The Sustainable Finance Landscape in Singapore

THE GREEN SWAN INITIATIVE

About this Report (20/04/2021)

In the last 2 years, there have been a proliferation of sustainable finance initiatives locally, led both by the private and public sector. This report is an accompaniment to our visual interactive map of the climate finance landscape in Singapore which can be accessed at greenswansg.org/map. This report focuses on the key actors of the financial system, their major initiatives, as well as the synergies between these initiatives.

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The key actors of the Financial System include:

1. The **Monetary Authority of Singapore ("MAS"),** which is the central bank and financial regulatory authority of Singapore;

2. **Financial institutions,** which are categorized into the following five sectors by MAS: banking, capital markets, financial advisory, insurance and payments;

3. **Collaborative or coordinating associations,** which represent the interests of the trade/ industry and work with members to implement industry codes of conduct and guidelines that are in line with international best practices. These associations also build relationships within the industry and collaborate with regional and international organisations; and

4. **Academic centres and think tanks,** which undertake research focused on selected issues in the region or internationally. They have the capacity to shape policy and stakeholder action.

Central bank and financial regulatory authority of Singapore

Threats of climate-related shocks to the financial system impact the twin central bank mandates of price and financial stability. Given the impending materialisation of these threats to the financial system, central banks have increasingly recognised the need to integrate climate risks into their own policymaking and risk management procedures.

MAS has been ramping up its efforts in the area of climate finance. The central bank's earliest efforts focused on green bonds.[1] In 2017, MAS launched the Green Bond Grant Scheme, which funded eligible expenses for companies obtaining an external review of their green bonds. This was renamed the Sustainable Bond Grant Scheme and expanded in 2019 to include social and sustainability bonds.[2] In 2018, MAS also signed a Memorandum of Understanding with the International Finance Corporation ("**IFC**") to build green finance capacities in Asia. Specifically, the partnership between MAS and IFC sought to (i) familiarise potential issuers with the processes and frameworks for evaluating eligible financing projects and monitoring outcomes for investors' disclosure, and (ii) provide potential investors with the right level of knowledge to identify, evaluate and track the performance of their green investments.[3]

MAS was a founding member of the Network for Greening the Financial System ("**NGFS**"), a network of central banks and financial supervisors which define and promote best practices on risk management and mobilising capital for green investment. MAS also participates in the Sustainable Insurance Forum, a network of insurance supervisors and regulators seeking to strengthen the insurance sector's response to sustainability issues. In this respect, during a 2018 industry-wide stress test, MAS requested insurers to consider the impact of an extreme

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[1] Green bonds are a type of financial debt instrument whereby proceeds of the bonds issued will be exclusively applied to finance or refinance projects with environmentally sustainable benefits.

[2] Benny Chey (2019), "Nurturing the Growth of Green, Social and Sustainability Bonds" - Opening Remarks by Mr Benny Chey, Assistant Managing Director, Monetary Authority of Singapore at Innovate4Climate, on 4 June 2019, Monetary Authority of Singapore, mas.gov.sg/news/speeches/2019/nurturing-the-growth-of-green-social-and-sustainability-bonds

[3] International Financial Corporation (2018), IFC and MAS Partner to Accelerate Growth of Green Bond Asset Class in Asia, World Bank Group, pressroom.ifc.org/all/pages/PressDetail.aspx?ID=17520

flooding scenario on their balance sheets arising from damage to insured properties and higher claims.[4]

These various efforts culminated in the 2019 Green Finance Action Plan, a 6-part plan to make Singapore the leading centre for green finance in Asia,[5] through:

1. Establishing environmental risk management guidelines for financial institutions (launched in December 2020);

2. Developing grant schemes to mainstream green and sustainability linked loans (launched in November 2020);

3. Supporting the expansion of external reviewers and rating agencies;

4. Building up climate research and training programmes in Asia through dedicated centres of excellence;

5. Featuring green finance as a key theme for the 2020 Fintech Hackcelerator; and

6. Opening a US$2 billion Green Investments for asset managers committed to drive green activities in the region.

In December 2020, MAS launched the Guidelines on Environmental Risk Management ("**ERM Guidelines**") for Banks,[6] Asset Managers[7] and Insurers[8] after a public consultation. The ERM Guidelines cover areas of governance and strategy, risk management, and environmental risk disclosure. This was complemented by the environmental risk management handbook published by the Green Finance Industry Taskforce ("**GFIT**") in January 2021 which provided further guidance on best practices.[9] In that same month, the GFIT also conducted a public consultation on its proposed taxonomy for financial institutions based in Singapore to define green and transition activities.[10]

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[4] Monetary Authority of Singapore (2020), Jurisdiction: Singapore Authority: Monetary Authority of Singapore (MAS), Sustainable Insurance Forum, sustainableinsuranceforum.org/view_pdf.php?pdf_file=wp-content/uploads/2020/11/Singapore-Monetary-Authority-of-Singapore-MAS.pdf

[5] Monetary Authority of Singapore (2019), Annual Report 2019-2020: Green Finance Action Plan, Monetary Authority of Singapore, mas.gov.sg/who-we-are/annual-reports/annual-report-2019-2020/greening-the-financial-system

[6] Monetary Authority of Singapore (2020), Guidelines on Environmental Risk Management (Banks), Monetary Authority of Singapore, mas.gov.sg/-/media/MAS/Regulations-and-Financial-Stability/Regulations-Guidance-and-Licensing/Commercial-Banks/Regulations-Guidance-and-Licensing/Guidelines/Guidelines-on-Environmental-Risk---Banks/Guidelines-on-Environmental-Risk-Management-for-Banks.pdf

[7] Monetary Authority of Singapore (2020), Guidelines on Environmental Risk Management (Asset Managers), Monetary Authority of Singapore, mas.gov.sg/-/media/MAS/Regulations-and-Financial-Stability/Regulations-Guidance-and-Licensing/Securities-Futures-and-Fund-Management/Regulations-Guidance-and-Licensing/Guidelines/Guidelines-on-Environmental-Risk-Management-for-Asset-Managers.pdf

[8] Monetary Authority of Singapore (2020), Guidelines on Environmental Risk Management (Insurers), Monetary Authority of Singapore, mas.gov.sg/-/media/MAS/Regulations-and-Financial-Stability/Regulations-Guidance-and-Licensing/Insurance/Regulations-Guidance-and-Licensing/Guidelines/Guidelines-on-Environmental-Risk-Management-Insurers.pdf

[9] Green Finance Industry Task Force (2021), Handbook on Implementation Environmental Risk Management for Asset Managers, Banks, and Insurers, https://abs.org.sg/docs/library/handbook-on-implementing-environmental-risk-management

[10] MAS, 2021, Industry taskforce proposes taxonomy and launches environmental risk management handbook to support green finance, https://www.mas.gov.sg/news/media-releases/2021/industry-taskforce-proposes-taxonomy-and-launches-environmental-risk-management-handbook

The Green Finance Industry Taskforce (GFIT)

Please refer to the visual map at greenswansg.org/map for the Green Swan Initiative's coverage of the GFIT and its initiatives. GFIT has appointed co-leads from various organisations for each of its workstreams focusing on GFIT's four key initiatives. They are:

1. **Taxonomy development**: David Smith (Senior Investment Director) of Aberdeen Standard Investments and Eric Bramoullé (Chief Executive Officer, South Asia) of Amundi Singapore Limited

2. **Enhancing environmental risk management practices of financial institutions**: Vincent Loh (Chief Risk Officer, Singapore & ASEAN) of Standard Chartered Bank (Singapore) Limited and Gautam Mukharya (Chief Risk Officer, Singapore) of The Hongkong and Shanghai Banking Corporation Limited (HSBC)

3. **Improving disclosures**: Mikkel Larsen (Chief Sustainability Officer) of DBS Bank Ltd and Michael Tang (Head, Listing Policy & Product Admission) of Singapore Exchange Regulation

4. **Driving green finance disclosures**: Gopi Mirchandani (CEO and Head of Client Group Asia (ex-Japan)) of NN Investment Partners (Singapore) Ltd and Sean Henderson (MD & Co-Head of Debt Capital Markets, APAC) of The Hongkong and Shanghai Banking Corporation Limited (HSBC)

Self-Regulation by Financial Institutions

Before the launch of the Green Finance Action Plan, the Association of Banks Singapore ("**ABS**") first introduced a set of Guidelines on Responsible Financing in 2015. These guidelines were updated in 2018. The scope of responsible financing considerations in these guidelines included ESG criteria and identified 8 industries with elevated risks that banks need to take into consideration and prioritize in developing their responsible financing policies.[11] The Guidelines set out specific actions required for the 3 principles on responsible financing:[12]

1. Disclosure or Senior Management's Commitment to Responsible Financing;

2. Governance on Responsible Financing; and

3. Capacity Building on Responsible Financing.

Because the Guidelines on Responsible Financing are not prescriptive as to the extent of action required in each of these sectors, the 3 major local banks DBS, OCBC and UOB have developed different sector specific policies covering the 8 identified industries. Below is a table summarising the policies that each of the 3 major local banks have developed in respect of the 8 industries:

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[11] Agriculture, forestry, chemicals, infrastructure, defence, mining & metals, energy from fossil fuels and waste management

[12] Association of Banks in Singapore (2017), Industry Guidelines – Responsible Financing, 2, https://abs.org.sg/docs/library/responsible-finance-guidelines-version-1-1.pdf

	DBS	OCBC	UOB
Agricult-ure	Requires all agricultural commodities (including palm oil) customers to demonstrate alignment with No Deforestation, No Peat and No Exploitation (NDPE) commitments Requires all palm oil customers to achieve full Roundtable on Sustainable Palm Oil (RSPO) certification within a timeframe and the time-bound action plan is communicated to DBS Requires all palm oil traders to work towards becoming RSPO members and develop a process to ensure traceability Will not provide financing for activities that involve significant expansion or greenfield development without conducting an environmental and social impact assessment	Expects clients to manage haze & fire risks by complying with ABS Haze Diagnostic Kit	Incorporates the ABS Haze Diagnostic Kit for the financing of palm oil, and pulp and paper industries Will not provide new financing for greenfield palm oil plantations Borrowers falling within this industry are subject to enhanced due diligence
Chemic-als	Will not provide financing for the manufacture of chemical weapons; or chemicals prohibited in Annex A of the Stockholm Convention, an international agreement on persistent organic pollutants; or chemicals listed in Annex III of the Rotterdam Convention Will not provide financing for activities that involve significant expansion or greenfield development without conducting an environmental and social impact assessment	OCBC states that it has a sector-specific policy for Chemicals, the policy is not publicly available.	Falling under UOB's prohibited industries and products are (i) Defence-related business, military and police deals, and (ii) Weapons of all types (including but not limited to daggers, firearms and accessories), replica weapons, ammunitions and explosives) Borrowers falling within this industry are subject to enhanced due diligence
Defence	Will not provide financing for the production and movement of weapons which normal use violates basic humanitarian principles, and this includes anti-personnel mines, cluster munitions and weapons of mass destruction	Will not provide financing for the production or trade in controversial weapons and munitions for offensive warfare (e.g. nuclear, biological and chemical weapons, anti-personnel mines and cluster munitions)	Borrowers falling within this industry are subject to enhanced due diligence

	DBS	OCBC	UOB
Energy from Fossil Fuels	Will not provide new financing for pure play thermal coal mining, processing, trading, construction and operation of thermal coal power plants Will not knowingly finance activities that engage in the exploration or production of gas without due regard to managing methane leakage With regard to coal-fired power plants (CFPP), will cease financing new CFPP in any market regardless of the efficiency of technologies used, and only support customers with a diversification strategy on corporate financing basis Will not provide financing for activities that involve significant expansion or greenfield development without conducting an environmental and social impact assessment	Will not provide new financing for coal-fired power plant projects	Will not provide new financing of coal fired power plant projects and prohibits the project financing of greenfield thermal coal mines Borrowers required to put in place measures to prevent or to control gas flaring and venting Borrowers falling within this industry are subject to enhanced due diligence
Forestry	Will not provide financing for activities that involve illegal logging and land clearance by burning	Expect clients to manage haze & fire risks by complying with ABS Haze Diagnostic Kit	Will not provide financing for companies involved in open burning for land clearance Borrowers falling within this industry are subject to enhanced due diligence
Infrastr-ucture	Will not provide financing for activities that involve significant expansion or greenfield development without conducting an environmental and social impact assessment	OCBC states that it has a sector-specific policy for Infrastructure, the policy is not publicly available.	Borrowers falling within this industry are subject to enhanced due diligence

	DBS	OCBC	UOB
Mining & Metals	Will not knowingly finance activities or projects which the bank knows to be involved in operations which entail significant expansion or greenfield development without conducting an environmental and social impact assessment Will stop project financing of greenfield thermal coal mines; Will stop financing of pure play thermal coal mining, processing, trading, construction and operation of thermal coal power plants Only supports customers with a diversification strategy on a corporate financing basis and evaluate customers' diversification strategy before committing to finance acquisition of thermal coal mines	Will not provide new financing to lignite and thermal coal mines	Prohibits the project financing of greenfield thermal coal mines Within the thermal coal sector, financing is limited to mines that have calorific values corresponding to sub-bituminous or higher-grade coal Prohibit financing of asbestos mining and new building projects that use asbestos in the construction process Borrowers falling within this industry are subject to enhanced due diligence
Waste Manage-ment	Will not provide financing for activities that do not have an adequate environmental management system or certification in place to ensure appropriate chemical management practices, appropriate disposal/transport of hazardous waste, responsible water and energy usage, and prohibit open burning and dumping of waste on-site	OCBC states that it has a sector-specific policy for Chemicals, the policy is not publicly available.	Borrowers falling within this industry are subject to enhanced due diligence

NGOs & Academia

The Asia Sustainable Finance Initiative launched in 2019 and the Singapore Green Finance Centre convened in 2020 are the only long-term research initiatives focused on sustainable finance in Singapore.

Noteworthy are the numerous reports and guides by the World Wide Fund for Nature Singapore ("**WWF SG**") on integrating ESG into finance sector activities such as the Sustainable Banking in ASEAN report series and Sustainable Finance Report series. In addition, WWF SG has developed the Sustainable Banking Assessment ("**SUSBA**"), an interactive tool that helps stakeholders assess banks' management of climate risk, as well as helps shareholders, potential investors, regulators and civil society representatives track banks' progress and performance on ESG integration on a year-on-year basis.

A notable report is *Singapore as a Green Finance Hub for ASEAN and Asia*, published by the Singapore Institute of International Affairs ("**SIIA**") in 2017. It is the only recent attempt at mapping the green finance landscape in Singapore. In that paper, SIIA made multiple recommendations that have since been implemented by MAS and the Singapore Government. For example, the report stated that Government institutions should be encouraged to increase their portfolio of green investments.[13] Most recently in the 2021 Singapore Budget, the Government announced that it would issue S$19 billion worth of green bonds for public sector green projects in Singapore and Asia, with more to come in the future.[14] By comparison, Singapore issued roughly S$5.94 billion worth of green bonds in 2019.[15] Separately, the Climate Bonds Initiative has also suggested that the financial sector must work towards a definition of "band of green" with reference to global standards.[16] The proposed GFIT Green Taxonomy is part of this effort to create such definitions.

However, some recommendations have not been adopted - for example, we have yet to see measures encouraging greater transparency and materiality on ESG disclosure.[17] While the SGX mandates sustainability reporting on a "comply or explain" basis, it does not set disclosure standards. In contrast, the EU Non-Financial Reporting Directive, as a more stringent set of disclosure standards, goes into greater detail the types of material environmental information required to be disclosed by companies.[18]

The visual map at greenswansg.org/map details a full coverage of the local NGO and Academia actors as well as their research efforts and publications on the wider scope of sustainable finance in Singapore.

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[13] Singapore Institute of International Affairs (2017), Collaborative Initiative for Green Finance in Sinagpore - Singapore as a Green Finance Hub for ASEAN and Asia, 7, http://www.siiaonline.org/wp-content/uploads/2017/11/Collaborative-Initiative-for-Green-Finance-in-Singapore.pdf

[14] Government of Sinagpore (2021), Budget 2021: Building a sustainable Singapore, https://www.gov.sg/article/budget-2021-building-a-sustainable-singapore

[15] Climate Bonds Initiative (2020), ASEAN Green Finance State of the Market 2019, https://www.climatebonds.net/system/tdf/reports/cbi_asean_sotm_2019_final.pdf?file=1&type=node&id=47010&force=0

[16] Singapore Institute of International Affairs (2017), Collaborative Initiative for Green Finance in Singapore - Singapore as a Green Finance Hub for ASEAN and Asia (see footnote 55), 68

[17] Singapore Institute of International Affairs (2017), Collaborative Initiative for Green Finance in Singapore - Singapore as a Green Finance Hub for ASEAN and Asia (see footnote 55), 65

[18] European Commission, Company Reporting: Non-financial reporting, https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting/non-financial-reporting_en

Bank Action

MAS's guidelines on environmental risk management target three main types of financial institutions ("**FIs**"): banks, asset managers and insurers.[19] Amongst these three main types of FIs, our research and mapping exercise has thus far focused on the banking sector.

The banking sector plays an important role in the economy as it spurs growth by providing credit and funds for corporations, individuals and households. Banks also play a monitoring and risk-sharing role in the economy, ensuring efficient resource allocation and smoothing risk over time.[20] The banking sector thus holds significant potential and a "unique market position" beyond its daily functions to ensure credit flows in the economy within the private sector.[21]

The local banks have a significant presence domestically and regionally. The total size of the banking sector amounts to almost US$2 trillion, making it "critical to Singapore's role in financing local and regional growth in trade and infrastructure, and an established global private banking centre", according to MAS.[22] The banking sector comprises a small number of strategically important national banks, which are required to "act in a manner consistent with national interest", and which account for about a third of assets in Singapore's banking sector, with the remaining two-thirds accounted for by foreign banks.[23] The regional presence of Singapore's local banks is also substantial. DBS, Singapore's largest bank, has a presence in eighteen countries globally and six priority markets located in Asia.[24] DBS's geographical distribution of consumer loans also shows a 53% concentration in overseas markets, with 8% to South and Southeast Asia, and 30% to China and Hong Kong.[25] In absolute terms, DBS's gross loans and advances to customers to South and Southeast Asia was approximately SGD29.4 billion, with loans to the Greater China region at SGD53 billion.[26] In addition, UOB's overseas loan exposure totalled 48%, with overseas loans growing at a rate of 4% in 2019.[27]

The critical role that banks play in the economy thus gives the banking sector great potential to enact positive change, in particular as climate change becomes mainstreamed as a core economic concern. This involves extending finance towards two main types of climate activities: climate mitigation, which aims to alleviate the threat of climate change; and climate adaptation, which aims to enhance resilience in the face of climate impacts. Banks can help lower and mitigate the risks associated with climate change and sustainability, as well as support recovery

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[19] These broadly correspond to MAS's categorisation of FIs by sector - banks belong to the banking sector, asset managers are part of the capital markets sector, and insurers belong to the insurance sector.

[20] Franklin Allen, Elena Carletti, and Xian Gu (2014), The Roles of Banks in Financial Systems, *The Oxford Handbook of Banking* (2nd Edition) Allen Berger, Phillip Molyneux and John Wilson (eds)

[21] Park Hyoungkun and Jong Dae Kim (2020), Transition towards green banking: role of financial regulators and financial institutions, Asian Journal of Sustainability and Social Responsibility

[22] Monetary Authority of Singapore (2021), Banking: Licensing and Authorisation, https://www.mas.gov.sg/regulation/Banking

[23] Woo Jun Jie (2016), Singapore as an international financial centre: History, policy and politics, Palgrave Macmillan, London.

[24] DBS (2019), DBS Annual Report 2019, 2. https://www.dbs.com/annualreports/2019/files/media/dbs-annual-report-2019.pdf

[25] DBS (2019), DBS Annual Report 2019 (see footnote 66), 84.

[26] DBS (2019), DBS Annual Report 2019 (see footnote 66), 176.

[27] UOB (2019), Financial Highlights – Driving Performance, https://www.uobgroup.com/AR2019/financial-highlights.html

from climate-related shocks by reallocating financing.[28] Furthermore, as one of the largest types of financial institutions, banks possess substantial institutional capacity for tackling climate issues through their wide networks, outreaches and client bases, in so doing shifting consumer behaviour by scaling up and redirecting financing flow towards low-carbon and climate-resilient investments.[29]

Local banks have started to offer an increasing number of green finance products and green loans to the market. For example, OCBC bank has set sustainable finance targets of SGD25 billion by 2025, after surpassing its initial SGD10 billion target in 2020, 2 years ahead of its intended schedule. It also participated in the financing of renewable energy projects like solar and wind energy projects in Taiwan, China, the United Kingdom, Australia and Malaysia.[30]

In spite of these green financing initiatives, banks also do major harm by continuing to finance dirty, carbon-intensive industries. One way to measure the climate impact of banks is through financed emissions. Finance emissions account for the true impact of banks by measuring the emissions associated with their lending and investment activities. While operational activities of banks are relatively low, financed emissions illustrate that the actual carbon footprint of banks is substantial. Limited reported data has indicated that financed emissions for banks could be up to 100 to 1000 times greater than operational emissions from banks.[31] High levels of financed emissions threaten to lock in significant carbon intensive development for years to come. Numerous investigative reports have revealed the significant carbon footprint from the lending activities of banks. One such report by a collection of climate organisations, *Banking on Climate Chaos 2021*, analysed the world's 60 largest commercial and investment banks revealed that banks have channelled US$3.8 trillion in finance towards fossil fuels in the five years since the Paris Agreement.[32] In the 2020 edition of the report, Singapore's local banks were found to have weak commitments, as they have pledged to cease the financing of *new* coal power plants, but have not made exclusions or plans made to phase out financing for coal mining and power companies.[33] Presently, however, little data is available on the financed emissions of Singaporean banks. The coexistence of climate pledges by the banking sector alongside its high carbon impact illustrates that finance is still a long way from playing a positive role in decarbonising the economy.

The visual map at greenswansg.org/map focuses on what action Singapore banks and Foreign banks with Singapore offices have taken on green finance. We categorise such initiatives into four main types of bank action: high level commitment to act, enabling action, measuring financed emissions, and disclosure & reporting.[34]

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[28] Park Hyoungkun and Jong Dae Kim (2020), Transition towards green banking: role of financial regulators and financial institutions, Asian Journal of Sustainability and Social Responsibility, 3

[29] Park Hyoungkun and Jong Dae Kim (2020), Transition towards green banking: role of financial regulators and financial institutions, Asian Journal of Sustainability and Social Responsibility, 15

[30] OCBC (2020), OCBC Bank Sets New Sustainable Finance Target of S$25 Billion by 2025, https://www.ocbc.com/group/media/release/2020/ocbc-sets-new-sustainable-finance-target-of-25b-by-2025

[31] The Economist (2020), Making sense of banks' climate targets, https://www.economist.com/finance-and-economics/2020/12/12/making-sense-of-banks-climate-targets

[32] Rainforest Action Network et al. (2021), Banking on Climate Chaos 2021, https://www.ran.org/bankingonclimatechaos2021/

[33] Rainforest Action Network et al. (2020), Banking on Climate Change Fossil Fuel Finance Report 2020, 10. https://www.ran.org/publications/banking-on-climate-change-fossil-fuel-finance-report-2020

[34] This categorisation is a modified categorisation of initiatives by the Partnership for Carbon Accounting Financials (PCAF). PCAF (2020), The Global GHG Accounting and Reporting Standard for the Financial Industry (1st Edition), 14 https://carbonaccountingfinancials.com/files/downloads/PCAF-Global-GHG-Standard.pdf