



Stocktake Report on Scaling-up Green, Social, and Sustainability Bond Issuances in Developing Countries

Final – 13 September 2021

Table of contents

Table of contents	2
G20 context	3
1. Introduction.....	5
2. Why scaling up GSS bonds in developing countries is necessary?.....	13
3. Key gaps and challenges and possible policy actions	19
Acknowledgements.....	42
Annex.....	43

G20 context

Building on the G20 Financing for Sustainable Development (FSD) Framework endorsed in 2020, the G20 Development Working Group (DWG) aims to promote in 2021 under Italy's Presidency mutual learning and support for developing countries in setting innovative national SDG Financing Strategies for effective resource mobilisation, use and alignment, especially in light of the current COVID-19 crisis, and to encourage greater use of innovative financing instruments in developing countries.

More specifically, the G20 Thematic Working Group on Finance for Sustainable Development (TWG 1) seeks to highlight the challenges to attract international financial flows and scale-up sustainability-linked financial instruments in developing countries in line with the Addis Ababa Action Agenda ("AAAA") along with the other FSD work streams of the G20 DWG, while coordinating with the G20 Finance Track, particularly with the work done under the Sustainable Finance Working Group (SFWG).

The Italian G20 Presidency requested Italy's Cassa Depositi e Prestiti (CDP) and the OECD to prepare this stocktake report to analyse the market, highlight gaps and challenges, and to identify possible policy areas. During the first TWG meeting in March 2021, a preliminary stocktake update was presented by the OECD on the green, social and sustainable (GSS) bond market and on the challenges to scaling-up such instruments in developing countries, together with testimonials from Multilateral and Regional Development Banks that have gained experience in the recent past.

At the second TWG meeting in May 2021, a stocktake update was presented by the OECD and CDP which had identified five gaps and challenges to scale up issuances of GSS bonds in developing countries, and possible related policy actions. Further testimonials were presented to enrich the debate and a first debate about possible recommendations to meet the identified gaps and challenges took place.

Ahead of the third DWG TWG meeting in June 2021, a first draft of the stocktake report was circulated to G20 DWG Delegates with the aim to provide a more comprehensive overview of the GSS market as well as further evidence and details on the five initially identified gaps and challenges to scale up the GSS market in developing countries.

Several G20 Member countries provided substantive comments, including requests for additional evidence on certain areas and these have fed into updated versions of the stocktake report.

The updated final report is meant to support the discussions in the fourth G20 DWG meeting on 13-14 September 2021, which will focus on a non-exhaustive list of voluntary policy recommendations on how the identified gaps could be overcome.

This updated stocktake report will be shared with other relevant G20 work streams, notably in the finance track, for information and for inputs.

As part of the final DWG outcome on Finance for Sustainable Development, the Italian G20 presidency aims to develop voluntary G20 High-Level Principles on scaling-up Sustainability-linked financial instruments in developing countries. The G20 is uniquely placed to develop a set of high-level principles, which will inform the further engagement of the world's largest economies in the developing countries. These principles could, in the future, be the basis for other FSD work in the DWG, for example on adopting policy recommendations related to other innovative financial modalities and instruments addressing SDG financing gaps, or on related regulations which could be taken forward in other G20 working groups, such as the G20 SFWG.

1. Introduction

Sustainability-linked financial instruments

Capital markets are crucial sources of long-term funding to help close the SDG financing gaps and mobilise capital for sustainable development. Over the last several years market innovators developed thematic innovative financial instruments in order to accelerate the achievement of SDGs that can be broadly defined as “sustainability-linked financial instruments”.

Furthermore, scaling up sustainability-linked financial instruments in developing countries, which remain underdeveloped and where the SDGs investment needs are the greatest, could allow issuers to tap into new sources of finance.

However, building a market for SDG investments in developing countries will require enough scale, liquidity, transparency and diversification to attract large institutional investors. This scale is needed in order to finance a broad set of private and public-sector activities in support of the SDGs in developing countries.

Green, social and sustainable bonds

Green, social and sustainability bonds (GSS) have gained traction over the past few years across developed markets given their potential to bridge the SDG financing gap, though in developing countries remain limited. To put things into context, GSS bonds are fixed income instruments which can be divided into two main categories:

- **Use of proceeds bonds:** the use of proceeds from Green bonds is as an example, through their focus on green use-of-proceeds (i.e. how issuers actually employ the funds being raised), provide transparency for investors on the specific green projects that are being financed or refinanced¹. A use-of-proceeds approach allows any company to issue green bonds, regardless of their main business activity. The requirement being that as long as they finance eligible green projects and ultimately use the proceeds to finance the transition to an environmentally sustainable business model.² Additional information on the management of proceeds, impact reporting and external reviews are also typically recommended.³
- **Sustainability-linked bonds (“SLBs”):** As a new product on the debt market, sustainability-linked bonds are any type of bond instrument for which the financial and/or structural characteristics can vary depending on whether the issuer achieves predefined Sustainability/ ESG objectives.⁴ In that sense, issuers are thereby committing explicitly (including in the bond documentation) to future improvements in sustainability outcome(s) within a predefined timeline. This characteristic makes SLBs a forward-looking performance-based instrument. Importantly, the proceeds of SLBs are intended to be used for general purposes, hence the use of proceeds is not a determinant factor.⁵

As investors show growing interest in committing capital to solve green, social and sustainability challenges, a series of thematic bonds have emerged as seen in the box below (Box 1).

Box 1. Overview of the various types of thematic Bonds

The first **green bond** also called “climate awareness bond” was issued by the European Investment Bank in 2007. It was soon followed by the World Bank and other supranational issuers, as green bonds represent a source of funding for projects intended to deliver a positive environmental impact. Examples of project categories eligible for green bond issuance include: renewable energy, energy efficiency, clean transportation, green buildings, wastewater management and climate change adaption.⁶

Social bonds have become an increasingly popular fixed-income product since the Social Bond Principles were published in 2017 by the International Capital Market Association (ICMA), and more specifically in recent months in light of the COVID-19 pandemic and the resulting need for new funding avenues to address the unforeseen economic and social disruptions. In practice, the surge in social bonds has been led by multilateral development banks (MDBs), which often have access to a Social Bond-eligible pipeline of projects. Examples of project categories eligible for social bonds include: food security and sustainable food systems, socioeconomic advancement, affordable housing and access to essential services such as healthcare.⁷

Gender bonds are a relatively recent type of bond, and no official or universal definition of gender bonds exists. However, they can be broadly defined as bonds that support women empowerment and gender equality. Various international initiatives, such as the “UN Women empowerment principles” and the “2X challenge”, can help understand what activities can be considered as contributing to women empowerment and equality, and accordingly, the sorts of benefit and impact that a gender bond should ultimately deliver.⁸ Prominent examples of these gender bonds include the Asian Development Bank’s (ADB) ¥10 billion gender bond, issued in 2017 and the International Finance Corporation’s (IFC) 2020 commitment to fully support Indonesia bank OCBC NISP’s gender bond.⁹

Lastly, the COVID-19 pandemic has resulted in a new type of instrument: **Covid-19 bonds**. They offer a financing tool to mitigate the adverse impacts of the pandemic and by financing Covid-19 relief plans from various issuers.

Sustainability bonds are bonds where the proceeds exclusively apply to finance or re-finance a combination of both green and social projects. They offer a wider range of potential opportunities as examples of project categories eligible for sustainability bonds typically include those in the green and social bonds categories.

Although the wide range of SDGs provides issuers with many opportunities to help achieve the 2030 agenda, **SDG bonds** are still in their nascent stage. Further growth in the SDG bond market could come from expanding the categories of eligible assets and projects that contribute to the SDGs, with some clear guidance on SDG alignment.

Blue bonds dedicate use of proceeds to marine projects, such as promoting biodiversity and supporting economies reliant upon healthy and sustainable fisheries. They gained attention in October 2018, after the World Bank facilitated the launch of the world’s first sovereign blue bond from the Seychelles.¹⁰

Transition bonds’ key characteristic are that the proceeds raised are used to finance projects within pre-defined climate transition-related activities. Their aim is to fund an issuer’s transition towards a reduced environmental impact.

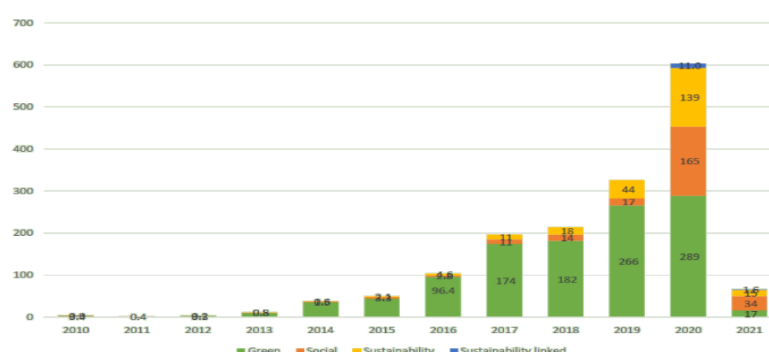
Focus on green bonds

Since the issuance of the first green bond in 2007, green bonds have remained dominant, although social bonds and later sustainability bonds, have now contributed to a market diversification. Box 1 above provides differentiation between green, social and sustainability bonds.

*The Report will refer to **GSS bonds** when discussing green, social, and sustainable bonds. In some cases when the Report also discusses sustainability linked bonds (SLB) it will refer to **GSSS bonds**. This terminology is also used by the Climate Bond initiative. Please take these differences into consideration when reading the report.*

- Globally, total issuance of green, social, sustainability and sustainability linked bonds (GSSS) reached USD600 billion in 2020.¹¹
- Looking at green bonds specifically, in 2020, they represented 50% of the total issuances of green, social, sustainability and sustainability linked bonds globally (compared to 2018 when green bonds presented over 85% of total GSSS bond issuance).
- In emerging markets, around four-fifths of the overall GSSS bond issuances were related to green bonds in 2019.¹² More specifically, green bonds represented 51% and 59% of overall GSS bonds issuances respectively in Latin America and Asia.¹³

Figure 1. Global annual GSSS bond issuance (USD billion equivalent)



Source: Environmental Finance, 30 January 2021

How much do green bonds represent in the overall bond market?

Although green bonds are increasingly popular, they only make up a fraction of the overall bond market both in developed and emerging markets. As a share of total bond issuance, green bonds in emerging markets (excluding the People's Republic of China [hereafter "China"]) constituted marginally 3.8% in 2020 compared with 3.4 % in developed markets.¹⁴

What is the size of the green bond market in developing countries?

The growth in the green bond market is mainly dominated by issuers in developed markets, with emerging markets lagging behind.

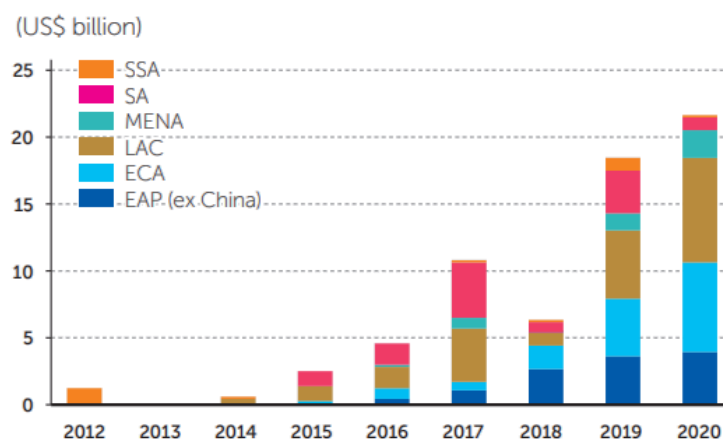
- Since 2007, the global green bond market has grown to over USD1,7 trillion in cumulative issuance at the end of 2020.¹⁵ In contrast, since 2012, cumulative issuances of green bonds from 43 'emerging market economies' reached USD 226 billion in issuance in 2020.¹⁶
- In 2020 specifically, green bond issuance amounted to USD 280 billion in 2020¹⁷ globally, whilst emerging market green bond issuance totalled USD 40 billion in 2020 (or around 14% of global green bond issuances).
- However, it should be noted that emerging market green bond issuance is expected to grow to more than USD 100 billion by 2023, according to a report from Amundi and the International Finance Corporation (IFC).¹⁸

What are the main regional differences in the green bond market in developing countries?

In 2020, Europe was the largest source of green bonds in 2020, responsible for about half of the total green bond issuance globally.¹⁹ It is followed by North America representing around 20% of all issuances and then Asia Pacific accounting for 18%. Latin America and Africa are lagging behind with a 3% and 0,4% share of the global green bond market in 2020. Finally, supranational entities accounted for 4% of the global green bond issuances.

The figure and boxes (Box 2) below provide additional information on the green issuances by sub-regions, with Box 3 focusing specifically on the issuance of green bonds in China.

Figure 2. Green issuance trends by sub-regions (USD billion)



Source: Amundi, IFC, 2021

Box 2. Regional overview of green bonds

East Asia Pacific: The sub-region is leading issuances across emerging markets with the largest amounts issued (USD 170 billion) and the largest number of issuers (262). In East Asia Pacific, the

issuance of green bonds has been observed in China, Indonesia, Philippines, Thailand, Malaysia, Viet Nam and Fiji. It should also be noted that Indonesia has become a pioneer in issuing the world's first sovereign green Islamic bond²⁰ (green sukuk) and was the 5th largest issuer across emerging markets in 2020. Similarly, in April 2021, Malaysia's Sustainability Sukuk was the world's first US Dollar Sustainability Sukuk issued by a sovereign, whereby proceeds will be used for eligible social and green projects aligned to the SDGs. Looking at social bonds specifically, Thailand issued a sovereign THB 30 billion sustainability bond to finance green infrastructure and social impact projects supporting Thailand's recovery from the COVID-19 in September 2020.²¹ Finally, in October 2017, Fiji became the first emerging market to issue a sovereign green bond, raising 100 million Fijian dollars, or USD 50 million, to support climate change mitigation and adaption.²²

Latin America and the Caribbean: The sub region is the second most active market across emerging markets with issuances amounting USD 21 billion with 51 issuers. In Latin America and the Caribbean, the issuance of green bonds has been observed in Chile, Brazil, Mexico, Peru, Argentina, Colombia, Costa Rica, Uruguay, Dominican Republic, Ecuador, Panama and Barbados. In 2020, Chile led Latin America and the Caribbean as the largest issuer in the region (and the second largest among EMs)²³. Chile raised a total of about USD 4.25 billion in the euro and USD markets amid strong investor demand, including the biggest sustainability bond issued by a Latin American sovereign in foreign debt markets²⁴. Interestingly, in April 2020, Guatemala became the first country to issue a sovereign social bond aimed at financing COVID-19 response efforts²⁵ and Ecuador issued a Sovereign Social Bond, backed by a guarantee from the Inter-American Development Bank (IDB) in 2021.²⁶ Finally, in September 2020, Mexico issued USD 890m worth of SDG bonds. These were the world's first-ever bonds structured specifically with a view to achieving the SDGs²⁷.

Europe and Central Asia: The sub-region is the third most active market across emerging markets with issuances amounting USD 14 billion with 31 issuers. In Europe and Central Asia, the issuance of green bonds has been observed in Poland, Czech Republic, Hungary, Russia, Lithuania, Ukraine, Georgia, Latvia, Slovenia, Estonia, Turkey and Kazakhstan. In 2020, non-financial corporates in Poland were amongst the first to issue sustainability-linked bonds across emerging markets. In 2020, the Czech Republic and Hungary were in the top 3 issuers across emerging markets. In 2020 Hungary was a new entrant in the green bond market with a sovereign issuance.

South Asia: India is the second largest country for green bond issuances behind China across emerging markets (USD10.8 billion) with 22 issuers. India also benefits from an active corporate market.

MENA: The sub-region has seen cumulative issuances amounting USD 14 billion with 9 issuers in 2020. In the MENA region, the issuance of green bonds has been observed in UAE, Saudi Arabia, Egypt, Qatar, Morocco and Lebanon. In 2020, Egypt issued the first sovereign green bond in the region and Saudi Arabia came to the green bond market for the first time.

Sub-Saharan Africa: The sub-region is lagging behind and has seen cumulative issuances amounting USD 3 billion with 14 issuers in 2020. In the Sub Saharan African region, the issuance of green bonds has been observed in South Africa, Nigeria, Ghana, Kenya, Seychelles and Namibia. South Africa has led the region with issuance of green bonds by financial institutions and corporates. Interestingly, Nigeria issued its first sovereign green bond in December 2017 and Seychelles issued the World's First Sovereign Blue Bond in 2018.

Box 3. Green bonds in China

China has the third largest volume of green bonds globally, with USD 115 billion in outstanding bonds, after the United States and France²⁸. As the leading issuer of green bonds in emerging markets it has accounted for 71% of all emerging market green bond issuance between 2012 and 2020. As a result of the Covid-19 crisis and a shift towards the issuance of pandemic-related bonds, the issuance of green bonds declined in 2020 from USD 34 billion in 2019 to USD 18 billion in 2020. However, by March 2021 China has issued USD 4 billion green bonds, much more than during the Q1 of the previous years.²⁹

What are the main green bond issuers in developing countries?

Financial institutions - Financial institutions in emerging markets make up around 50% of cumulative green bond issuance by volume.³⁰ In particular, privately owned banks account for about 70% of the issuance by financial institutions in emerging markets (outside of China). Financial institutions typically seek to raise capital to finance “on-balance sheet lending” (i.e. to provide loans) to green projects/companies.³¹

Sovereign bonds, government agencies and municipalities – Sovereign green issuances in emerging markets account for around 12% of issuances, whilst government agencies and municipalities respectively represent around 17% of the total green bond volumes in emerging markets. Sovereign issuances can tap into the private capital market to finance public or public-private initiatives, as many of the green financing gaps cannot be fulfilled by the private sector alone and require government direction and support initially. Interestingly, sovereign bonds are almost always used as benchmark bond, i.e., they provide a standard against which the performance of other bonds can be measured in a given country. In emerging markets, the municipal bond market is only nascent, and so far, only cities with deeper financial resources have issued municipal bonds (e.g. Johannesburg, São Paulo, Rio, and Mumbai). The Municipal level is in many countries is well placed to issue bonds as they are the government actors developing for example transport and water projects and have the fiscal capacity to support the projects.

Figure 3. Sovereign labelled bond landscape (green, social, sustainable)



Source: Climate Bonds Initiative, Sovereign Green, Social, and Sustainability Bond Survey, January 2021

Non-financial corporates – Non financial corporates account for around 35% of the total green bond volumes in emerging markets. However, non-financial corporates are often not rated as highly as government bodies, even when their bonds are covered.¹ In addition, the lower issuance volumes associated to non-financial corporates can restrict their liquidity. Nearly half of nonfinancial corporate green bond issuance in EMs are in the power and utilities sector.³² As a result, the overconcentration risks to certain issuers and sectors are a challenge for institutional investors considering to enter into the EM debt market and a greater sector diversification is typically required.

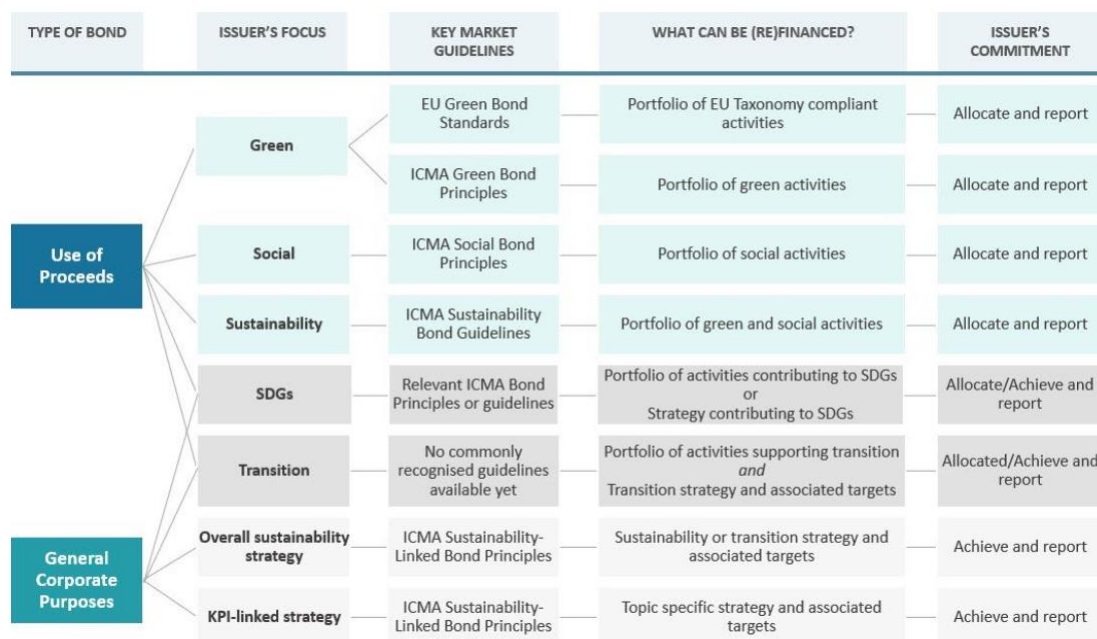
What are the main standards and principles in place related to GSSS bonds?

GSSS Bond principles and standards contribute to improve the market integrity. The Green Bond Principles first, the Social Bond principles and then the Sustainability linked Bond principles published in June 2020 contribute to improving transparency and disclosure by clarifying the approach for issuing GSSS bonds³³. More importantly, in developed markets, the EU Green bond standard which builds on the EU Taxonomy³⁴ also contributes to promote greater market integrity for Green Bonds in particular. However, it should be noted that there is currently only a High Level Mapping of eligible project categories to the UN's SDGs done by the International Capital Market Association (ICMA) and no specific market principles for SDG bonds. There is therefore a gap between development needs and directing the private sector in the market that needs to be delivered. In order to ensure this can be addressed there is a need to establish a common language, provide issuers with safeguards, governance & guidelines and boost investors'

¹ Covered bonds are debt instrument created from public sector loans or mortgages that are collateralised by a separate group of assets.

confidence, and critically minimise the risks of SDG washing. One of the key challenges also relates to the fact that some of the previous sustainability issuances have been under existing green/social bond frameworks, some under a new one and others under no framework as the green, social and sustainability bond principles from ICMA³⁵ are voluntary.

Figure 4. Labelled bond criteria



Source: Harvard Law School Forum on Corporate Governance, June 2020

Finally, another challenge associated to the GSSS bond market in both developed and developing economies is related to the significant discrepancy in terms of availability and quality of the data provided by issuers, despite most bond frameworks or guidelines recommending that issuers provide eligibility criteria prior to issuance, measure as well as report regularly on their impacts post-issuance.

Interestingly, in Europe, the European Green Bond Standard proposal, adopted in July 2021, will contribute to create a high-quality voluntary standard available to all issuers (private and sovereigns) to help financing sustainable investments³⁶. In particular, issuers of green bonds will have a tool at their disposal to show they are funding green projects aligned with the EU Taxonomy, whilst investors buying the bonds will benefit from greater transparency, thereby reducing the risk of greenwashing.

There are four key requirements under the proposed framework: 1) The funds raised by the bond should be allocated fully to projects aligned with the EU Taxonomy; 2) There must be full transparency on how bond proceeds are allocated through detailed reporting requirements; 3) All EU green bonds must be checked by an external reviewer to ensure compliance with the Regulation and that funded projects are aligned with the Taxonomy and 4) External reviewers providing services to issuers of EU green bonds must be registered with and supervised by the European Securities Markets Authority.

2. Why scaling up GSS bonds in developing countries is necessary?

Mobilising financial resources to fill climate financing gaps and more broadly the SDG financing gap in developing countries

Climate financing gaps in developing countries - Developing countries are highly vulnerable to climate change and require significant amounts of capital to fund transition, mitigation, and adaptation measures. To fight climate change, it is estimated that USD 2.45 trillion will be needed for the energy transition in developing countries. Additionally, developing countries' adaptation costs already stand at USD 70 billion per year, and are estimated to reach USD 140-300 billion per year by 2030.³⁷ In addition, a large share of economic activity in developing countries still relies on carbon- and water-intensive industries, such as heavy industry, mining or agriculture or involves fossil fuel production.³⁸ In a world undergoing a fundamental energy transition, this economic model of reliance on fossil fuels could lead to significant risks, especially for fossil fuel-reliant sovereigns. As a result, mobilising significant private sector resources for climate action is paramount to limiting the rise in global temperature at the end of this century to well below 2 degrees, especially given the fact that the lion's share of infrastructure investment needs – USD 4 trillion per year until 2030 – is required in developing countries and emerging economies.³⁹

The SDG financing gap in developing countries: As of early 2021, the SDG financing gap in developing countries is estimated to have increased by at least 50%, USD 1.2 trillion, totalling USD 3.7 trillion in 2020.⁴⁰ The pandemic has indeed magnified the “scissors effect” of the SDG financing gap by increasing financing needs and decreasing availability of resources. Shifting only 1.1% of global financial assets toward SDG financing needs in developing countries would be sufficient to fill the USD 3.7 trillion gap.⁴¹ However, it will require setting in place the right policy incentives to make a shift of the trillions possible.

Box 4. Benefits of the bond market as an asset class to address climate and financing gaps in developing economies

Although traditional financing approaches such as multilateral support in the form of concessional loans will continue to contribute to fill climate and SDG financing gaps in developing economies, developing countries will also need to **find new ways of accessing the significant global pool of private capital** to bridge the gap. This is where the nascent, but fast-growing GSSS bond market can play an important role in developing economies, particularly with the aim of a ‘green and inclusive recovery’ following the Covid-19 pandemic.

Interestingly, **bonds are the only financing mechanism that cuts across a broad set of actors** involved in the realization of the SDGs, including corporates, governments, municipalities or development banks providing breadth of actors as well as the scale and liquidity necessary for investors.

The bond market is a longer-term, lower-risk asset class that matches the profile of SDG activities and has enough scale — with USD 6.7 trillion of annual issuance — to fill climate and SDG financing gap. Interestingly, fixed income is an important asset class to drive meaningful improvement in terms of SDGs financing gaps as the global bond market is almost double the size of the equity market⁴². At the same time bond returns are relatively stable and predictable when compared to equity⁴³. Finally, the typically long-term nature of bond investing is also well aligned to sustainable investing approaches that could contribute to the SDGs.

In relation to the climate and SDG financing gaps GSSS bonds in developing countries can offer several important benefits:

- **Providing an additional source of financing for SDG related projects:** Use of proceeds green allows to have an enhanced ability to direct capital to activities that can contribute to achieve the SDGs and generate positive impacts. At a time when bank lending is limited, GSS bonds can allow issuers to diversify their sources of funding and provide an alternative to conventional financing which can often be more expensive. However, it should be reminded that like any other fixed income instrument, GSS bonds have credit or default risk, i.e. the risk that the borrower fails to repay the loan and defaults on its obligation exists. The level of default risk depends on the underlying credit quality of the issuer⁴⁴ and this ultimately favours highly rated issuers.
- **Enable long term financing:** First, the timing of green infrastructure projects' cash flows is generally compatible with bonds issuance. Second, given the short maturity of bank liabilities and a lack of instruments for hedging duration risks, the capacity of banks to provide long-term green loans is constrained in many countries. Furthermore, corporates that can only access short-term bank credit also face refinancing risks for long-term green projects. As a result, issuing medium- and long-term GSS bonds for SDGs related projects can be an opportunity for banks and allow them to provide long-term green financing, recognising that this could potentially compete with bank debt products. Third, longer tenors tend to attract insurance companies and particularly pension funds seeking to match long dated liability cash flows.⁴⁵ Insurers are indeed increasingly looking to "decarbonise" their investment footprint and are as well seeking long-dated bonds due to several factors including regulation, solvency, asset liability management and yield levels. Prudential regulation in developed economies, however, continues to impede the growth of GSS bond market in developing economies. The regulation redirects the investment of capital in developed economies away from infrastructure finance towards highly rated corporate bonds.
- **Facilitate the transition of traditional brown sectors:** SLBs in particular could play a strategic role to fund the green transition in developing economies as they provide a necessary forward-looking dimension to the GSS bond market, with a coupon explicitly linked to the company's ability to achieve various climate change targets or SDGs. SLBs offer in particular greater flexibility to issuers given the unrestricted use of proceeds. However, there are legitimate concerns about the potential for 'greenwashing' in the transition space. This is mainly due to the fact there is still a lack of clarity as to what constitutes a genuine sustainability linked transition from sector to sector and at national levels.
- **Help mitigate climate change risks for developing economies:** Green bonds provide an opportunity to governments in developing economies to mitigate climate change risks and avoid a potential erosion of sovereign credit ratings. As climate change effects are felt, investors are likely to become increasingly concerned of lending to vulnerable countries. Furthermore, climate change has already had an impact on developing countries' credit ratings as rating agency Standard & Poor's cited hurricane risk when it cut its ratings outlook on the sovereign debt issued by the Turks

and Caico in 2018.⁴⁶ In fact, a study by a group of UK universities has shown that 63 countries – roughly half the number rated by the likes of S&P Global, Moody's and Fitch - could see their credit ratings cut because of climate change by 2030.⁴⁷ A shift towards GSSS bond issuances aiming at funding the climate transition for sovereign issuers could contribute to mitigate such risks. Besides, sovereign green bond issuances enable governments to assert their political commitment to fight against climate change and underpin their broader environmental strategies.⁴⁸

However, as demonstrated by the research conducted by the OECD Environmental Directorate, it should be noted that committing to a low-carbon trajectory is critical and in particular in the case of transition bonds⁴⁹. There is a need to clearly demonstrate and verify the commitments made in terms of alignment with the temperature goal of the Paris Agreement, as an example. This is especially true as there is currently little guidance and precision regarding the specifics of such a trajectory in most approaches. There also is divergence around the extent to which alignment with Nationally Determined Contributions (NDCs) is deemed sufficient to exhibit alignment with the Paris Agreement. Finally, there is a need to delineate specific technologies or sectors as eligible for transition finance.

Potential for reducing the cost of debt financing – the “greenium”

Growing demand for yield from investors - The rise in sustainable bond issuance volumes is being easily matched by rising institutional investor appetite, dominated primarily by asset managers, pension funds and insurance companies, as evidenced by the oversubscription of several high profiles GSS bonds in emerging markets⁵⁰. In a low yield environment, emerging markets represent indeed a good opportunity to diversify and find assets that do not move in tandem with those in larger developing nations. Such growing investor appetite for bonds (and GSS bonds in particular for long term responsible investors) has led to a situation where the demand far outstrips supply.

Potential to reduce cost of funding and achieve a green premium or “greenium”⁵¹ – Green bonds can present lower yields than conventional bonds in the secondary market. This yield difference is known as the green bond premium or “greenium”. Examples of a “greenium” have been noticed in developed markets, with Germany’s unique twin bond structure whereby each green security is issued together with a conventional bond with the same financial characteristics. The result was striking: the German green Bund priced with a “greenium”, maintained a lower yield in the secondary market, and exhibited lower volatility compared to its vanilla twin^{2,52}. This provides clear evidence that investors can attach a premium to the green label, thereby offering cheaper financing to Debt Management Offices. Across developing countries, Egypt, Thailand, Indonesia and Chile also experienced a “greenium”.⁵³ Further evidence on the potential for a “greenium” for future sovereign issuances could facilitate in a rapid increase in the volume of GSSS sovereign issuances in developing economies. This is especially true as from the issuer’s point of view, a green bond issuance can appear as more expensive than a conventional issuance due to the need for external review, regular reporting and impact assessments. These efforts ultimately need to bring tangible benefit on top of the soft reputational rewards and a difference in pricing can arise from a dedicated and wider investor base, an example of this is Egypt.³

² A vanilla security indicates a financial instrument is very simple and has no special features. It refers to the most standard version of a financial instrument, which holds predefined features.

³ At the end of September 2020, Egypt became the first sovereign with a B rating to issue a green bond. The 5-year bond was originally intended to raise USD 500m. The order book reached USD 4.93bn close to ten times covered, and the deal was upsized to USD 750m.

Box 5. Potential for pricing benefits

Use of proceeds bonds

Several studies have sought to determine if a “greenium” or yield differentials exist, bearing in mind that if green bonds are issued with a premium over conventional bonds, this provides an additional incentive for issuers to issue more bonds to the market with a green label as well as the need for clear guidance on expected standards required. This is especially true as a green bond issuance is more expensive than a conventional issuance due to the need for external review, regular reporting and impact assessments, from the issuer’s point of view⁵⁴.

At first sight, there seems to be no fundamental reason for the green label to influence the yield of a green bond, as green bonds rank pari-passu with bonds from the same issuer. When buying a green bond, the investor bears the exact same credit and ESG risks as the owner of a non-green bond with the exact same financial characteristics and the green investor does not own any rights to the projects to be financed. When investing in a green bond, an investor is exposed to the risk of the issuer’s balance sheet– the same risk she would be exposed to if the issuer offered a vanilla bond. A green premium for the issuer therefore appears somewhat of a market anomaly⁵⁵. A lack of pricing advantages (and a correspondingly lower cost of capital for green projects) through green labelling means that investors are unwilling to take lower than expected returns at the primary issuance stage simply for the ability to “go green”.

Many studies (Partridge & Medda, 2020; Kapraun and Scheins, 2019 or Gianfrate and Peri, 2019) and more recently the latest research from Climate Bond initiative (CBI) have shown that:

- Green bonds achieved a higher book cover and spread compression than vanilla equivalents, on average at issuance time. In H2 2020, average oversubscription was 4.2x for green bonds, and 2.9x for vanilla equivalents, whilst spread compression averaged 24bps for green bonds and 21bps for vanilla bonds for green bonds denominated in euros⁵⁶.
- Seven and 28 days after pricing green bonds had, on average, tightened more than vanilla baskets and matched indices. This means that the initial yield discount accepted by investors lowers after issuance⁵⁷.

In the primary market, the pricing benefit can be interpreted by the fact that the issuance of green bonds is still limited today and the demand for “green” investments is rising. This potential supply and demand mismatch can trigger scarcities and thus a “greenium”. The premium reflects the investor demand for bonds with a green label over conventional bonds, which will encourage project owners to issue green bonds to fulfil their financing needs at a lower cost of capital. However, it should be reminded that the market doesn’t evenly price climate (transition and physical) risks and most investors in emerging markets are not focused on green bonds, hence there is no excessive demand or scarcity to be ‘priced-in’ at this stage, which can result in lower premium⁵⁸.

In secondary markets, green bonds generally trade at tighter spreads than comparable conventional bonds by very small margins (of 2 basis points or less according to the latest research report from Amundi and IFC focusing on green bonds in emerging markets). Interestingly, the “greenium” tend

to be more pronounced for supranational issuers and utilities and to be higher for issuers with higher ESG standards, in emerging markets.

As climate risk is increasingly a concern for institutional investors, it could be argued that at some point in the future regulators could distort the markets to better price climate risk in asset prices⁵⁹. Tax discounts or green adjusted capital requirements to financial institutions as an example could lead to larger “greenium”, which could be compensated by future excess returns.

Sustainability-linked bonds

Clear pricing mechanisms are embedded in sustainability-linked bonds (SLBs) to incentivise issuers to commit to achieve specific green targets. Several types of mechanisms exist include the potential for a coupon step-up if the issuer fails to achieve the green targets previously set or a coupon step-down in case of success as well as other penalty mechanisms with a premium payment, and an obligation to purchase offsets. As a result, SLBs provide the benefit of clearly tying green commitments (provided that they are well articulated and that we can demonstrate that the trajectories set are in line with a 1.5 degree scenario) to pricing. This ensures that green bond issuance effectively steer issuers on a green pathway and ultimately improve their creditworthiness over the long term (avoid credit rating downgrades due to climate change vulnerabilities).

Providing additional benefits to issuers – the green halo effect

Diversification of investor base and buy-hold strategies - Preferring GSS bonds over conventional bonds can allow the bond issuer to broaden its funding base by gaining access to “Socially Responsible Investors” (SRI), who integrate environmental social, and governance (ESG) factors in their investment strategies. In addition, sovereign GSS bonds tend to introduce a broader range of investors from different geographic regions including more investors in the buy and hold category, which can lead to lower bond volatility in secondary market. As an example, small sovereign issuers such as Fiji and the Seychelles had a handful of both domestic and international investors, including those new to the credits⁶⁰ (CBI).

Debt tenor – Green bond volumes in emerging economies tend to decrease as the debt tenor increase due to the associated longer time horizon. The longer-dated (10-year+) paper tend to be mostly originated from the public sector (sovereign issuances⁶¹). Given the importance for bondholders of taking a long-term view on environmental and more broadly SDGs-related issues, it is interesting to see the evolution of debt tenor across emerging market. According to Pictet asset management in 2015, some 17% of emerging market hard currency debt had a maturity of 20 years or more. By the start of 2021, that proportion had grown to 27%.⁶² Even local currency denominated emerging market debt, which tends to be shorter-dated, has moved along the maturity curve.⁶³ Over the same time period, the proportion⁶⁴ of local currency debt with a maturity of five years or longer had risen 11 percentage points to 58%, though still considerable behind hard currency.

Achieving positive development impacts in local economies

Financial additionality - Bonds are frequently used to refinance green projects or assets after the project construction phase is complete. However, one important question often asked about the additionality of

GSS bonds is how the market funnels resources to new projects. Importantly, it should be remembered that refinancing can indirectly facilitate the financing of new projects as it enables risk-taking sponsors or investors, who take on the project development and construction risk, to exit once this phase of the project is over. The initial high-yield debt can be refinanced by more risk-averse investors looking for stable, lower-risk longer-term investments through GSS bonds if the asset achieves a positive social or environmental impact and once it is operational. Furthermore, refinancing frees up issuers' capital from existing assets, which can be re-invested in new projects creating an asset recycling system in the market. Despite these elements, more research is needed on the potential financial additionality of bonds aiming to refinance projects or assets.

Development Additionality - GSS bonds must, by definition, have a use of proceeds that contributes to the goals of the Paris agreement (green bonds) and/or clearly demonstrate the social outcomes for defined target population as part of social bonds for example. However, there is still a need to develop metrics to better monitor, evaluate, and verify the social and environmental impact of GSS bonds. Similarly, better sustainability frameworks and harmonised impact reporting could support issuer's efforts in demonstrating in particular how GSSS bond issuances have led to actual development impacts in developing economies.

3. Key gaps and challenges and possible policy actions

1. The multifaceted role of public development banks (PDBs)⁴ in supporting local bond issuance by prioritizing SDG alignment in their mandates.

The multi-faceted role of public development banks

Public development banks have a catalytic role to play to support the growth of the GSS bond market. Multilateral Development Banks (MDBs) have served as pioneer in the market with the very first green bond issued in 2007 by the European Investment Bank, under the label Climate Awareness Bond and was soon followed by the World Bank. Multilateral Development Banks were then the sole issuers of green bonds until 2012 when the first corporate green bonds were issued.⁶⁵

Similarly, the social bond market is currently still in its nascent stage, although social bond issuances skyrocketed since the outbreak of COVID-19 in early 2020. The primary supply of social bonds was initially driven by multilateral organizations, and later by non-sovereign financial institutions.⁶⁶ In light of the crisis, MDBs such as the African Development Bank (AfDB) and the Inter-American Development Bank (IADB) issued multiple “Fight COVID-19” bonds to raise financing for vulnerable health systems in emerging markets.

Box 6. Examples of a social bond raised by the West African Development Bank

The West African Development Bank has raised an exceptional USD 3 billion in a three-year bond to help alleviate the economic and social impact of the COVID-19 pandemic. The Fight COVID-19 bond, which floated on the Luxembourg Stock Exchange and was significantly oversubscribed, was also the world’s largest social bond market placement at time of issuance.

In the sustainability bond space, most of the 260% growth in 2020 came from supranational issuers from development banks, especially multilateral (MDBs). The World Bank as well as other players such as the Asian Infrastructure Investment Bank (AIIB) led the market.⁶⁷ Supranational issuers represented 63% of the volume of sustainability bond issued in 2020.⁶⁸ This reaffirms their catalytic role as ‘market enablers’ in the GSS bond space.

In the green, social and sustainability bond market, public development banks can play a multifaceted role:

⁴ Public Development Banks (PDBs) comprise Multilateral and Regional Development Banks as well as National Development Banks that have a public mission to support sustainable development at local, national and/or international level.

- Issuers:** Development banks typically borrow on the private capital markets at favourable financial conditions based on their government backing and high credit rating. They can use the proceeds of the bond(s) issued to support projects which belong to their loan portfolios and have been 'tagged' as green, social or sustainable. Given their high credit rating and their development mandate, they can typically appear as a risk-free investment for institutional investors looking to buy green, social and sustainable bonds. Ultimately, through these issuances, development banks are able to optimise their cost of funding, as their green, social and sustainable issuances tend to be oversubscribed as well as diversify their investor base and attract more loyal sustainability-minded investors. The main barrier for further issuances from development banks resides in their ability to 'tag' a significant supply of eligible loans and to create the right frameworks of methodologies to assess their loans 'contributions to the SDGs. One of the key benefits of the green, social and sustainability bond issuances from development banks is related to the opportunity to transfer the financial gains from their issuances to their end beneficiaries, in the form of better lending conditions. However, a crowding out effect could be noted as cheap lending options in hard currency could detract potential corporate issuers from issuing bonds in local currency and thereby prevent them from contributing to the development of local capital markets. It could be argued, however, that cheap lending conditions contribute to reduce the cost of funding of local corporate issuers and contribute to help them grow until they reach the maturity to explore bond issuance in capital markets.
- Anchor investors:** Public development banks can play the role of an anchor or cornerstone investor for issuances and their participation can enhance the perceived credibility of the issuer and strengthen the market by reducing perceived risk for private investors. This helps the issuing company seeking funding to build investor confidence and contribute to catalysing investments from a wider pool of private actors. Besides, MDBs can support "market creation" by helping new issuers get their names out to investors, in addition to participating in first time issuances.
- Mobilisers of private finance:** Public development banks can mobilise private investors by issuing guarantees or by providing first loss tranches to enhance the risk/return profiles of projects in developing economies and ultimately attract institutional investors. This can be achieved through blended finance and credit enhancement mechanisms, thereby reducing risk exposure and enhancing market incentives for institutional investors. Guarantees are particularly helpful to finance green infrastructure projects in emerging markets which have a high credit risk profile. To ensure that public development banks continue to mobilise the private sector at scale, international donors, as the owners of the bilateral DFIs, and significant shareholders in many of the MDBs, should ensure that incentives that crowd-in private investors are kept in place over time.
- Providers of technical assistance:** Public development banks can provide technical support to prepare sovereign issuances as it was the case with the Seychelles' first blue sovereign bond designed with the help of the World Bank or with the Government of Egypt, which issued its inaugural green bond in 2020. In this case, the World Bank's role was to provide technical assistance for preparing and issuing annual reports regarding the utilisation of Egypt's green bonds revenues and the expected developmental and environmental impacts of approved projects⁶⁹. The Asian Development Bank (ADB) provides technical assistance through the Association of Southeast Asian Nations' (ASEAN) Catalytic Green Finance Facility (ACGF) and offers bond framework development and external reviews. ADB, for example, helped Thailand's Ministry of Finance (MOF) and National Housing Authority (NHA) in designing green, social, and sustainability bonds based on global and ASEAN standards and best practices. Another example can be found with the Inter-American Development Bank (IADB) which supported the Government

of Chile in the preparation of the documentation and necessary certification for the issuance of a sovereign green bond in 2019.

- **Support policy reform:** Public development banks can support market regulators in the development of national sustainable bond frameworks, as well as support initiatives aiming at developing local capital markets infrastructure. As an example, through the Sustainable Banking Network (SBN), IFC works upstream with financial sector regulators, banking associations, and capital market authorities to deepen the development and implementation of national sustainable finance frameworks across emerging markets.⁷⁰

Box 7. Example of the LAGREEN fund launched by KfW

The LAGREEN fund was recently launched as an initiative of the German Development Bank (KfW) with the goal of promoting the development of a green bond market in Latin America and the Caribbean and of supporting climate, environmental and social benefits in the region. LAGREEN will pursue its mission by promoting the issuance of Green Bonds and other thematic bonds through investments and technical assistance. The fund has a target volume of USD 500 million and is based on a blended-finance approach, counting with initial first-loss capital from the European Commission and the German Ministry of Economic Cooperation and Development (BMZ), to be leveraged with additional funding from the private sector. The technical assistance will be delivered by a separate facility funded by BMZ and the EU, which can support individual issuers but also sector initiatives, aimed to establish a conducive environment for Green Bonds in the region.

SDG alignment

As public development banks are increasingly considering issuing green, social, sustainable as well also SDGs bonds, there is a need to ensure that clear frameworks are being used to assess their contribution to the SDGs. As an example, AFD, the French development Agency, issued its first SDG bond in October 2020 in line with ICMA Green and Social Principles and create its own SDG Bond framework for that purpose. This reflects the aim of the bank to align its financing activities to the SDGs.

To ensure that public development banks' financial commitments are aligned to the SDGs, there is a need to ensure that the projects financed by PDBs are designed to minimise the negative externalities and maximise the positive externalities across the various SDGs targets.⁷¹ Similarly, providing common frameworks and standards that facilitate the task of understanding which investments are sustainable, where all different flows are going and what impact they actually have, is essential at this stage, in order to reduce the growing risks of "SDG-washing"⁷².

Box 8. Finance in Common

In the framework of the Finance in Common Summit, which took place in November 2020 gathering for the first time more than 450 Public Development Banks ("PDBs") from all over the world, PDBs have signed a joint declaration to express their commitments and contribution to enhance the fundamental drivers of sustainable recovery towards the achievement of the Sustainable Development Goals (SDGs)

and the objectives of the Paris Agreement. In this context, PDBs have expressed their willingness to contribute to the emergence of a much-needed global framework for SDG-compatible finance by “*collectively contributing to the preparation and implementation of common methodologies for the characterization of SDG- and Paris Agreement-aligned investment*”, building on the work of the OECD and UNDP on SDG-compatible finance, on the work carried out by the MDBs and IDFC on Common Principles for Climate Finance Tracking and on alignment, as well as on other existing work on green investment and sustainable finance taxonomies, such as the International Platform on Sustainable Finance (IPSF). An overarching guidance on what is compatible with climate and the SDGs – and what is not – is essential to coherence of action.

The commitment of the IDFC (International Development Finance Club), which brings together 24 national or regional development banks, to further harmonise its financial flows with the Paris Climate Agreement and the 2030 Agenda as part of the September 2019 climate and SDG summits is in regard of interest. Similarly, SDG alignment could be further promoted by donors, as shareholders of PDBs as part of their mandate.

2. The importance to tailor issuances to local contexts, ensure country ownership and support the development of local capital markets.

Support bond issuance as one element in the menu of options provided in INFFs

The Addis Ababa Action Agenda introduced the concept of integrated national financing frameworks (INFFs) to support the implementation of nationally owned sustainable development strategies. INFFs offer a flexible approach for strengthening financing for the priorities within national institutions, as a voluntary, and country-led approach. As governments in developing countries are looking to attract additional resources, many countries are using INFFs to explore innovative debt instruments such as GSSS bonds, as part of the menu of innovative financing options.

Box 9. Examples of INFFs including bond issuances

In March 2021 UNDP and the Ministry of Finance of Uzbekistan signed an MOU to better align Eurobonds with SDGs.⁷³ This programme aims to support accelerating SDG financing reforms in Uzbekistan, integrate sustainability considerations in the public borrowing process and provide technical support on SDG-aligned sovereign bond issuance. The INFF process has also been used to better align the country's Eurobonds programme with the SDGs, following successful Eurobond issuances of USD 555 million and 2 trillion Soums in 2020. Furthermore, UNDP committed to engage in capacity building for impact measurement and monitoring. Finally, an SDG impact framework is meant to align the use of future Eurobond proceeds to SDG investment.

Need to consider local debt sustainability challenges

Debt vulnerabilities in low-income countries have increased substantially in recent year. Public debt in low- and middle-income countries totalled 51% of GDP in 2018—up 5 points since 2013 and non-concessional debt on average accounted for 55% of the debt of low-income countries in 2016⁷⁴, the latest year for which data are available, according to the World Bank. It should also be noted that countries at high or moderate risk of debt distress are disproportionately fragile, conflict-affected States and commodity-dependent countries.⁷⁵

Furthermore, the COVID-19 crisis has already triggered a wave of debt relief demands from emerging and developing countries. On 15 April, G20 countries agreed to a “debt service standstill” until the end of 2020, from all official bilateral creditors, providing some direct liquidity support to the poorest countries.⁷⁶ In particular, the Debt Service Suspension Initiative. The DSSI is helping countries concentrate their resources on fighting the pandemic and safeguarding the lives and livelihoods of millions of the most vulnerable people⁷⁷.

Box 10. Debt sustainability considerations

Whilst the issuance of GSS bonds can provide important opportunities to attract private capital to finance developing countries' sustainable development and fill the SDG financing gaps, many developing countries are already suffering debt issues. Concerns have been raised about Covid-19 crisis further exacerbating liquidity issues, and turning them into solvency issues.

Multiple elements need to be taken into account to ensure that the principle of debt sustainability is preserved, whilst exploring GSS issuances:

- First, **the share of municipal, sub-sovereign and sovereign bonds could grow over time but is constrained by public finance limits and the fiscal capacities of governments**. Efforts to expand the fiscal space as well as creditworthiness are as a result of paramount importance and decisions to explore GSS issuances should be decided by national governments on the basis of careful debt sustainability analysis (DSA) as well as careful review of government fiscal and budgetary constraints.
- Second, it should be noted that the IMF and the World Bank have developed a framework to help guide countries and donors and reduce the chances of an excessive build-up of debt in the future, also known as the Debt Sustainability Framework (DSF). This is especially true as developing countries with different policy and institutional strengths, macroeconomic performance, and buffers to absorb shocks, have different abilities to handle debt. There are four ratings for the risk of external public debt distress: low, moderate, high risk and debt distress. Importantly, not all countries are at risk of debt distress, although the share has risen significantly in the last few years. **Across low-income countries, only about half are considered at high risk⁷⁸**.
- In November, the G20 and Paris Club creditors agreed on a framework to address unsustainable sovereign debt ("Common Framework for Debt Treatments beyond the DSSI"). It is expected to ensure a broad participation, involving official creditors not previously part of the established Paris Club process, and also private creditors. As a result, **for countries, which are not in debt distress (for whom the Common Framework has been designed** and where some degree of coercion of private creditors will be necessary), exchanging current debt service against the commitment to improve the long-term resilience to climate and nature shocks (though green debt swaps) might improve long-run debt sustainability and thus be in the interest of private creditors. In addition, such exchanged debt could be considered as green, which can command a premium for private creditors.
- **For lower risk countries with fiscal space, access to (sustainable) borrowing remains an essential part of financing the SDGs**. For countries with access to capital markets, green bonds can provide options for refinancing. In this case, this is not exactly "new debt" but an operation to improve the terms of financing. For example, Côte d'Ivoire and Senegal recently proceeded to debt-buybacks operations (exchanging existing bonds for longer maturities to push payments forward). Given

the potential for green bonds to command a “greenium”, refinancing through GSS issuances could contribute to further improve the cost of debt.

- Finally, transparency is of fundamental importance in this debate as there should be a clear **demonstration on how GSS issuances, notably through sustainable linked bonds, can effectively steer their economies on a pathway of poverty reduction and economic development through low-carbon growth.** Sustainability-linked bonds are an alternative solution for all issuers to show their accountability and commitment to sustainability. Similarly, green debt swaps allow to renegotiate debt conditions with private creditors and potentially tie it to some specific climate improvements, which could contribute to **improve creditworthiness over the long term.**

Explore the opportunity to use Sustainability linked bonds (SLBs) in line with local climate transition pathways

Sustainability-linked bonds can contribute to further enhance the key role that debt markets have in funding and encouraging companies that contribute to sustainability (from an environmental and/or social and/or governance perspective).⁷⁹ While SLB issuance has been limited to date globally, sustainability-linked loans experienced a 78% growth in 2019, with issuance worth USD 465 billion⁸⁰ and can build on the popularity of their loan counterparts. SLBs also benefit from the ICMA’s recently published Sustainability-Linked Bond Principles, which provides issuers with the necessary guidance to raise capital with this new sustainable debt instrument.⁸¹

As the cost of financing is linked to how well a sovereign issuer as an example, perform on predetermined sustainability KPIs, various mechanisms could be explored. A temporary reduction in interest payments agreed with investors upon achievement of specific SDG target could as an example create fiscal space that the local governments need to further commit to invest in line with the SDGs. However, sovereign issuers in particular should be careful when designing SLB structures with coupon step-downs given the political sensitivity and the fact that portfolio managers may have difficulty valuing step-down structures, and therefore decide not to integrate them into their fixed income portfolios. This is why, coupon step-ups have been favoured in SLBs to date, where the issuer needs to pay a higher coupon if the KPIs are not met. The growth in SLBs should also be fuelled by clearer ways to assess in an easy way the level and quality of ambition of the issuers. As an example, there is a need to evaluate how issuers’ planned or expected future carbon performance compares to national pledges made as part of the Paris Agreement or NDCs. Finally, SLB offer the benefits of showing a commitment to the SDGs without raising funds for particular projects as it allows to raise money for general purposes. Uruguay is one of the countries considering sustainability-linked bonds for a sovereign issuance.⁸²

Need to support sovereign issuances given their catalytic effect

Sovereign issuers have the power to scale up GSS investments more than any other issuer, given the budget and resource allocation responsibilities of most central governments – especially for large-scale infrastructure projects. However, the preparation required differs from that of private sector issuers. As a result, there is a need to provide guidance to local ministries on the benefits and key steps to issue GSS bonds including the selection and monitoring of eligible public expenditures via a suitable pipeline. The process of issuing a sovereign GSS bond typically involved a budget tagging exercise and commitments

to report on the allocation of proceeds and their impact. These audits greatly increase transparency for ministries and parliaments, and set precedents in terms of green budgeting as an example.⁸³

As an example, Nigeria introduced its sovereign green bond programme to finance projects in the Federal Government's budget. Projects included in the approved budget were reviewed for their green credentials and selected based on the amount set aside out of the approved domestic borrowing in the budget, to be issued as Green Bonds.

In addition, there is also a need for further guidance for corporate and financial institutions looking to issue GSSS bonds in developing countries to both provide clarity on the necessary steps but more importantly to highlight best practices to match institutional investors' expectations.

Support local capital market development

Adequate market infrastructure is needed to provide the foundation for capital market depth and liquidity. This includes exchanges and trading platforms, clearing houses, credit risk assessment, custodians, and fiduciaries, without which bond markets will be difficult to scale. Similarly, sound taxation and accounting frameworks, legislative enforcement, protection of creditor rights, and bankruptcy and competition law are building blocks for a favourable investment climate. Overall macroeconomic and policy instability are also important factors⁸⁴.

Supporting the development of local repo markets as well, ensure well-functioning financial markets, before stimulating GSS bond issuances in particular would require supporting the following:

- legal & regulatory frameworks that address creditor rights and recognise title transfer;
- market infrastructure for trading and settlement;
- central clearing where the market volume warrants ;
- An equipped financial sector with solid understanding of risk, legal and operational skills (e.g. collateral management).

Box 11. Examples on ways to support money markets in developing economies

Frontclear is a development finance company, established in 2015, to promote the development of more stable and inclusive money markets in developing countries. Frontclear is committed to diagnosing and addressing strategic deficiencies in frontier markets through the provision of technical assistance and guarantees to cover counterparty credit risk. As an example, The Umbrella Guarantee Facility (UGF) is a systemic approach to reducing a market's counterparty credit risk. In the UGF, all interbank transactions among eligible banks in a country are guaranteed. This mitigates counterparty credit risk and allows liquidity to flow among tiers in the system.

In addition, the Money Market Diagnostic Framework (MMDF), launched in 2018 by Frontclear, EBRD and OG Research, has now been implemented in more than 10 developing countries. The deployment of the MMDF is an invaluable in-depth analytical

exercise, offering central bank regulators insights into the current status (a baseline) and priorities to develop their money market. The resulting report and recommendations serve as a starting point for sequential money market development and offer a foundation on which to coordinate follow-on technical assistance. It is built around 4 building blocks: (i) Current level of money market development - this includes Benchmark rates, yield curve, Collateral in interbank operations and the quality of available information, (ii) Monetary policy framework - this includes Monetary policy framework, Post-trade infrastructure or Prudential regulation, (iii) Central Bank activity – this includes Banking sector liquidity, CB operations and Reserve requirement and (iv) Resources – this includes Central bank and market Human resources and Information technologies.

According to Frontclear (see box 9 above), money market related financial infrastructure has not received enough policy attention, and this has undermined stability and increased the pressure on the central bank as lender of last resort in many emerging markets. More stable and inclusive money markets are a prerequisite for increasing depth in local currency bond markets.

One of the most important parts of the money market is interbank lending, where banks borrow and lend to each other using financial instruments such as repurchase agreements (repos). Many emerging markets suffer from the absence of functioning repo market as well as from an over-reliance on the banking sector as the only local source of liquidity. In the absence of access to the interbank system and in particular repo, banks hoard liquidity, which then means that larger banks often only trade with one another. Meanwhile, smaller players, who often play an important role in serving SMEs, are locked-out or face high borrowing costs despite overall liquidity in the market.

Need for local sustainable finance policies

Notable progress has been made across emerging countries on launching and implementing sustainable finance policies and frameworks. As an example, the IFC-initiated Sustainable Banking Network (SBN) broadened its membership with three additional countries (Maldives, Serbia, and Ukraine) to 42 countries, representing USD 43 trillion of total banking assets. Of these, 25 countries have national policies, guidelines, principles, or roadmaps focused on sustainable banking.⁸⁵ Similarly, in October 2020, the Association of Southeast Asian Nations set forth the ASEAN Central Banks' Agenda on Sustainable Banking, which recommends the development of frameworks to encourage banks to embed sustainability into business practices. These could include an ASEAN-wide taxonomy, green lending principles, and supervisory guidelines and disclosure requirements to support banks in integrating climate- and environment-related risks into risk management.

Issuers can access some guidance on how to improve transparency and fulfil disclosure and reporting requirements through national, regional, and international green bond guidelines or frameworks. Before 2020, national green bond guidelines had been established in 13 SBN countries⁸⁶. Examples of countries having published guidelines include Colombia, which issued a good practice guide for green bonds, Thailand, which released its sustainable financing framework in July 2020 with guidelines on eligible green project categories. Other examples include the Bangladesh Sustainable Finance Policy (2020), Mongolia National Sustainable Finance Roadmap (2018), the Kenyan Green Bond Listing Rules in December 2018, and the Green Bond Guidelines were published in early 2019, the Moroccan Capital Markets Authority (AMMC) Green Bonds Guidelines in 2018 or the guide for the issuance of green, social and sustainable bonds from the Regional Financial Market Regulatory Authority of the West African Monetary Union.

The objective of local green bond standards should be to ensure that national priorities are achieved, whilst ensuring that local green bond rules do not create unnecessary barriers to or transaction costs for cross-border green capital flows. Similarly, local currency green bond taxonomies should take into account the country's contexts, while remaining as consistent as possible with international guidelines and standards.

Box 12. Example of Green Finance Market Regulation and Green Bonds in Brazil

Since 2018, Brazil and Germany are cooperating in the area of green and sustainable finance. In the context of Germany's international technical cooperation, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) is working with the Brazilian Ministry of the Economy and Central Bank to improve the framework conditions for greening the financial sector in Brazil. The objective is to enable Latin America's largest financial sector to harness the immense green investment potential. Furthermore, Brazil is supported to further integrate environmental, social and governance (ESG) risks in the financial sector. The mobilization of additional private capital is very important in Brazil, particularly in light of the country's plans to consolidate public spending. An efficient combination of private and public engagement is key to a low-carbon and ecologically sustainable economy in Brazil. The FiBraS project has worked with OECD to further promote the application of "blended finance" solutions in the country.

Together with its project partners, FiBraS conducts market analyses, provides capacity development and disseminates information on green financial instruments, including green and sustainability-related bonds. The project supports the participation of private and public sector institutions in the international dialogue on green and sustainable finance, e.g. through platforms like the G20 Working Group on Sustainable Finance, the Network of Central Banks and Supervisors for Greening the Financial System (NGFS) or the Financial Centres for Sustainability (FC4S). In 2021, the Treasury of Brazil's Ministry of the Economy has integrated ESG criteria in their public debt management and have announced to explore the possibility to issue the first sustainability-related sovereign bond.

Similarly, the project 'Financing A Green Covid-19 Recovery in the ASEAN Region', implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH in partnership with Climate Bonds Initiative (CBI) and UNEP FI, aims at assessing how EU policies on sustainable finance can be leveraged to ensure that Covid-19 recovery measures in ASEAN countries are developed in an ecologically and socially sustainable manner. Part of this project is the mobilization of private capital for ecologically and socially sustainable activities. In Vietnam, pilot activities include supporting local banks in the issuance of green bonds. This support takes the form of green bond trainings, screening of portfolios, advising on green bond frameworks, and providing clarity about the role of green bond verifiers.

Support the emergence of domestic green investors

Limited experience among domestic institutional investors in relations to GSSS bonds could hinder the growth of the market in developing economies. As a result, strong government signals in support of green investment as well as capacity building programs targeting local institutional investors such as pensions fund could contribute to raising awareness on SDGs investment practices.

Similarly, there is a need to further explore policies and laws which could incentivise further investments in line with the SDGs from domestic institutional investors and investment restrictions that may duly or unduly limit allocations to bonds, including green bonds should be alleviated.

Regarding international green investors, the recently announced Sustainable Finance Disclosure Regulation (SFDR) ⁸⁷ could contribute to make it easy for issuers to determine the percentage of their investor base that can be considered as “green” as it fosters greater disclosure levels from financial market participants.

3. The importance to encourage the use of risk mitigation strategies and instruments leveraging donors’ funds to attract institutional investors at scale in developing countries.

Promote the use of guarantees as a credit enhancement mechanisms

One of the key limitations affecting GSSS bonds is the lack of internationally recognised credit ratings across emerging market green bonds because the ratings are key to assessing creditworthiness. However, a growing percentage of issuers have obtained a credit rating from at least one major credit rating agency over the past two years according to a report from Amundi and IFC, of the total number of green bond issues in 2020, 23 percent were rated investment grade and another 12 percent were rated sub investment grade⁸⁸.

In addition, pension funds or insurance investors are typically looking for investment-grade rated projects, which means that high-risk projects (including infrastructure projects) are not of interest to them, although the participation of the private sector is key for the financial viability of infrastructure projects. Without the assistance provided by credit-enhancement mechanisms, many projects remain unfeasible and unable to garner private financing.

As a result, the main objective of a credit-enhancement mechanism provided by donors or public development banks is to improve the credit quality of infrastructure projects, in order to attract more private financing for the project. Once these actors offer credit enhancement for a project, it demonstrates to other investors that the project is viable and thereby catalyses private sector investment

One prominent example can be found with the Seychelles sovereign blue bond which was partially guaranteed by a USD 5 million guarantee from the World Bank (IBRD) and further supported by a USD 5 million concessional loan from the Global Environment Facility (GEF) which partially covered interest payments for the bond. Similarly, on the corporate side, GuarantCo, a Private Infrastructure Development Group (PIDG) company, has guaranteed the first International Corporate Indian Rupee Green Bond in Asia by providing an unconditional and irrevocable guarantee, which covers 100% of the principal and interest of the Green Bond. The strength of GuarantCo’s guarantee was responsible for the strong rating (Moody’s rated the Green Bond A1 and Fitch AA)⁸⁹, which also made it feasible for institutional investors to subscribe to the Green Bond. Furthermore, GuarantCo had contributed to the issuance of a green bond in Kenya on the Nairobi Securities Exchange (NSE).

Overall, guarantees have a number of benefits as a blended finance instrument. In particular, they are commitments to repay in case of default of the underlying instrument and do not necessarily require an immediate outflow of funds by donors. In addition, guarantees have proven to be the most effective instrument in mobilising private resources. OECD data on private finance mobilised during the period 2012-

2018 indicate that guarantees mobilised more capital than any other financial instrument, and were the most effective tool for mobilising capital in every year for which data is available

However, several remaining challenges around the use of guarantees restrict their widespread use among donors and in particular on the public development banks' side, the key challenge to scaling up the use of guarantees is linked with capital accounting regulations.

Box 13. Examples of guarantees being used to support bond issuances

On September 28, 2017, the European Commission ("EC") announced the launch of the External Investment Plan ("EIP"), a new European strategy to mobilise investments in Africa and in the European Union's ("EU") Neighbourhood, namely in North Africa and the Mediterranean basin, with which the EU has agreements to strengthen political stability and economic integration (herein after "target countries"). In support of the EIP, the European Council and the European Parliament approved (EU Reg. no. 2017/1601) the allocation of € 4.1 billion that aspire to mobilise up to € 44 billion by 2020 through the establishment of the European Fund for Sustainable Development ("EFSD"), a guarantee fund with an allocation of € 1.5 billion in favour of Financial Institutions ("FIs") accredited to the EC, including CDP. Alongside the EFSD, the EC allocated grant resources for the remaining € 2.6 billion for preparatory activities for project financing, so-called technical assistance.

More specifically, the EIP is based on three pillars: 1) the credit enhancement tool, the aforementioned EFSD, which offers guarantees on debt and/or equity operations to help mobilise public and private financing with particular attention to the most fragile countries, with less developed economies and politically riskier contexts; 2) technical assistance to companies and local authorities to identify and structure financially sustainable projects that can attract international investors; 3) technical assistance, so-called policy dialogue, to local governments to create a business environment conducive to investment by removing barriers to entry and supporting the dissemination of international best practices of good governance.

Promote the use of "first loss" or "first credit loss" tranches funds

Structured funds are one of the blended finance funds in a layered structure where risks and returns are allocated differently across investors; structured funds allow development finance providers to take more risk and/or take a smaller share of the returns, which can therefore be more conducive to the mobilisation of private (and public) commercial capital.⁹⁰

Importantly, it should be noted that there is a difference between a junior tranche is providing a "first credit loss protection" and not a "first loss protection", with a clear difference in risks covered by the junior tranche investors.

Box 14. Examples of a first credit loss mechanism

Risk cushion in the form of subordinated tranches could be provided to investors without previous experience in emerging market debt, thereby allowing them to commit a senior tranche - as was the case of the Amundi Planet Emerging Green One (EGO) fund, a green bond fund focused on emerging markets.

The fund is the first of its kind to take a holistic approach, by investing in emerging market green bonds, while also supporting the creation of a robust green bond market through tailored capacity building activities. Participation from IFC and other DFIs as anchor investors, investing in the junior tranche of the fund, allowed crowding in capital from private investors such as leading pension funds and insurance companies, which significantly increased the scale and pace of climate finance in emerging markets.

The first credit loss protection allows the project, by design, to credit enhance the credit rating of BB+ average on the fund's bond portfolio, to BBB+ equivalent to senior tranche investors in the fund. As the rating becomes investment grade, it is then possible to attract a broader range of investors compared to a portfolio which is non-investment grade.

The rating approach to structure the EGO fund with junior, medium and senior tranches, is an important feature to make the fund more catalytic with investors.

Other important features include: 1) the initial size of the fund at USD 1.42bn and a USD 2bn investment strategy over 7-years, which was meant to attract many institutional investors who typically want to buy minimum USD 100m tickets and own less than 5% of such debt funds, 2) the listing of all the fund's shares on the Luxembourg Stock Exchange which eases secondary market shares trading and contributes to making fund's shares marketable securities in line with market-based accepted regulation/supervision.

Promote local currency issuances

A local currency bond market is the cornerstone of domestic financial markets and a necessary foundation for any domestic GSSS bond market. However, it should be reminded that denominating bonds in hard currency can also be conducive to selling bonds to international investors.

As capital markets develop, more local currencies are typically being added to the mix. This is especially true if interest rates remain supportive, domestic secondary markets keep growing, and the availability of local funding sources increases. In such circumstances, issuers that generate most of their revenues in local currencies are expected to favour issuance in those same currencies, especially given the cost of foreign exchange hedging.

To put things into context, in 2020, ASEAN issuers mostly favoured USD for their green bond issuance, with 47% issued in the local ASEAN currencies.⁹¹ In contrast, 82% green bond issuance in Latin America and the Caribbean (LAC) was in hard currency the same year. Given the high international demand, volatility in local currencies and close ties with the USA, 70% of LAC issuance is denominated in USD, more so than in any other region.

Box 15. Example of local currency bond program

At regional level, the ASEAN Capital Markets Forum (ACMF), which comprises capital markets regulators from all ten ASEAN member states, developed and launched the ASEAN Green, Social and Sustainability Bond Standards in 2017-2018. In May 2020, the ACMF developed a Roadmap for ASEAN Sustainable Capital Markets to guide the strategy of the ACMF in developing initiatives to support ASEAN's sustainable development agenda for the next five years. The public authorities of the ASEAN+325 and the Asian Development Bank (ADB) introduced, in March 2020, a technical assistance (TA) programme to create the necessary ecosystems for green local currency bonds for infrastructure development in ASEAN+3 jurisdictions. One of the TA's key initiatives is to promote the use of the ASEAN+3 Multi-Currency Bond Issuance Framework (AMBIF), a common regional bond issuance programme ⁹²that allows issuers to issue bonds in multiple jurisdictions through universal procedures. To date, seven markets have adopted ABMIF, namely Cambodia, Hong Kong, Japan, Malaysia, Philippines, Singapore and Thailand.

Similarly, the African Local Currency Bond Fund (ALCBF) incorporated by KfW on behalf of the Federal Ministry for Economic Cooperation and Development (BMZ) in the Republic of Mauritius as a private limited company provides a good example of how to support local currency bond issuances. The Fund operates as an open-ended expert fund and its primary activity is to make investments in local currency bonds issued by African private sector entities. The objective of such investments is to promote capital market development in Africa. In this respect, the Fund acts as an anchor investor. The ALCBF has already invested about 215 Mio. USD in 69 bonds of 15 different currencies. The Fund's ultimate beneficiaries are micro, small and medium enterprises and private lower income households, who will benefit from the issuer's improved or expanded capability to provide financial services for, or direct investments in, housing, education, infrastructure, agriculture, healthcare, renewable energy and energy efficiency.

Furthermore, in 2011, the G20 launched an initiative to prepare an action plan for the development of local currency bond markets. Since then, the IMF and WB have produced notes that take stock of bond developments, and released a joint *Guidance note for developing Government Local Currency Bond Markets* in March 2021⁹³. Since the early 2000s, the IMF and the World Bank have produced several reports to promote the development of local currency bond markets (LCBM).

4. The necessity to address supply constraints by building a robust and SDG oriented pipeline of suitable projects and provide guidance for issuers through dedicated technical assistance programs.

Develop a pipeline of local infrastructure projects

Investor appetite for GSSS bonds in emerging markets and developing economies is relatively strong, as evidenced by significant oversubscriptions of recent issuances. For such markets, the lack of supply of "labelled" GSSS bonds is a major constraint. This reflects the lack of bankable green projects in some markets that can be financed or refinanced through GSSS bonds and highlights need to foster robust

enabling policy environments necessary for pipelines of green, social and sustainability projects to emerge at scale in developing countries. Local governments can benefit from working more closely with public development banks and investors in this process.

In order to attract investors looking, there needs to be a visible pipeline of infrastructure investment opportunities that align with the SDGs. An example of a large and visible Malaysian green infrastructure pipeline helping investors to understand that there is a sufficiently large pool of financially attractive projects can be found with the Green City Action Plan in Malaysia for integrated urban management developed by Malaysia. The Asian Development Bank played a role in developing and implementing such plan by providing a technical assistance grant. This included structuring bankable projects for solar energy and street lighting.⁹⁴

Box 16. ADB and the Asian Green Catalytic Facility

The ASEAN Green Catalytic Facility (ACGF), an ASEAN Infrastructure Fund Initiative has been established and formally launched 2019, with the mission to “accelerate the development of green infrastructure in ASEAN by better utilizing public funds to create bankable projects and catalyse private capital, technologies and management efficiencies”.⁹⁵

It’s integrated approach to building pipelines and to mobilise capital is set around 3 pillars:

- a. Innovative de-risking funds for green projects by leveraging climate-linked co-financing from development partners
- b. Project structuring support and pipeline development
- c. Policy, knowledge and capacity support on green finance

A major part of ACGF’s work has been to provide leveraged or blended finance models for better structured green projects across the region. This is fundamentally important in supporting countries and the ACGF to develop that most crucial and missing aspect—pipelines of bankable green projects.

To build a pipeline of ACGF projects, technical support is provided to develop and structure projects through an existing regional ADB TA project. As of December 2020, this support has extended to 22 projects, including 12 early-stage projects (not yet in ADB’s pipeline) and 10 late-stage projects (already in ADB’s pipeline, or approved for financing). Altogether, this has exceeded the target of five concepts to be developed and five projects to be structured over the 3-year pilot phase.⁹⁶

Promote the use of technical assistance programs and support further the diversification of bond issuances

The lack of understanding of the potential benefits of the bond market, let alone GSSS bond issuance amongst policy makers, regulators, as well as potential local bond issuers such as local banks and

investors in developing economies is a fundamental limiting factor for the growth of the GSSS market in these countries. In particular, there can be some confusion on the extra efforts required on the sustainability side, including the role and need for second-party opinions, assurance and certifications.

Official guidance on GSSS bond issuance procedures could allow local issuers to better understand how to meet the criteria for a green or social label, developing measurement and disclosure tools as these usually require additional time and resources on the part of the issuer, particularly for a debut green bond issuance as an example. This is where technical assistance programs could play a critical role.

In addition, capacity building programs can support further the diversification of bond issuances towards a wider range of social and sustainability bonds including blue bonds, biodiversity bonds or gender bonds and the origination of suitable projects related to these themes. In particular and given the significant need in developing economies vulnerable to the effects of climate change, technical assistance programs can target the issuance of green bonds focusing on adaptation projects in climate stressed regions.

Box 17. IFC technical assistance program

The ASEAN Green Catalytic Facility (ACGF), an ASEAN Infrastructure Fund Initiative has been established and formally launched 2019, with the mission to “accelerate the development of green infrastructure in ASEAN by better utilizing public funds to create bankable projects and catalyse private capital, technologies and management efficiencies”.⁹⁷ The International Finance Corporation (IFC) in 2017 launched the donor funded Green Bond Technical Assistance Program (“GB-TAP”) managed and administered by IFC which aims to enhance the supply of green bonds issued by financial institutions in emerging markets. It offers a wide range of support to potential issuances, including:

- Executive trainings on green bond issuances,
- dissemination of Green Bond Principles,
- support to enhance reporting by issuers,
- knowledge sharing through research papers, case studies, and conference presentations.

Box 18. Technical assistance program by the Luxembourg Stock Exchange

The Luxembourg Stock Exchange (LuxSE) has offered unique and integrated technical assistance programmes, offering training, as well as trading and information services.

In 2016, LuxSE established the Luxembourg Green Exchange (LGX), the world's first and leading platform for sustainable securities, to help reorient capital flows towards sustainable investment.

In 2020, LuxSE launched the LGX Academy to strengthen sustainable finance education through a series of courses on sustainable products, related standards, and best market practices.

Later that year, LuxSE created the LGX DataHub, a centralised database of structured sustainability data. It provides investors with centralised granular and structured data on the whole universe of listed labelled sustainable debt securities enabling them to compare the environmental or social impact of different products, build sustainable investment strategies and report on these investments.

Whilst there is a number of initiatives among PBDs dedicated to capacity building, the needs and applicability are global. As a result, there is room for a well-funded large training/knowledge sharing initiative which would centralize the knowledge, reach economies of scale, increase efficiencies, share knowledge from developed markets with emerging markets issuers (sovereign, financial institutions, non-financial institutions and corporates)

Support the aggregation of small scale projects

Securitisation refers to the process of transforming a pool of illiquid assets (normally many thousands of separate assets) into tradable financial instruments (securities)⁹⁸. The investors' returns on the securities are drawn from the cash flows of the underlying assets, such as loans, leases or receivables against other assets. The vast majority of securitisation is used to refinance loans to existing assets, and banks are the main issuers of asset-backed securities (ABS). Loans to small-scale projects can be aggregated and then securitised to reach an adequate deal size for bond markets⁹⁹.

To be effective, public support for green securitisation as an example must rely on a broader favourable policy environment that generally supports investments in low carbon projects. However, careful design and oversight of markets for GSSS bonds and securitised asset-backed securities (ABS) are required.

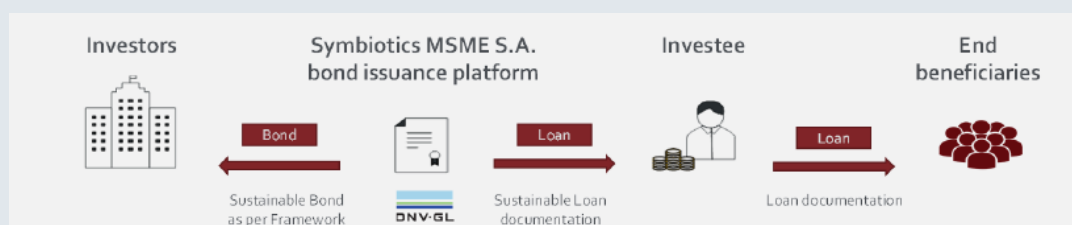
Box 19. Example of an MSME Bond platform

Symbiotics, incorporated in 2004 in Geneva, is an investment company specialized in emerging, sustainable and inclusive finance¹⁰⁰. Symbiotics has developed an innovative MSME bond platform based in Luxembourg which issues impact bonds that provide finance to microfinance institutions, small and medium sized banks, and other companies located in emerging markets. Each bond is used to disburse a loan to one financial institution or company. The institutions typically pay interest and principal to MSME Bonds, which will pass these payments (net of certain fees) to the investors of the bond. Each institution is analysed and assessed by Symbiotics¹⁰¹.

In terms of investment universe, Symbiotics focuses exclusively on issuing GSS Bonds in emerging and frontier markets in both USD and local currency and in small amounts of between USD 5 – 20 million. This allows to put GSS Bonds within the reach of mid-sized financial institutions and corporates.

For example, in June 2020, Symbiotics arranged its first green bond, for Pan Asia Banking Corporation in Sri Lanka, for a total volume of LKR1.42 billion (USD 7.75 million). It was the first green bond in Sri Lanka and the first structured under Symbiotics' Sustainability, Social and Green Bond framework. The proceeds were used to finance projects in fields such as renewable energy, energy efficiency, sustainable agriculture and clean transportation¹⁰².

The platform is based around a dedicated compartmented SPV set-up in Luxembourg with its own Sustainable Bond Framework, which received a second party opinion from DNV GL. In addition, all bonds are listed on the Luxembourg Green Exchange.



Explore ways to reduce transaction costs

The GSSS bond market in developing economies is evolving under pressure from issuers looking to drive the costs of issuance down and investors calling for more supply to meet their demand. As such, government incentives such as tax reduction, interest subsidies or concessional support from donors and philanthropic players are some of the options for further reducing the funding costs for GSSS bonds.

This is especially true as many potential issuers do not necessarily have the resources to face verification costs of the green bond status and the monitoring of use of proceeds for green purposes as an example, typically performed by second-opinion or third-party assurance providers (such as accountancy firms and specialised research agencies). The relatively high cost of obtaining a second-opinion or third-party

assurance (ranging from USD 10 000 to USD 100 000) is also a barrier for some small issuers looking to issue small volumes.

Box 20. Examples of subsidies and tax incentives in Asia to support GSSS bond issuances

The Malaysia's Green SRI Sukuk Grant Scheme permits institutions raising funds in compliance with the SRI Sukuk Framework to claim 90% of external review cost subject to a maximum of MYR300k (USD 77 500) per bond. In addition, Malaysia also offers SRI Sukuk tax deduction on issuance costs until 2020. Similarly, Singapore's Green Bond Grant Scheme assists eligible issuers with 100% of the costs of an external review up to SGD 100 000 (USD 73 000).

5. The importance to avoid “SDG washing”, to promote transparency and harmonization of taxonomies as well as of impact reporting practices.

Taxonomies

There are a number of international and national taxonomies addressing green bond project definitions. A prominent example is the EU taxonomy which is a classification system, establishing a list of environmentally sustainable economic activities. By providing appropriate definitions to companies, investors and policymakers on which economic activities can be considered environmentally sustainable, it is expected to create security for investors, protect private investors from greenwashing, help companies to plan the transition, mitigate market fragmentation and eventually help shift investments where they are most needed.

Other major taxonomies include the Climate Bond Initiative's taxonomy which specifies the green definitions for the Climate Bond Standards and Certification Scheme and is guided by a panel of climate and energy experts or the taxonomy developed by Bank of China (PBoC, China's central bank) which released the first country-specific green bond issuance guidelines along with a taxonomy in the form of a “Green Bond Endorsed Project Catalogue” to guide financial sector issuance on green bonds in China. Canada, Malaysia, and the UAE have all started to explore taxonomies, with a number of other markets at early stages of development. These taxonomies will not be identical to the EU Taxonomy and may vary depending on the specificities of the local market.

Overall, local currency green bond taxonomies should reflect where necessary the country's specific environmental challenges, while remaining as consistent as possible with international guidelines and standards. They should also be simple enough to enable market actors, who are not necessarily environmental experts to embrace them.

Interestingly, the OECD Environment Directorate is working on a summary analysis of the taxonomies, principles and guidance in a stocktake, highlighting the core elements of transition finance in particular.

Box 21. Examples of efforts to align taxonomies at the international level

At the international level, the EU has convened an International Platform on Sustainable Finance (IPSF), which encourage dialogue and, where appropriate, coordination on development of taxonomies. Similarly, the Network for Greening the Financial System's first comprehensive report recommended that members support the development of taxonomies. The ISO is also developing a taxonomy for evaluating environmental performance of green debt instruments.

A common design approach between international taxonomies would enable mutual recognition of Taxonomy frameworks and support market understanding of the environmental performance of economic activities and investments across markets, whilst still recognizing the various countries' specificities.

Another good illustration of the development of local taxonomies can be found in Vietnam as the Ministry of Natural Resources and Environment (MONRE), in consultation with other ministries, is coordinating the development of a green taxonomy. Leveraging international examples, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH advises MONRE and provides technical assistance for the development of the taxonomy to ensure it reflects the Vietnamese context and seeks alignment with international good practice.

Help develop adequate standards or support adherence to existing standards to ensure that use of proceeds effectively contribute to the SDGs

The Green Bond Principles first and then the Social Bond principles and the Sustainability linked Bond principles contribute to improve transparency and disclosure by clarifying the approach for issuance of GSS bonds. They are all structured around four core components: 1. Use of Proceeds, 2. Process for Project Evaluation and Selection, 3. Management of Proceeds and 4. Reporting.

Importantly, investors need to be assured that the proceeds of the GSSS bonds in which they invest are being allocated to appropriate qualifying projects that generate the desired green and social impacts. However, although use of proceeds is more commonly reported than impact (over ¾ of issuers report on use of proceeds globally) according to Climate Bond initiative, reporting on the use of proceeds is still not systematic. In addition, the evidence provided by CBI shows that large issuers are more likely to report and deal with external reviews are more likely to have such reporting. Finally, the quality of reporting on the use of proceeds varies, with some discrepancies on the granularity of information for example.

Overall to ensure that the use of proceeds reporting match investor's expectations and allow them to avoid reputational issues that could prevent from entering the market in developing economies, stronger signals should be given in national guidelines for GSSS issuances as well as comprehensive sustainability frameworks to guide issuers. This is especially true as a market differentiation and stronger investor demand could be seen in favour of issuers with best practices in terms of use of proceeds reporting, as the GSSS market grows in developing economies.

Transparency and ESG disclosures

Transparency on the project evaluation and selection process is key for the integrity of the GSS bond market. There is a need to define clear eligibility criteria and clear selection process of the loans to be taken into account for development banks as an example and ideally to provide reporting on the underlying

projects being targeted as part of GSS issuances. Similarly, there is a critical need to provide transparency for sustainability linked bonds which conditioned coupon payments on reaching specific sustainable targets.

Greater transparency should also encourage greater investor demand if they are able to get access to all the information necessary for them to make decisions on which GSSS bonds to purchase. Free of charge central depositories such as the Green Bond Transparency platform developed by IADB (see box 15) as well green bond listing criteria implemented by stock exchanges contribute to address such a challenge. These initiatives which aim to build up sustainability data and second party verifications also allows to address potential reputational concerns for investors exploring the opportunity to invest in GSSS bonds in developing economies. They also contribute to lower the cost of analysing GSSS Bond opportunity and ultimately to support greater investor demand.

In addition, investors and in particular long-term responsible investors engaged in ESG strategies need to ensure that GSSS issuances satisfy their ESG requirements. As a result, it is of paramount importance for issuers in developing economies to demonstrate how the issuance fits within their broader sustainability strategy and that the bond issuance is just one of the signals of their broader sustainability commitments. Interestingly, GSSS bonds enable investors to engage with companies in the fixed income space in a new way and engagement and private dialogue with issuers on ESG topics related to GSSS bond issuance can result in information that enhances their credit analysis.

Finally, supporting the integration of sustainability information from credit ratings agencies can help the market better understand the alignment of the GSSS bonds being issued in developing countries with international standards from ICMA.

Box 22. Example of a Green Transparency Platform

Since 2016, the Inter-American Development Bank (IADB), has significantly helped the region's green capital market by supporting more than 30 percent of the issuances by volume, especially first-time issuances in local markets. In 2021, IADB launched the Green Bond Transparency Platform (GBTP), an innovative digital tool that brings greater transparency to the green bond market in Latin America and the Caribbean. GBTP supports the harmonization and standardization of green bond reporting, boosting investors' confidence that the proceeds from bond issuances are being spent on green projects whose impact are adequately measured. Users can learn about the proceeds, impacts, and methodologies for each green bond in the region and can filter data to access environmental performance using different criteria. Block chain (DLT) technology facilitates secure data reporting in the GBTP.

Impact reporting practices

The ability to effectively measure the development impacts achieved through GSSS bond issuances is fundamental to help the GSSS bond market grow in developing economies, as investor demand from SRI investors can be driven by this purpose. However, there are multiple challenges related to the impact reporting practices of GSSS bonds. First, only 59% of issuers and 74% of the amount issued report impacts

post-issuance globally. According to CBI, regions with larger, more mature green bond markets have higher reporting shares and supranationals are leading with the strongest reporting share amongst all type of issuers. As a result, there is still some significant scope for improvement on the level of impact reporting globally.

Second, there is a significant challenge of defining objective metrics to value the impact achieved and incentivizing investors to divert their capital into more sustainable businesses and projects for the SDGs. A wide breadth of metrics is used, even within similar project types and the absence of uniformity in impact data makes it very hard to compare and aggregate information. Similarly, the widespread adoption of relative metrics (especially GHG savings) raises questions, and should be viewed with caution, as they depend on the baseline used. In addition, the terminology used by issuers to describe metrics varies, and precise definitions are not always available. By far the most common social metrics refer to the 'number of people/families/households benefitted' (which includes customers served or users added) and the 'number of jobs created' and on the green side GHG saved/avoided/reduced is the most common metric. Most issuers report it, and together with CO2 saved/avoided/reduced, according to CBI.¹⁰³

Furthermore, there is also a critical need to pay attention to interlinkages both positive and negative between SDGs and to report on the potential adverse impacts. The whole holistic picture of impact is also not available as most impact reports are only looking at the impact of the project itself and not necessarily consider indirect impacts.

However, the improvement of impact reporting practices from issuers in developing economies could become a differentiating factors and have potential implication on investor demand for those issuers exhibiting best practices in this regard.

Box 23. Examples of efforts to improve impact reporting practices

Multilateral Development Banks (MDBs) in a joint report present collective and individual efforts to support countries in achieving the SDGs as well as various initiatives to foster results management that aligns with the SDGs and share knowledge.

Under the Managing for Development Results working group, the MDBs are pursuing common, principles-based approaches to aligning their results and finance reporting with the SDGs. Establishing a common methodology for measuring contribution to the SDGs using the Harmonised Indicators for Private Sector Operations also helps converge on a common set of private sector SDG impact indicators. These efforts aim to help the MDBs better monitor, manage, and communicate to their stakeholders about their contributions to the SDGs.

Interestingly, in 2020, Environmental Finance, mandated by IFC, decided to examine how green bond funds are reporting their environmental impact and to what extent their reports meet the needs of their investors¹⁰⁴. They identified 55 funds that allocate, or intend to allocate, at least 50% of their assets to green bonds. Importantly, 60% of investors said current impact reporting practices are 'inadequate' and mentioned that key areas for improvement are transparency and standardisation of the reports. Whilst the funds vary significantly in size and maturity, the key challenges highlighted as part of the study relate to the following issues:

- Impact reports differ widely in terms of format, frequency and the level of detail they provide about how they estimate the environmental impact of their portfolio
- Data collection is a time consuming. Several of the smaller funds said the time and resources required to gather impact data from issuers is a major barrier to extending the scope of their impact report.
- Data aggregation aiming at giving a meaningful assessment of the environmental impact of the fund's portfolio is challenging, especially given the wide range of metrics, methodologies and baselines used by bond issuers.

Acknowledgements

This stocktaking report was jointly prepared by the Cassa Depositi e Prestiti (CDP) by Michael Riedl, Marina Piccioni, Head of Structuring, and Martina Colombo, CDP Seconded National Expert at the European Commission, and by the OECD Development Co-operation Directorate (DCD) under Director Jorge Moreira da Silva. Faty Dembele, Policy Analyst, was the lead author of the report, under the supervision of Paul Horrocks, Manager of the Private Finance for Sustainable Development Unit and Rolf Schwarz, Senior Outreach Specialist. Strategic leadership and guidance was provided by Haje Schütte, Senior Counsellor and Head of Financing for Sustainable Development Division, DCD. Maruša Rus provided support to the authors. Peer reviewers include Jean Marie Masse, Global Head and Chief Investment Officer at IFC and Sergei Strigo, Co-Head of Emerging Market Fixed Income at Amundi.

The report is based on research as well as on interviews held by the OECD and CDP with relevant experts from public development bank, credit rating agencies, asset managers or industry associations. These interviews have provided invaluable insights into general practices regarding green, social, sustainable and sustainability-linked bonds in both developed and developing economies.

The authors would like to warmly thank the following individuals for their time and efforts in providing us with valuable input:

- Amundi,
- West African Development Bank (BOAD),
- Central American Bank for Economic Integration (CABEI),
- Citibank,
- Climate Bond Initiative (CBI),
- Council of Europe,
- Frontclear,
- Guarantco,
- HSBC,
- Inter-American Development Bank (IADB),
- International Capital Market Association (ICMA),
- International Finance Corporation (IFC),
- Johannesburg Stock Exchange,
- Luxembourg Stock Exchange,
- Natixis,
- Vigeo Eiris.

Annex 1 – Indonesia’s case study

Since the issuance of the world’s first sovereign green sukuk in 2018, which was oversubscribed and thereby demonstrated huge interest from the global market, the Ministry of Finance of Indonesia has raised more than USD 3.5 2.75 billion from four annual global issuances¹⁰⁵. According to the findings of the Climate Bonds Initiative, Indonesia has been recognized as one of the largest ASEAN green bond market¹⁰⁶. Below is a recap of the GSS journey of Indonesia thus far.

In 2014, the Financial Services Authority of Indonesia (OJK) issued a Roadmap for Sustainable Finance. It consisted of three key pillars: 1) Increase supply of sustainable financing – this includes the idea of spurring the development of the domestic green bond market by providing government institutions and industry practitioners with adequate support over the period 2015–2024; 2) Increase demand from investors for sustainable finance products and services, including green products and 3) Enhance oversight and coordination in the implementation of the sustainable finance program among the relevant ministries / agencies.

In December 2017, OJK put in place a new regulation for the issuance and terms of green bonds. This regulation was based on globally accepted green bond standards, such as the Green Bond Principles, the ASEAN Green Bond Standards, and the Climate Bonds Standard. It provided clarity and consistency for both green bond issuers and investors and thus laid down a sound basis for developing a robust green bond market. It provides a definition of green bonds as bonds proceeds of which are used to finance or refinance in whole or in part environmentally sustainable business activities. It further specifies 11 eligible types of activities that can be financed through the issuance of green bonds, to prevent the risk of “greenwashing”.¹⁰⁷ The regulation provides additional regulatory strength to the ICMA Green Bond Principles (GBP), as the holders of the bonds can seek to repurchase of the bond by the issuer or request an increase in the coupon rate in the case of failure to meet the green objectives. This provides an incentive for the issuer to comply with the stated use of proceeds¹⁰⁸. Finally, it indicates that the share of the proceeds from the public offering of green bonds directed toward eligible green projects shall be no less than 70% of the total proceeds¹⁰⁹.

In March 2018, the Government of Indonesia, through the Ministry of Finance, issued the world’s first ever sovereign green sukuk, i.e. an innovative financial instrument conforming

to Islamic Law (Sharia) as well as green bond principles. The issuance amounted to USD 1.25 billion with a five-year maturity period and annual yield of 3.75%. It was appealing to a wide range of investors, including conventional, Islamic and green ones, leading to it being oversubscribed. This initiative received technical assistance support from the United Nations Development Programme (UNDP) – such as in the preparation of Green Bond/Sukuk framework, capacity-building to the Ministry of Finance and relevant line ministries, project selection, and the impact measurement and reporting processes.

In July 2018, PT Sarana Multi Infrastruktur (Persero) ("PT SMI"), an Indonesian state-owned enterprise under coordination of Ministry of Finance with a main role as catalyst to support the acceleration of infrastructure development in Indonesia, issued the first corporate green bond in Indonesia¹¹⁰ - amounting to IDR 500 billion. The World Bank provided technical assistance to PT SMI in preparing a green bond framework that is aligned with the internationally-developed Green Bond Principles and ASEAN Green Bond Standards. This collaboration took place under a broader capital market and infrastructure finance technical assistance programs supported by the Swiss State Secretariat for Economic Affairs (SECO) and Global Affairs Canada (GAC).

In February 2019, the Ministry of Finance of Indonesia came up with the second issuance of green sukuk, valued at USD 750 million, with a maturity date due on August 20, 2024 and a periodic distribution rate of 3.90% p.a. A strong demand from investors for this financial instrument has resulted in oversubscription. The issuance has widened and diversified the investor base by taping global green investors (29%), as well as demonstrated international investors' trust in Indonesia's commitment on climate action¹¹¹.

In addition, in November 2019, Indonesia issued the world's first retail green sukuk (a Savings Retail Sukuk, ST-006 series), which is a green sukuk issued and sold to individual Indonesian citizens in the domestic retail market through online platform¹¹². This issuance raised IDR 1.46 trillion and attracted over 7,700 investors, with the majority being millennials (51%).

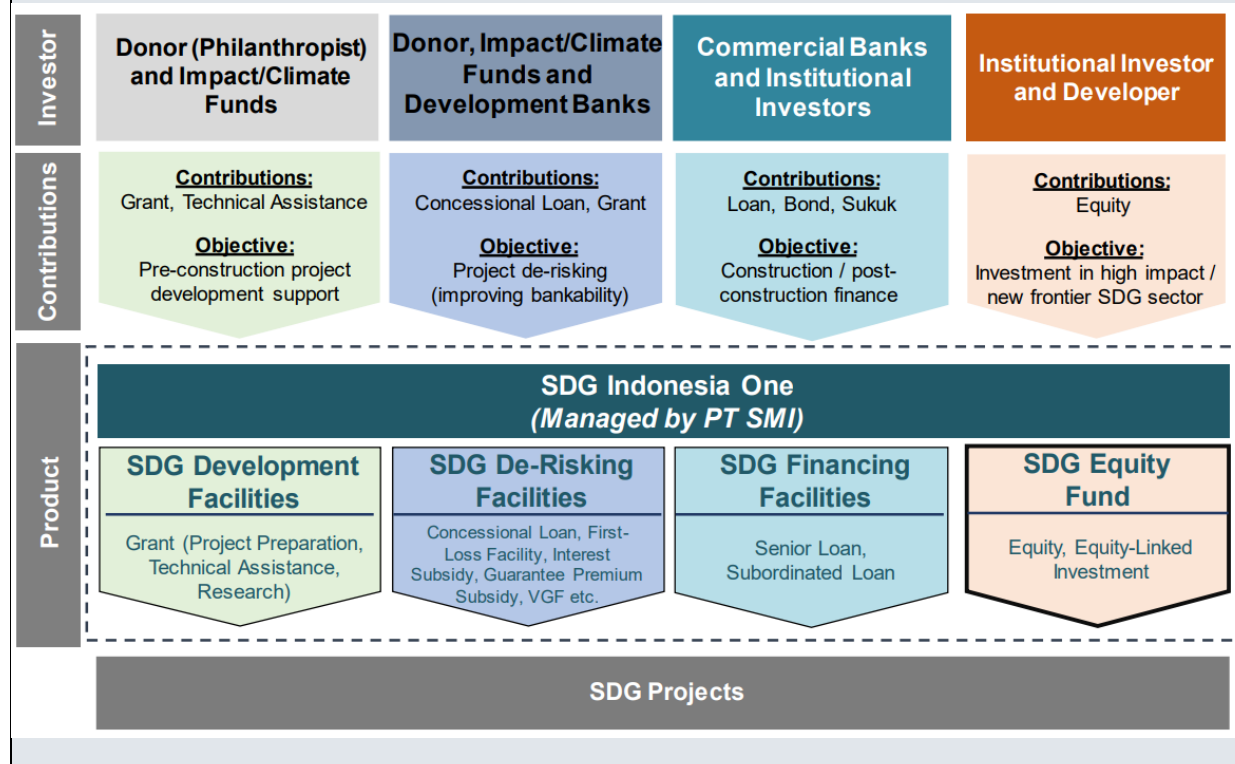
In June 2020, the issuance of the third sovereign global green sukuk bond from Indonesia in June 2020 (USD 750 million at five years tenor) reinforced the government's commitment to play a leadership role in the market. This issuance attracted 33% green investors and was oversubscribed by 7.37 times – amidst the global pandemic. Overall in 2020, Indonesia was amongst the top five largest issuers in emerging markets (excluding China) behind Chile, the Czech Republic, Hungary and Brazil¹¹³.

In November 2020, the Ministry of Finance issued the second retail green sukuk (savings retail sukuk, ST-007 series). Dominated by millennials for more than half of the new investors attracted, this issuance recorded the highest purchase volume (IDR 5.42 trillion) and attracted the largest number of investors (with over 16,900 investors) in the history of savings retail sukuk issuance in the country.

In June 2021, Indonesia issued its fourth sovereign global green sukuk, valued at USD 750 million with 3.55 percent coupon rate and 30-year tenor - which became the longest tenor ever secured for green sukuk in the global market. This issuance attracted substantially more global green investors (57%) and was once again oversubscribed.

In 2021, Indonesia is planning to issue its first sovereign SDG bond. The government is developing a new framework that covers various aspects, including green, social, and even

blue financing. Furthermore, the country aims to further work on its SDGs Indonesia One, which is an integrated funding collaboration platform launched through PT Sarana Multi Infrastruktur (PT SMI) to support Indonesia's infrastructure development oriented towards the SDGs. It is a blended financing platform, managing a total of USD 2.34 billion from a mix of funding channels including philanthropy, donor, commercial banks, sovereign wealth funds and other institutional investors. More information is provided in the figure below.



Annex 2 – Germany’s example on “greenium”

(figures as per 15-June 2021)

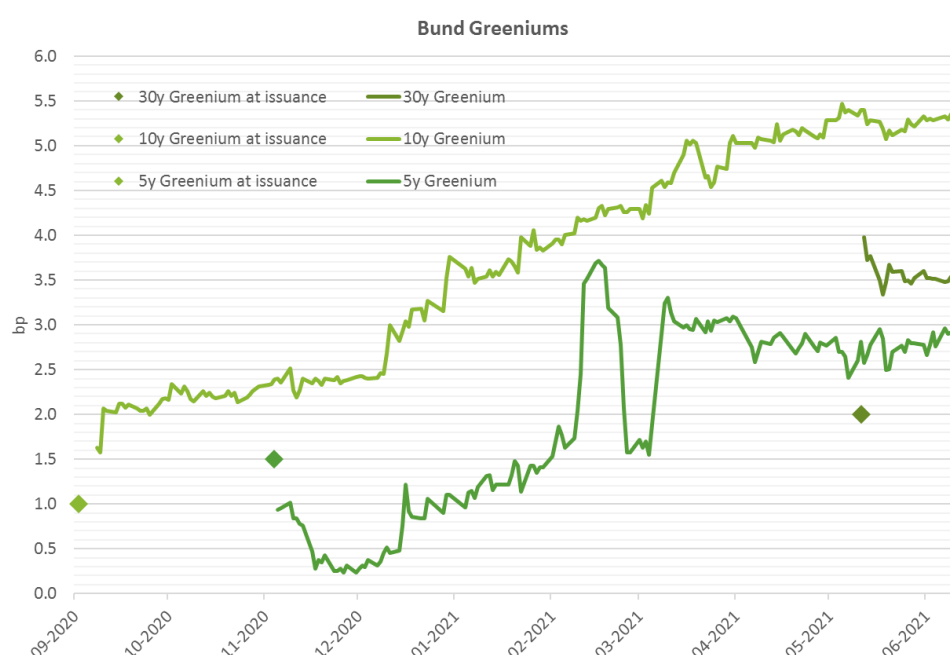
30-year Green Federal bond

On 11-May 2021, Germany issued its new 30-year Green Federal bond maturing on 15-Aug-2050 with a volume of € 6 bn, including € 0.5 bn retention quota. The order book comprised orders from 284 investors, exceeding € 38.9 bn in total. Allocation to real money investors reached close to 90 %. Participation of central banks was particularly high considering the long maturity of the bond.

Pricing of the transaction on 11-May-2021 was set at a spread of 2 bps below the conventional 30-year benchmark bond, i.e. achieving a Greenium of 2 bps for the issuer. Subsequently, the Greenium quickly widened in the secondary market up to 4 bps in order to stabilise later on around 3.5 bps.

The transaction illustrates the advantageous financing conditions for the issuer, while the outperformance of the green twin compared to the conventional twin in the secondary market shows that even if issued at a spread below the conventional twin, the Green Bund still offered value to investors.

The Greenium at issuance as well as secondary market performance of the three outstanding Green Federal securities compared to their respective conventional twin are shown in the graph below:



10-year Green Federal bond and 5-year Green Federal notes (“Bobls”)

The inaugural Green Bund issue attracted orders over € 33 bn from nearly 200 investors for an issuance volume of € 6.5 bn (including € 0.5 bn retention quota). Germany was able to broaden the investor base for green bonds, bringing new investors into the ESG market. Around 75 % of the allocated volume of € 6 bn was sold to real money investors.

The second issue of a Green Federal security took place in November, via the Bund’s usual auction process. In an auction, the Bund allots the securities to members of the Bund Issues Auction Group and does hence not know about the investor base. Green Federal notes of € 5 bn were issued, € 379.29 mn of which were retained. Orders reached close to € 6 bn.

The secondary market development of the Green Federal securities issued in 2020 as depicted above shows a positive trend since the date of issuance. The 10-year Green Federal bond maturing on 15 Aug-2030 was issued at a spread of 1 bps vs. its conventional twin, the 5-year Green Federal notes were issued at a spread of 1,5 bps. Both Greeniums have increased to above 5 bps respectively around 3 bps as per now.

What is striking about the development of the two Greeniums is the much higher volatility of the 5 year Greenium. This course is most likely due to the fact that these two securities were issued in a different manner: While the 10-year Green Federal bond was issued via syndication, the 5-year Green Federal notes were issued via the Bund’s usual auction process. When using a syndication, the security is sold directly to (final) investors; hence, secondary market activities are reduced. Whereas in the auction process, the security initially is sold to the members of the Bund Issues Auction Group, which afterwards sell the acquired securities as part of their market-making-activities gradually to (final) investors. Therefore, securities issued via auction usually exhibit increased tradability, but at the same time are more exposed to the then current supply and demand situation.

References

- ¹ EU Technical Expert Group on Sustainable Finance (2020), *Usability Guide: EU Green Bond Standard*,
https://ec.europa.eu/info/sites/default/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-green-bond-standard-usability-guide_en.pdf
(accessed on 31 May 2021).
- ² EU Technical Expert Group on Sustainable Finance (2020), *Usability Guide: EU Green Bond Standard*,
https://ec.europa.eu/info/sites/default/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-green-bond-standard-usability-guide_en.pdf
(accessed on 31 May 2021).
- ³ ICMA (2018), *The Green Bond Principles*, <https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/green-bond-principles-gbp/> (accessed on 31 May 2021).
- ⁴ ICMA (2020), *The Sustainability-Linked Bond Principles*,
<https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/June-2020/Sustainability-Linked-Bond-Principles-June-2020-171120.pdf> (accessed on 31 May 2021).
- ⁵ ICMA (2020), *The Sustainability-Linked Bond Principles*,
<https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/June-2020/Sustainability-Linked-Bond-Principles-June-2020-171120.pdf> (accessed on 31 May 2021).
- ⁶ PIMCO, *Understanding Green, Social and Sustainability Bonds*,
<https://europe.pimco.com/en-eu/resources/education/understanding-green-social-and-sustainability-bonds> (accessed on 31 May 2021).
- ⁷ PIMCO, *Understanding Green, Social and Sustainability Bonds*,
<https://europe.pimco.com/en-eu/resources/education/understanding-green-social-and-sustainability-bonds> (accessed on 31 May 2021).
- ⁸ AMMC (2021), *Gender Bonds guidelines*,
<https://www.ammc.ma/sites/default/files/AMMC%20Gender%20Bonds%20Guidelines.pdf>
(accessed on 31 May 2021).
- ⁹ Gouett, M. (2021), *Furthering Gender Equality Through Gender Bonds*, ISSD,
<https://www.iisd.org/system/files/2021-03/equality-gender-bonds.pdf> (accessed on 31 May 2021).

- ¹⁰ Morgan Stanley Institute for Sustainable Investing (2019), *Blue Bonds: The Next Wave of Sustainable Bonds*, https://www.morganstanley.com/content/dam/msdotcom/ideas/blue-bonds/2583076-FINAL-MS_GSF_Blue_Bonds.pdf (accessed on 31 May 2021).
- ¹¹ Environmental Finance (2021), *Sustainable Bonds Insight 2021*, <https://www.environmental-finance.com/assets/files/research/sustainable-bonds-insight-2021.pdf> (accessed on 31 May 2021).
- ¹² Environmental Finance (2020), *Sustainable Bonds Insight 2020*, <https://www.environmental-finance.com/pages/sustainable-bonds-insight-2020.html> (accessed on 31 May 2021).
- ¹³ Environmental Finance (2021), *Sustainable Bonds Insight 2021*, <https://www.environmental-finance.com/assets/files/research/sustainable-bonds-insight-2021.pdf> (accessed on 31 May 2021).
- ¹⁴ Amundi (2021), *Emerging Market Green Bonds – Report 2020*, <https://research-center.amundi.com/article/emerging-market-green-bonds-report-2020> (accessed on 31 May 2021).
- ¹⁵ Climate Bonds Initiative (2020), *Sustainable Debt: Global State of the Market*, https://www.climatebonds.net/files/reports/cbi_sd_sotm_2020_04d.pdf (accessed on 31 May 2021).
- ¹⁶ GCA (2021), *Issuance in Emerging Market Green Bonds to Reach \$100 Billion by 2023, Amundi and IFC Find*, <https://pressroom.credit-agricole.com/news/issuance-in-emerging-market-green-bonds-to-reach-100-billion-by-2023-amundi-and-ifc-find-0d7d-94727.html> (accessed on 31 May 2021).
- ¹⁷ Amundi (2021), *Emerging Market Green Bonds – Report 2020*, <https://research-center.amundi.com/article/emerging-market-green-bonds-report-2020> (accessed on 31 May 2021).
- ¹⁸ Amundi (2021), *Emerging Market Green Bonds – Report 2020*, <https://research-center.amundi.com/article/emerging-market-green-bonds-report-2020> (accessed on 31 May 2021).
- ¹⁹ Climate Bonds Initiative (2020), *Sustainable Debt: Global State of the Market*, https://www.climatebonds.net/files/reports/cbi_sd_sotm_2020_04d.pdf (accessed on 31 May 2021).
- ²⁰ OECD (2020), *How Islamic finance contributes to achieving the Sustainable Development Goals*, OECD Development Policy Papers, No. 30, OECD Publishing Paris, <https://doi.org/10.1787/ac1480ca-en> (accessed on 1 June 2021).
- ²¹ Green Finance Platform (2020), *Kingdom of Thailand's first Sustainability Bond Issuance*, <https://www.greenfinanceplatform.org/policies-and-regulations/kingdom-thailand%E2%80%99s-first-sustainability-bond-issuance> (accessed on 31 May 2021).
- ²² Cop23, Fiji's Green Bond, <https://cop23.com.fj/fiji-green-bond/#:~:text=In%20October%202017%2C%20Fiji%20became,climate%20change%20mitigation%20and%20adaption> (accessed on 31 May 2021).

- ²³ Amundi (2021), *Emerging Market Green Bonds – Report 2020*, <https://research-center.amundi.com/article/emerging-market-green-bonds-report-2020> (accessed on 31 May 2021).
- ²⁴ Mutua, D. C. (2021), Chile Sells Biggest Latin American Sovereign Sustainability Bond, Bloomberg, <https://www.bloomberg.com/news/articles/2021-01-20/chile-sells-biggest-latin-american-sovereign-sustainability-bond> (accessed on 31 May 2021).
- ²⁵ Shapiro, L. (2021), The Emergence of Social Bonds As a New Rating, Brink, <https://www.brinknews.com/the-emergence-of-social-bonds-as-a-new-rating/> (accessed on 31 May 2021).
- ²⁶ GFL (2021), Sovereign social bond issued by Ecuador with support of IDB provides access to social and public housing, [https://www.greenfinancelac.org/resources/news/ecuador-issues-worlds-first-sovereign-social-bond-with-the-support-of-an-idb-guarantee/#:~:text=Ecuador%20issued%20the%20world's%20first,American%20Development%20Bank%20\(IDB\).&text=The%20bonds%20proceeds%20will%20be,system%20and%20a%20securitization%20scheme](https://www.greenfinancelac.org/resources/news/ecuador-issues-worlds-first-sovereign-social-bond-with-the-support-of-an-idb-guarantee/#:~:text=Ecuador%20issued%20the%20world's%20first,American%20Development%20Bank%20(IDB).&text=The%20bonds%20proceeds%20will%20be,system%20and%20a%20securitization%20scheme) (accessed on 31 May 2021).
- ²⁷ Szabó, V. (2020), Invest today. Change tomorrow. ESG – what lies ahead for emerging market bonds?, Aberdeen Standard Investments, <https://www.aberdeenstandard.com/en/insights-thinking-aloud/article-page/invest-today-change-tomorrow-esg-what-lies-ahead-for-emerging-market-bonds> (accessed on 31 May 2021).
- ²⁸ Amundi (2021), *Emerging Market Green Bonds – Report 2020*, <https://research-center.amundi.com/article/emerging-market-green-bonds-report-2020> (accessed on 31 May 2021).
- ²⁹ Amundi (2021), *Emerging Market Green Bonds – Report 2020*, <https://research-center.amundi.com/article/emerging-market-green-bonds-report-2020> (accessed on 31 May 2021).
- ³⁰ Amundi (2021), *Emerging Market Green Bonds – Report 2020*, <https://research-center.amundi.com/article/emerging-market-green-bonds-report-2020> (accessed on 31 May 2021).
- ³¹ OECD (2017), Mobilising Bond Markets for a Low-Carbon Transition, Green Finance and Investment, OECD Publishing, Paris. <https://www.oecd.org/env/mobilising-bond-markets-for-a-low-carbon-transition-9789264272323-en.htm> (accessed on 31 May 2021).
- ³² Amundi (2021), *Emerging Market Green Bonds – Report 2020*, <https://research-center.amundi.com/article/emerging-market-green-bonds-report-2020> (accessed on 31 May 2021).
- ³³ ICMA (2021) *The Social Bond Principles*, <https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/social-bond-principles-sbp/> (accessed on 21 July 2021)
 ICMA (2018), *The Green Bond Principles*, <https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/green-bond-principles-gbp/> (accessed on 21 July 2021).
 ICMA (2020), *The Sustainability-Linked Bond Principles*,

<https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/June-2020/Sustainability-Linked-Bond-Principles-June-2020-171120.pdf> (accessed on 21 July 2021).

³⁴ EU Technical Expert Group on Sustainable Finance (2020), *Usability Guide: EU Green Bond Standard*, https://ec.europa.eu/info/sites/default/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-green-bond-standard-usability-guide_en.pdf (accessed on 31 May 2021).

³⁵ ICMA, *The Principles, Guidelines and Handbooks*, <https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks> (accessed on 31 May 2021).

³⁶ European Commission (2021), *Press release: Commission puts forward new strategy to make the EU's financial system more sustainable and proposes new European Green Bond Standard*, https://ec.europa.eu/commission/presscorner/detail/en/ip_21_3405 (accessed on 19 July 2021).

³⁷ UNEP (2021), *Step up climate change adaptation or face serious human and economic damage – UN report*, <https://www.unep.org/news-and-stories/press-release/step-climate-change-adaptation-or-face-serious-human-and-economic> (accessed on 31 May 2021).

³⁸ Amacker, J., C. Donovan (2021), *Marathon or Sprint? The Race for Green Capital in Emerging Markets*, The Centre for Climate Finance & Investment at Imperial College Business School, <https://imperialcollegelondon.app.box.com/s/ge9thj52rcehma4bwxyt0fchi3q2niv5> (accessed on 31 May 2021).

³⁹ Centre on Green Finance and Investment Forum 2017 (2017), *Blended finance: mobilising green investment in emerging economies* <https://www.oecd.org/cgfi/forum/session-note-blended-finance-mobilising-green-investment-in-emerging-economies.pdf> (accessed on 31 May 2021).

⁴⁰ OECD (2020), *Global Outlook on Financing for Sustainable Development 2021: A New Way to Invest for People and Planet*, OECD Publishing, Paris, <https://doi.org/10.1787/e3c30a9a-en> (accessed on 31 May 2021).

⁴¹ OECD (2020), *Global Outlook on Financing for Sustainable Development 2021: A New Way to Invest for People and Planet*, OECD Publishing, Paris, <https://doi.org/10.1787/e3c30a9a-en> (accessed on 31 May 2021).

⁴² PIMCO, *Understanding Green, Social and Sustainability Bonds*, <https://europe.pimco.com/en-eu/resources/education/understanding-green-social-and-sustainability-bonds> (accessed on 31 May 2021).

⁴³ Climate Bonds Initiative (2015), *Scaling Up Green Bond Markets for Sustainable Development: A strategic guide for the public sector to stimulate private sector market development for green bonds*, https://www.climatebonds.net/files/files/GB-Public_Sector_Guide-Final-1A.pdf (accessed on 31 May 2021).

⁴⁴ PIMCO *Understanding Green, Social and Sustainability Bonds*, <https://europe.pimco.com/en-eu/resources/education/understanding-green-social-and-sustainability-bonds> (accessed on 31 May 2021).

- ⁴⁵ Climate Bonds Initiative (2021), *Sovereign Green, Social, and Sustainability Bond Survey: The ultimate power to transform the market*, <https://www.climatebonds.net/files/reports/cbi-sovereign-green-social-sustainability-bond-survey-jan2021.pdf> (accessed on 31 May 2021).
- ⁴⁶ Barton, M. (2021), *Green and Sustainable Bonds in Emerging Markets*, Funds Society, <https://www.fundsociety.com/en/news/markets/PICT21-green-and-sustainable-bonds-in-emerging-markets> (accessed on 31 May 2021).
- ⁴⁷ WEF (2021), *Study: Global warming could cut 63 countries' credit ratings*, <https://www.weforum.org/agenda/2021/04/global-warming-countries-credit-ratings-economics/> (accessed on 31 May 2021).
- ⁴⁸ Maret, T. (2020), *UK hops on the sovereign green bond bandwagon, at last*, Sciences Po Chair in Sovereign Debt, <https://www.sciencespo.fr/psia/sovereign-debt/2020/11/25/uk-hops-on-the-sovereign-green-bond-bandwagon-at-last/> (accessed on 31 May 2021).
- ⁴⁹ OECD (2017), *Investing in Climate, Investing in Growth*, OECD Publishing, Paris, <https://www.oecd.org/env/cc/g20-climate/> (accessed on 19 July 2021).
- ⁵⁰ Amundi (2021), *Emerging Market Green Bonds – Report 2020*, <https://research-center.amundi.com/article/emerging-market-green-bonds-report-2020> (accessed on 21 July 2021).
- ⁵¹ Amundi (2020), *Facts and Fantasies about the Green Bond Premium*, <https://research-center.amundi.com/article/facts-and-fantasies-about-green-bond-premium> (accessed on 31 May 2021).
- ⁵² Climate Bonds Initiative (2021), *Climate Bonds Releases Green Bond Pricing Report for H2 2020: Greenium increasingly visible including German Sovereign Green Bond*, <https://www.climatebonds.net/resources/press-releases/2021/03/climate-bonds-releases-green-bond-pricing-report-h2-2020-greenium> (accessed on 31 May 2021).
- ⁵³ Climate Bonds Initiative (2021), *Sovereign Green, Social, and Sustainability Bond Survey: The ultimate power to transform the market*, <https://www.climatebonds.net/files/reports/cbi-sovereign-green-social-sustainability-bond-survey-jan2021.pdf> (accessed on 31 May 2021).
- ⁵⁴ Amundi (2020), *Emerging Market Green Bonds Report 2019: Momentum Builds as Nascent Markets Grow*, https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/climate+business/resources/em-gb-report-2019#:~:text=Emerging%20market%20green%20bond%20issuances,and%20where%20there%20is%20potential (accessed 21 July 2021).
- ⁵⁵ Amundi (2020), *Facts and Fantasies about the Green Bond Premium*, <https://research-center.amundi.com/article/facts-and-fantasies-about-green-bond-premium> (accessed on 19 July 2021).
- ⁵⁶ Climate Bonds Initiative (2020), *Green Bond Pricing in the Primary Market*, <https://www.climatebonds.net/resources/reports/green-bond-pricing-primary-market-h2-2020> (accessed on 19 July 2021).

⁵⁷ Climate Bonds Initiative (2020), *Green Bond Pricing in the Primary Market*, <https://www.climatebonds.net/resources/reports/green-bond-pricing-primary-market-h2-2020> (accessed on 19 July 2021).

⁵⁸ IFC (2019), *Emerging Market Green Bonds Report 2019: Momentum Builds as Nascent Markets Grow*, https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/climate+business/resources/em-gb-report-2019 (accessed on 19 July 2021).

⁵⁹ Amundi (2020), *Facts and Fantasies about the Green Bond Premium*, <https://research-center.amundi.com/article/facts-and-fantasies-about-green-bond-premium> (accessed on 19 July 2021).

⁶⁰ Climate Bonds Initiative (2021), *Sovereign Green, Social, and Sustainability Bond Survey: The ultimate power to transform the market*, <https://www.climatebonds.net/files/reports/cbi-sovereign-green-social-sustainability-bond-survey-jan2021.pdf> (accessed on 31 May 2021).

⁶¹ Climate Bonds Initiative (2020), *Sustainable Debt: Global State of the Market*, https://www.climatebonds.net/files/reports/cbi_sd_sotm_2020_04d.pdf (accessed on 31 May 2021).

⁶² PICTET (2021), *Why EM bond investors can no longer ignore ESG*, https://www.am.pictet/en/globalwebsite/global-articles/2021/monthly-market-views/fixed-income/green-and-sustainable-bonds-in-emerging-markets#PAM_Section_1 (accessed on 31 May 2021).

⁶³ PICTET (2021), *Why EM bond investors can no longer ignore ESG*, https://www.am.pictet/en/globalwebsite/global-articles/2021/monthly-market-views/fixed-income/green-and-sustainable-bonds-in-emerging-markets#PAM_Section_1 (accessed on 31 May 2021).

⁶⁴ Barton, M. (2021), *Green and Sustainable Bonds in Emerging Markets*, Funds Society, <https://www.fundsociety.com/en/news/markets/PICT21-green-and-sustainable-bonds-in-emerging-markets> (accessed on 31 May 2021).

⁶⁵ IFC (2016), *Mobilizing Private Climate Finance – Green Bonds and Beyond*, <https://www.ifc.org/wps/wcm/connect/2996f197-a75b-422a-9e2f-cdc022d8ea96/EMCompass+Note+25+Green+Bonds+FINAL+12-5.pdf?MOD=AJPERES&CVID=IzgXSmr#:~:text=The%20first%20green%20bond%20was.energy%20and%20energy%20efficiency%20projects> (accessed on 31 May 2021).

⁶⁶ IFC (2020), *Social Bonds Can Help Mitigate the Economic and Social Effects of the COVID-19 Crisis*, https://www.ifc.org/wps/wcm/connect/ec548185-5e62-4f34-86db-b4d92872cd8e/EMCompass_Note+89-SocialBonds-web.pdf?MOD=AJPERES&CVID=niz4yOT (accessed on 31 May 2021).

⁶⁷ Climate Bonds Initiative (2020), *Sustainable Debt: Global State of the Market*, https://www.climatebonds.net/files/reports/cbi_sd_sotm_2020_04d.pdf (accessed on 31 May 2021).

- ⁶⁸ Climate Bonds Initiative (2020), *Sustainable Debt: Global State of the Market*, https://www.climatebonds.net/files/reports/cbi_sd_sotm_2020_04d.pdf (accessed on 31 May 2021).
- ⁶⁹ Moneim, D. A. (2020), *Q&A with World Bank senior financial officer Concepcion Asia on Egypt's first of its kind sovereign green bonds*, AhramOnline <https://english.ahram.org.eg/NewsContent/3/0/389998/Business/0/QA-with-World-Bank-senior-financial-officer-Concep.aspx> (accessed on 31 May 2021).
- ⁷⁰ IFC (2020), *Green Bond Impact Report Financial Year 2020*, https://www.ifc.org/wps/wcm/connect/5a9405c4-cfeb-42d2-889e-3a6c6eb48a26/IFC+FY20+Green+Bond+Impact+Report_FINAL.pdf?MOD=AJPERES&CID=64TV6 (accessed on 31 May 2021).
- ⁷¹ Riaño, M. A., D. Barchiche (2020), *Financing the 2030 Agenda for Sustainable Development, prerequisites, and opportunities for the post-Covid-19 crisis*, IDDRI, https://www.iddri.org/sites/default/files/PDF/Publications/Catalogue%20Iddri/D%C3%A9cr%C3%A9tation/202005-IB0320-2030%20agenda_0.pdf (accessed on 31 May 2021).
- ⁷² Riaño, M. A., D. Barchiche (2020), *Financing the 2030 Agenda for Sustainable Development, prerequisites, and opportunities for the post-Covid-19 crisis*, IDDRI, https://www.iddri.org/sites/default/files/PDF/Publications/Catalogue%20Iddri/D%C3%A9cr%C3%A9tation/202005-IB0320-2030%20agenda_0.pdf (accessed on 31 May 2021).
- ⁷³ UNDP (2021), *Agreement between UNDP and the Ministry of Finance to better align Eurobonds with SDGs*, <https://www.uz.undp.org/content/uzbekistan/en/home/presscenter/pressreleases/2021/03/undp-and-the-ministry-of-finance-of-the-republic-of-uzbekistan-s.html> (accessed on 31 May 2021).
- ⁷⁴ World Bank (2021), *Debt Service Suspension and COVID-19*, <https://www.worldbank.org/en/news/factsheet/2020/05/11/debt-relief-and-covid-19-coronavirus> (accessed on 31 May 2021).
- ⁷⁵ World Bank (2021), *Debt Service Suspension and COVID-19*, <https://www.worldbank.org/en/news/factsheet/2020/05/11/debt-relief-and-covid-19-coronavirus> (accessed on 31 May 2021).
- ⁷⁶ OECD (2020), *A “debt standstill” for the poorest countries: How much is at stake?*, OECD Publishing, Paris. <https://www.oecd.org/coronavirus/policy-responses/a-debt-standstill-for-the-poorest-countries-how-much-is-at-stake-462eabd8/> (accessed on 31 May 2021).
- ⁷⁷ The World Bank (2021), *COVID-19: Debt Service Suspension Initiative*, <https://www.worldbank.org/en/topic/debt/brief/covid-19-debt-service-suspension-initiative> (accessed on 19 July 2021).
- ⁷⁸ IMF (2020), *The Evolution of Public Debt Vulnerabilities In Lower Income Economies*, <https://www.imf.org/en/Publications/WP/Papers/2020/01/01/The-Evolution-of-Public-Debt-Vulnerabilities-In-Lower-Income-Economies> (accessed on 20 July 2021).
- ⁷⁹ ICMA (2020), *The Sustainability-Linked Bond Principles*, <https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/June-2020/Principles-2020.pdf> (accessed on 31 May 2021).

[2020/Sustainability-Linked-Bond-Principles-June-2020-171120.pdf](#) (accessed on 31 May 2021).

⁸⁰ Uzsoki, D. (2020), *Sustainability-linked bonds: a new way to finance COVID-19 stimulus*, ISSD <https://www.iisd.org/articles/sustainability-linked-bonds> (accessed on 31 May 2021).

⁸¹ Uzsoki, D. (2020), *Sustainability-linked bonds: a new way to finance COVID-19 stimulus*, ISSD <https://www.iisd.org/articles/sustainability-linked-bonds> (accessed on 31 May 2021).

⁸² West, O. (2021), *Uruguay ponders sovereign SLB possibilities after LatAm ESG rush*, Global Capital, <https://www.globalcapital.com/article/b1qmhm1mt8j0x/uruguay-ponders-sovereign-slb-possibilities-after-latam-esg-rush> (accessed on 31 May 2021).

⁸³ Climate Bonds Initiative (2021), *Sovereign Green, Social, and Sustainability Bond Survey: The ultimate power to transform the market*, <https://www.climatebonds.net/files/reports/cbi-sovereign-green-social-sustainability-bond-survey-jan2021.pdf> (accessed on 31 May 2021).

⁸⁴ Amundi (2021), *Emerging Market Green Bonds – Report 2020*, <https://research-center.amundi.com/article/emerging-market-green-bonds-report-2020> (accessed on 31 May 2021).

⁸⁵ Amundi (2021), *Emerging Market Green Bonds – Report 2020*, <https://research-center.amundi.com/article/emerging-market-green-bonds-report-2020> (accessed on 31 May 2021).

⁸⁶ Amundi (2021), *Emerging Market Green Bonds – Report 2020*, <https://research-center.amundi.com/article/emerging-market-green-bonds-report-2020> (accessed on 31 May 2021).

⁸⁷ European Commission, *Sustainability-related disclosure in the financial services sector*, https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/sustainability-related-disclosure-financial-services-sector_en (accessed on 19 July 2021).

⁸⁸ Amundi (2021), *Emerging Market Green Bonds – Report 2020*, <https://research-center.amundi.com/article/emerging-market-green-bonds-report-2020> (accessed on 31 May 2021).

⁸⁹ GuarantCo (2018), *GuarantCo Guarantees First International Corporate Indian Rupee Green Bond in Asia*, <https://guarantco.com/2018/01/02/guarantco-guarantees-first-international-corporate-indian-rupee-green-bond-in-asia/> (accessed on 31 May 2021).

⁹⁰ Basile I., J. Dutra (2019), *Blended Finance Funds and Facilities: 2018 Survey Results*, OECD Development Co-operation Working Papers, No. 59, OECD Publishing, Paris, <https://doi.org/10.1787/806991a2-en> (accessed on 31 May 2021).

⁹¹ Climate Bonds Initiative (2020), *ASEAN Sustainable Finance: State of the Market 2020*, <https://www.climatebonds.net/files/reports/asean-sotm-2020.pdf> (accessed on 31 May 2021).

- ⁹² ADB (2015), *Implementation of the Asean+3 multi-currency bond issuance framework*, <https://www.adb.org/sites/default/files/publication/173257/implementation-ambif-sf1-p3.pdf> (accessed on 31 May 2021).
- ⁹³ IMF(2021), *Guidance Note For Developing Government Local Currency Bond Markets*, <https://www.imf.org/en/Publications/analytical-notes/Issues/2021/03/17/Guidance-Note-For-Developing-Government-Local-Currency-Bond-Markets-50256> (accessed on 30 July 2021).
- ⁹⁴ ADB (2014), *Green City Action Plan: A Framework for GrEEEn Action*, <https://www.adb.org/sites/default/files/related/41571/imt-gt-green-city-action-plan-melaka-april-2014.pdf> (accessed on 31 May 2021).
- ⁹⁵ ADB, *Overview: ASEAN Catalytic Green Finance Facility (ACGF)*, <https://www.adb.org/what-we-do/funds/asean-catalytic-green-finance-facility/overview> (accessed on 31 May 2021).
- ⁹⁶ ADB, *Overview: ASEAN Catalytic Green Finance Facility (ACGF)*, <https://www.adb.org/what-we-do/funds/asean-catalytic-green-finance-facility/overview> (accessed on 31 May 2021).
- ⁹⁷ ADB, *Overview: ASEAN Catalytic Green Finance Facility (ACGF)*, <https://www.adb.org/what-we-do/funds/asean-catalytic-green-finance-facility/overview> (accessed on 31 May 2021).
- ⁹⁸ Climate Bonds Initiative (2017), *Green Securitisation: unlocking finance for small-scale low carbon projects*, https://www.climatebonds.net/files/files/March17_CBI_Briefing_Green_Securisation.pdf (accessed on 31 May 2021).
- ⁹⁹ Climate Bond Initiative (2018), *Green Securitisation: Unlocking finance for small-scale low carbon projects*, https://www.climatebonds.net/files/reports/green_securitisation_cbi_conference_final.pdf (accessed on 31 May 2021).
- ¹⁰⁰ Symbiotics (2021), *Symbiotics won the Award for innovation – bond structure (green bond) category in Environmental Finance’s 2021 Bond Awards*, <https://symbioticsgroup.com/news/symbiotics-won-the-award-for-innovation-bond-structure-green-bond-category-in-environmental-finance-2021-bond-awards/> (accessed on 19 July 2021).
- ¹⁰¹ Plumseeds, *Investing in impact bonds and notes*, <https://www.plumseeds.com/how-we-work> (accessed on 19 July 2021).
- ¹⁰² Environmental Finance (2021), *Award for innovation – bond structure (green bond): Symbiotics*, [https://www.environmental-finance.com/content/awards/winners/award-for-innovation-bond-structure-\(green-bond\)-symbiotics.html](https://www.environmental-finance.com/content/awards/winners/award-for-innovation-bond-structure-(green-bond)-symbiotics.html) (accessed on 19 July 2021).
- ¹⁰³ Climate Bond Initiative (2021), *Post-issuance reporting in the green bond market*, https://www.climatebonds.net/files/reports/cbi_post_issuance_2021_02c.pdf (accessed on 31 May 2021).

- ¹⁰⁴ Environmental Finance (2020), *Green bond funds take varied approach to impact reporting*, <https://www.environmental-finance.com/content/analysis/green-bond-funds-take-varied-approach-to-impact-reporting.html> (accessed on 19 July 2021).
- ¹⁰⁵ UNDP (2020), *Pioneering the Green Sukuk in Indonesia*, <https://www.undp.org/stories/pioneering-green-sukuk-indonesia> (accessed on 19 July 2021).
- ¹⁰⁶ Climate Bonds Initiative (2019), *Unlocking green bonds in Indonesia: a guide for issuers, regulators and investors*, <https://www.climatebonds.net/files/reports/climate-bonds-indo-barriers-20191219.pdf> (accessed on 19 July 2021).
- ¹⁰⁷ Yakovlev I. A. and S. I. Nikulina (2019), Indonesia's Strategy for Sustainable Finance, *Financial Journal*, No. 6, [Sample-Article.pdf \(finjournal-nifi.ru\)](#) (accessed on 19 July 2021).
- ¹⁰⁸ Climate Bonds Initiative (2019), *Unlocking green bonds in Indonesia: a guide for issuers, regulators and investors*, <https://www.climatebonds.net/files/reports/climate-bonds-indo-barriers-20191219.pdf> (accessed on 19 July 2021).
- ¹⁰⁹ Yakovlev I. A. and S. I. Nikulina (2019), Indonesia's Strategy for Sustainable Finance, *Financial Journal*, No. 6, [Sample-Article.pdf \(finjournal-nifi.ru\)](#) (accessed on 19 July 2021).
- ¹¹⁰ The World Bank (2018), *Opinion: PT SME Supports Sustainable Development by Issuing the First Corporate Green Bond in Indonesia*, <https://www.worldbank.org/en/news/opinion/2018/07/09/pt-smi-supports-sustainable-development-by-issuing-the-first-green-bond-in-indonesia> (accessed on 19 July 2021).
- ¹¹¹ Ministry of Finance of Republic of Indonesia (2020), *Green Skuk : Allocation and Impact Report*, <https://pea4sdgs.org/sites/default/files/2020-08/Green%20Sukuk%20Report%202020%20%282%29.pdf> (accessed on 19 July 2021).
- ¹¹² Ministry of Finance of Republic of Indonesia (2020), *Green Skuk : Allocation and Impact Report*, <https://pea4sdgs.org/sites/default/files/2020-08/Green%20Sukuk%20Report%202020%20%282%29.pdf> (accessed on 19 July 2021).
- ¹¹³ Amundi (2021), *Emerging Market Green Bonds – Report 2020*, <https://research-center.amundi.com/article/emerging-market-green-bonds-report-2020> (accessed on 31 May 2021).