	Sector	Weight	ESG Score		E Score		S Score		G Score	
			*1	*2	*1	*2	*1	*2	*1	*2
Apple	Technology	3.52%	0.41	0.43	0.69	0.96	0.10	0.42	0.54	0.19
Microsoft	Technology	2.78%	0.88	0.94	0.89	0.92	0.90	0.83	0.74	0.84
Alphabet	Technology	2.76%	0.33	0.48	0.54	0.67	0.50	0.75	0.10	0.10
Facebook	Technology	2%	0.29	0.20	0.77	0.23	0.32	0.63	0.07	0.01
Berkshire Hathaway	Financial	1.97%	0.04	0.04	0.06	0.07	0.04	0.24	0.04	0.04
JP Morgan Chase	Financial	1.53%	0.79	0.76	0.97	0.75	0.88	0.82	0.45	0.45
Johnson & Johnson	Health Care	1.34%	0.95	0.87	0.95	0.90	0.97	0.45	0.78	0.92
Bank of America	Financial	1.27%	0.59	0.81	0.86	0.79	0.58	0.88	0.29	0.54
Exxon Mobil	Energy	1.24%	0.70	0.53	0.45	0.35	0.65	0.91	0.86	0.37
Wells Fargo	Financial	1.10%	0.84	0.31	0.82	0.87	0.80	0.30	0.70	0.03
Visa	Financial	1.07%	0.75	0.65	0.67	0.63	0.53	0.37	0.98	0.71
Walmart	Cyclical	1.03%	0.72	0.35	0.64	0.77	0.61	0.10	0.73	0.42
Intel	Technology	0.89%	0.75	0.99	0.81	0.84	0.99	0.99	0.37	0.99
Cisco	Technology	0.86%	0.98	0.98	0.88	0.86	0.95	0.98	0.93	0.78
AT&T	Telecomm	0.86%	0.94	0.86	0.98	0.82	0.84	0.50	0.80	0.87
UnitedHealthGroup	Health Care	0.84%	0.18	0.51	0.16	0.60	0.20	0.16	0.40	0.67
Pfizer	Health Care	0.84%	0.68	0.67	0.65	0.59	0.85	0.66	0.39	0.57
Chevron	Energy	0.82%	0.32	0.30	0.32	0.21	0.41	0.87	0.35	0.25
Boeing	Industrial	0.82%	0.51	0.24	0.48	0.42	0.38	0.08	0.63	0.47

Notes:

\* Provider

(1) The shaded areas indicate instances in which the two providers have ratings differences greater than 25%

(2) In order to normalize ESG scores between the two providers, the scores in this table are determined by the percentile ranking of each company (with 0 being the lowest and 1.00 being the highest) by the respective provider's raw ESG score (or individual environmental, social, and governance score) and then taking the cumulative market-cap weight of that company relative to the overall universe. For example, Apple's ESG score of 0.41 by Provider 1 means that Apple's cumulative market-cap weight within the investment universe is 41% after ranking the universe by Provider 1's ESG scores.

Source: Research Affiliates, LLC

Figure 6: Table summarising differences in ESG ratings between two ESG rating providers

<sup>69</sup> The Business Times. "ASEAN green bond issuance doubles to US\$7.8b in 2019". Retrieved from <https://www.businesstimes.com.sg/asean-business/asean-green-bond-issuance-doubles-to-us78b-in-2019>

<sup>70</sup> <https://stats.bis.org/statx/srs/table/c1?f=pdf>: sum of total debt securities for all ASEAN countries: Singapore (493) + Indonesia (259) + Malaysia (413) + Philippines (169) + Thailand (465) + Vietnam (4) = USD 1,338 billion

<sup>71</sup> Tan, Claudia. "DBS adopts MSCI ESG ratings for its wealth management business". Retrieved from <https://www.businesstimes.com.sg/companies-markets/dbs-adopts-msci-esg-ratings-for-its-wealth-management-business>

<sup>72</sup> Sustainalytics. "SGX launches SGX Sustainability Indices". Retrieved from <https://www.sustainalytics.com/esg-investing-news/sgx-launches-sgx-sustainability-indices/>

In an article produced by Research Affiliates<sup>73</sup>, researchers have examined the 20 largest US companies by market capitalisation as of December 31, 2017, in terms of their overall ESG rating and individual environmental ratings from two providers. The environmental rating for Apple and Facebook show significant differences (~20 to 30%) between the two providers. This is due to a lack of a common standards and/or a key matrix to standardise evaluations.

## DIFFERENT LEVELS OF SCRUTINY BETWEEN STANDARDS AND TAXONOMY

The FSCECCS members have observed that the various taxonomies already in place or being designed cover more or less the same topics. For instance, most of them include, in the eligible green project categories, the following macro-sectors:

- Agriculture, forestry and fishing
- Manufacturing
- Electricity, gas, steam and air conditioning supply
- Water, sewerage, waste and remediation
- Transportation and storage
- Information and Communication Technologies (ICT)
- Buildings (construction and real estate activities)

In addition to these elements, the EU taxonomy also provides a detailed description of the economic activity, the metric used, the threshold as well as a "Do no significant harm". The ICMA Green Bond Principles, on the other hand, only indicate at a macro level the project categories. Likewise, the Malaysia taxonomy only provides "examples of economic activities that are generally considered as green and environmentally friendly"<sup>74</sup>.

Considering production of electricity from wind power as an example, the table below summarises the level of scrutiny on a specific economic activity each taxonomy has:

	EU Taxonomy	Malaysian Taxonomy	Climate Bond Initiative Taxonomy	ICMA Green Bond Principles
Description	Construction and operation of electricity generation facilities that produce electricity from Wind Power	Facility construction and operation of wind power generation	Generation facilities (power & heat) such as: <ul style="list-style-type: none"> <li>• Onshore wind farms</li> <li>• Manufacturing facilities wholly dedicated to onshore wind energy development such as wind turbines</li> <li>• Offshore wind farms</li> <li>• Manufacturing facilities wholly dedicated to marine renewable energy development such as wind turbines and platforms</li> </ul>	Renewable energy (including production, transmission, appliances and products);
Principles	<ul style="list-style-type: none"> <li>• Support a transition to a net-zero emissions economy</li> <li>• Avoidance of lock-in to technologies which do not support the transition to a net-zero emissions economy</li> <li>• Ensure that economic activities meet best practice standards</li> <li>• Ensure equal comparability within an economic activity with regards to achieving net-zero emissions economy target</li> <li>• Where necessary, incorporating technology-specific considerations into secondary metrics and thresholds</li> </ul>	Not communicated	Not communicated	Not communicated

73 Li, Feifei and Ari Polychronopoulos. "What a Difference and ESG Ratings Provider Means". Retrieved from [https://www.researchaffiliates.com/en\\_us/publications/articles/what-a-difference-an-esg-ratings-provider-makes.html](https://www.researchaffiliates.com/en_us/publications/articles/what-a-difference-an-esg-ratings-provider-makes.html)

74 Bank Negara Malaysia. "Climate Change and Taxonomy Principles". Retrieved from <https://www.bnm.gov.my/index.php?ch=57&pg=144&ac=894&bb=file>. Page 22

75 EU Technical Support Group on Sustainable Finance. "Financing a sustainable European Economy. Taxonomy Technical Report". Retrieved from [https://ec.europa.eu/info/sites/info/files/business\\_economy\\_euro/banking\\_and\\_finance/documents/190618-sustainable-finance-teg-report-taxonomy\\_en.pdf](https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/190618-sustainable-finance-teg-report-taxonomy_en.pdf)

76 Bank Negara Malaysia. "Climate Change and Taxonomy Principles". Retrieved from <https://www.bnm.gov.my/index.php?ch=57&pg=144&ac=894&bb=file>.

77 Climate Bonds Initiative. "Climate Bonds Taxonomy". Retrieved from [https://www.climatebonds.net/files/files/CBI\\_Taxonomy\\_Tables\\_January\\_20.pdf](https://www.climatebonds.net/files/files/CBI_Taxonomy_Tables_January_20.pdf)

78 International Capital Market Association. "The Green Bond Principles. Voluntary Process Guidelines for Issuing Green Bonds". Retrieved from <https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Green-Bonds-Principles-June-2018-270520.pdf>

Metric	Any electricity generation technology can be included in the taxonomy if it can be demonstrated, using an ISO 14044-compliant Life Cycle of Emissions (LCE) assessment, that the life cycle impacts for producing 1 kWh of electricity are below the declining threshold. However: <ul style="list-style-type: none"> <li>• Wind Power is exempt from performing a LCE <ul style="list-style-type: none"> <li>– This exemption is subject to regular review in accordance with the declining threshold</li> </ul> </li> </ul>	Not communicated	Not communicated	Not communicated
Threshold	Facilities operating at life cycle emissions lower than 100gCO <sub>2</sub> e/kWh, declining to 0gCO <sub>2</sub> e/kWh by 2050, are eligible.	Not communicated	Not communicated	Not communicated
Do no significant harm assessment	<input checked="" type="checkbox"/>	Not communicated	Not communicated	Not communicated

Figure 7: Comparison of four different taxonomies

## MISALIGNMENT BETWEEN SUPPLY AND DEMAND IN GREEN FINANCE

Governments and regulators have been pushing for corporations to launch green projects more and more in the past few years.<sup>79</sup> Most corporations have taken up initiatives but are only willing to start small considering the uncharted territory of such projects across jurisdictions. On the other hand, banks have committed a very large amount of funds to green finance projects. They would rather kick-start with projects above a certain threshold due to economies of scale.

Their main challenge is to identify high-quality projects that are ESG-compliant and commercially viable. This is necessary to align the demand from the banks with the interest of corporates to start the sustainability journey. Due to the complexity and high number of compliance-related requirements of such projects, the effort needed to issue funding for small-size project is almost the same as for large-size project. This explains the reluctance of banks to offer green financing to small-size projects. This leads to some corporations not having access to funding to launch green projects since banks are not willing to release funds below a certain size.

One area of improvement for all industry players (regulators, financial institutions and corporations) may be to agree on common standards for specific sectors in order to industrialise the process of issuing green financing. This would allow banks to fund green projects in a sustainable manner.

## ADVANCING GREEN FINANCE IN SINGAPORE AND ASEAN

### DRIVING CONVERGENCE OF GREEN FINANCE STANDARDS

As outlined in section IV, the recognition of the environmentally friendly nature of debt instruments highly depends on the framework used. For instance, the EU taxonomy standards provide a higher level of details in terms of criteria to define a debt security as green than other standards. This misalignment between frameworks is a challenge to promoting green financing across the world in a consistent manner.

The FSCECCS members have observed an intent from Asian governments and regulators to set their taxonomy based on internationally recognised standards. For example, the ASEAN



<sup>79</sup> For the definition of green finance projects, please refer to the categories of eligibility for Green Projects defined by ASEAN Green Bonds Standards: <https://www.theacmf.org/images/downloads/pdf/AGBS2018.pdf>

Capital Markets Forum (ACMF) has used ICMA Green Bond Principles for its ASEAN Green Bond Standards and the Monetary Authority of Singapore (MAS) the Task Force on Climate-related Financial Disclosure for its Environmental Risk Management (ENRM) guidelines.

However, as pointed out in a recent article addressing the future of the green bond market<sup>80</sup>, the differences of category eligibility for green debt are still material: for instance, the People's Bank of China's Green Bond Endorsed Project Catalogue includes "clean utilisation of coal" as well as nuclear energy as eligible sectors while the EU taxonomy excludes them.

The FSCECCS members believe that a dialogue should be initiated between the Technical Expert Group (TEG) on sustainable finance set up by the European Commission in 2018 and Asian regulators to iron out their different perspectives. The EU taxonomy offers a strong foundation also for a similar taxonomy in Singapore and the wider region. Putting aside coal, which is a sensitive topic, the FSCECCS members believe that there is still room to define specific stringent conditions under which some sectors like nuclear energy or natural gas production, currently deemed as "brown" under the EU taxonomy may be labelled as green. There would be two benefits to that: increased alignment of what green finance means across the world and providing a framework to make brown sectors greener. In addition to the above, the FSCECCS members believe that another way forward could be the mutual recognition between taxonomies meaning that if taxonomies are for instance 95% similar there could be an understanding of mutual recognition for the last 5% between the countries.

Regardless, the FSCECCS members believe Asia is catching up with the rest of the world as shown by innovative initiatives by regulators like the MAS to subsidise the cost of ESG verification for green debt.

## IMPROVING ESG RATINGS PRACTICES

As described in section IV, ESG ratings providers appear to be using different types of data and assessment methodologies. This leads to an inconsistency around ESG ratings and potential confusion for retail investors. Though the importance of ratings versus other frameworks to measure the adherence to ESG standards is still debatable, it is desirable for investors and issuers to harmonize the approach. As such, the FSCECCS members believe there may be three solutions that Asian regulators can consider.

The first is for regulators to officially endorse a certain group of ESG rating providers that would meet strict criteria on data sources used and ESG assessment methodology. This would bring a bit more transparency for institutional investors on how ESG ratings are defined. However, this solution also limits which ESG providers, corporates can make use of and this might create further issues for the corporations.

The second is to develop an Ecolabel for financial products on the basis of the EU Ecolabel. The European Commission is currently working on such scheme to "provide retail investors desiring to invest in sustainable economic activities with more and better information"<sup>81</sup>. Extending the EU Ecolabel to Asia would enhance the use of the EU taxonomy but existing divergences between taxonomies at this point of time may prevent that from happening. Therefore, Asian countries, through pan-regional bodies such as the ACMF, may want to look at creating an ecolabel based on the ICMA Green Bond Standards. That would at least provide retail investors with a consistent sense of what green bonds look like.

The third option could be to regulate the ESG providers in a similar way to credit rating agencies or through licensing in order to better understand the providers' methodology and to ensure that they act in a fair, transparent and equitable manner

## BUILDING A GREEN FINANCE TALENT POOL IN SINGAPORE

**Different types of talents are required in Green Finance.** Individuals with a strong expertise in sustainability are just as important as finance-trained professionals. Green finance covers a wide range of skillsets and all kinds of profiles are welcome. As such, it is also worth mentioning that education and knowledge-sharing on the topic of sustainability cannot begin early enough and is encourage to be a general part of citizens' lives.

**Strong finance foundations remain critical.** For students interested in pursuing a career in Green Finance, FSCECCS members believe that they should first get strong accounting and finance foundations through, for example, a Bachelor of Business Administration. Then, the options they have is to either enrol for additional undergraduate courses available, for example, through the six month programme "Impact Investing and Green Finance" offered by the Singapore University of Social Sciences<sup>82</sup> or to sign-up for 2-day courses such as the ones offered by the National University of Singapore (Social and Sustainable Investing<sup>83</sup>) and the Singapore Management University (Sustainable Finance & Impact Investing<sup>84</sup>).

80 Deschryver, Pauline and Frederic de Mariz. "What Future for the Green Bond Market?" Retrieved from <https://www.mdpi.com/1911-8074/13/3/61>

81 EU Technical Expert Group on Sustainable Finance. "Financing a Sustainable European Economy, Report on EU Green Finance". Retrieved from [https://ec.europa.eu/info/sites/info/files/business\\_economy\\_euro/banking\\_and\\_finance/documents/190618-sustainable-finance-teg-report-green-bond-standard\\_en.pdf](https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/190618-sustainable-finance-teg-report-green-bond-standard_en.pdf)

82 Singapore University of Social Sciences. "Impact Investing and Green Finance". Retrieved from <https://www.suss.edu.sg/courses/detail/fin354>

83 National University of Singapore. "Social and Sustainable Investing". Retrieved from <https://web2-bschool.nus.edu.sg/l3/courses/social-sustainable-investing>

84 Singapore Management University. "Advance Certificate in Sustainability & Sustainable Business: Module 5: Sustainable Finance, Impact

**Academic knowledge should be applied in sustainability-related organisations.** The FSCECCS members deem it necessary for students to also participate in projects or seek internships with green finance related institutions such as ESG rating providers, leading green finance banks or market regulators willing to push the green finance agenda further. For example, working in the sustainable finance department of a financial institution would help students understand how their acquired skills in finance can be applied to green concepts such as green bonds.

## LEVERAGING TECHNOLOGY

The question of whether the asset underlying an instrument is 'green' persists throughout the lifecycle of the instrument, from the issuance of debt to its maturity. It is costly to regularly verify claims that an asset is green: a factor which may deter issuers

One of the ways around increased cost for green debt may be found in technology. For example, blockchain provides a way to reduce the financial burden of green verification. A Swedish bank, some North European financial regulators and a SPO provider have joined forces to build a platform called The Green Assets Wallet (GAW)<sup>85</sup>. The platform is built on block chain technology and its objective is to make verification more transparent and more accessible.

As promising as it may seem, the adoption of such technology is still at a very early stage. It is mentioned on the official Green Asset Wallet website that seven pilot issuers are currently testing and co-developing the technology. However, the FSCECCS members were not able to find out exactly what this platform does (what kind of data can be stored on the platform, in what format, how to prevent that it gets updated...etc.) and whether market participants are willing to adopt it.



## CONCLUSION

While green finance has grown rapidly in Singapore and the region in recent years, there is still room for growth and potential for organisations large and small to benefit from it. This will take the collective effort of multiple stakeholders to work together. Singapore's success as financial centre in South East Asia is the result of building capabilities in critical or emerging areas that will become essential in the near future. Continuous investment in green finance will help making Singapore stay relevant to the world and allow sustainable job creation. In addition, Europe and the EU with its regulatory bodies as a frontrunner on sustainability provides a good guidance also for Asia's development in this area.

As evident from the paper the FSCECCS members have highlighted a number of key challenges and recommendation. However, the hope is that this paper will help to create greater awareness on green finance and move the discussion forward to have a positive impact to our environment. The key challenges highlighted by the members include:

- Greenwashing
- Data, Benchmarking and Verification
- Different levels of scrutiny between standards and taxonomy
- Misalignment between supply and demand in Green Finance

The members have also tried to propose some recommendations on how to address these challenges:

- Driving convergence of Green Finance Standards
- Improving ESG ratings
- Building a Green Finance Talent pool in Singapore
- Leveraging technology

*Investing and Stewardship*. Retrieved from <https://academy.smu.edu.sg/advanced-certificate-sustainability-sustainable-businesses-module-5-sustainable-finance-impact2871>

<sup>85</sup> Patel, Manisha. "Transforming Green Finance with Blockchain". Retrieved from <https://greenassetswallet.org/news/2020/5/10/transforming-green-finance-with-blockchain>

These are challenges European financial services corporations face in Singapore and the region. Through this paper they have provided their best recommendations on how to address these to allow for further and better collaboration within the area of Green Finance

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## LIST OF ACRONYMS

ACMF	ASEAN Capital Market Forum
ASEAN	Association of South-East Asian Nations
ASIFMA	Asia Securities Industry & Financial Market Association
BNM	Bank Negara Malaysia
DNSH	Do no significant harm
ESG	Environment, Social and Governance
EU	European Union
EU ETS	European Union Emission Trading System
EU GBS	European Union Green Bond Standard
EMEA	Europe, Middle East, Africa
ENRM	Environmental Risk Management
FSCECCS	Financial Services Committee of the European Chamber of Commerce in Singapore
GAW	Green Asset Wallet
GBP	Green Bond Principle
GIP	Green Investment Programme
GLP	Green Loan Principle
IBF	Institute of Banking and Finance
IPSF	International Platform on Sustainable Finance
ICMA	The International Capital Market Association
LMA	Loan Market Association
MAS	Monetary Authority Singapore
NGSF	Network for Greening the Financial System
SASB	Sustainability Accounting Standards Board
SLB	Sustainability-Linked Bonds
SLL	Sustainability-Linked Loans
SPO	Second-Party Opinion
SPT	Sustainability Performance Targets
TEG	Technical Expert Group

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