The Green Bond

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SEB Green Bonds Website

Letter to the Reader

"It is with great gratitude towards our initial investors, Skandia Life, AP2, AP3 and LF Life, and all the more than 800 of our investors following the initial transaction, that we look back on a decade of extremely insightful, meaningful and encouraging 10 years of Green Bonds.

On November 5th 2008, a transaction of SEK 2,350 billion was done as The World Bank issued its first Green Bond, following what later became the Green Bond Principles."

(Continues, pg. 2)

Christopher Flensborg
Head of Climate & Sustainable Finance, SEB

Executive Summary

At the end of October 2018, issuance in the green bond market YTD had reached **USD 131 bn**, a figure notable for being almost precisely the same quantity as issued last year over the same period, but also significantly below the potential we saw for 2018. The market surpassed the symbolic **USD 500 bn** mark in 3Q18, with cumulative issuance standing at USD 525 billion YTD.

A summer slowdown, along with a decreasing growth rate overall for the green bond market (from its nearly exponential last few years) has extended through to the autumn, with **USD 30 bn** issued in **3Q** down 30% and October at **USD 15 bn** down 15% YoY. As discussed previously, this trend has its roots interwoven in a number of macro and financial sector dynamics, most of which have little to do with green.

As the green bond market increasingly enters the **mainstream**, it integrates closer into the overall bond market, which has slowed throughout 2018, linked to volatile and erratic market conditions. However, there are a number of areas within the green bond market that can clearly be pointed to where issuance is down significantly and can be attributable to related or separate factors.

In **China**, green bond issuance has fallen by 30% YoY, although over the last two years the bulk of issuance has occurred in 4Q. In terms of sectors, **agencies** and **municipalities** appear to have green infrastructure project pipelines that are in need of replenishing; and for **non-financial sector corporates,** specifically in the U.S., green bond uptake has been underwhelming compared to the vast potential for this class of issuer.

Conversely, there a number of areas of genuine dynamism so far this year, in particular the contributions made by **sovereigns** (USD 18 bn/+87% YoY), **financial sector issuers** (USD 37 bn/+45% YoY)**, supranationals** (as The World Bank celebrates its 10 Year Green Bond Anniversary) and **European issuers as a** whole across sectors (+35% compared to -5% for all EU bonds YoY) and in EUR (+21% compared to -7% for all EUR bonds YoY). And on a handful of volatile market instances in October green managed to support the entire primary bond market.

Although a solid pipeline of deals remained for 4Q, or later (see **Section 4**), including some potentially gargantuan programs, we retain our view from January that the market will have a year of healthy consolidation and assign a greater probability to the market **moving sideways in 2018** with issuance levels more on par with the **USD 173 bn** seen in 2017.

When viewed alongside **social** and **sustainability** bonds, which have emerged in force in 2018 with **USD 20 bn** issued YTD, the combined market for these labelled *sustainable bonds* has exceeded **USD 150 bn** of issuance YTD, growing the stock of such issuance to **USD 580 bn**. Taking into account these new cousins of the green bond, we expect the overall sustainable bond market to feature growth this year.

We are **hawkish** in terms of 2019 and medium-to-long-term prospects on account of a growing refinancing backlog joining up with a powerful constitution of underlying green infrastructure investment dynamics on both risk and opportunity sides of the equation (explored in **Section 2**).

SEB Climate & Sustainable Finance Review

Guest contributors welcomed in this edition:

SEB's **Marie Baumgarts,** FAQ on the EC Sustainable Finance Green Bond Standard;

Vasakronan, issues the world's first use of proceeds based Green Commercial Paper;

International Finance Corporation (IFC) on new principles for impact investing

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Letter to the Reader (full text):

It is with great gratitude towards our initial investors, Skandia Life, AP2, AP3 and LF Life, and all the more than 800 of our investors following the initial transaction, that we look back on a decade of extremely insightful, meaningful and encouraging 10 years of Green Bonds.

On November 5th 2008, a transaction of SEK 2,350 billion was done as The World Bank issued its first Green Bond, following what later became the Green Bond Principles. It was a product of a reverse inquiry, developed through collaboration between the four investors, SEB and The World Bank, with the aim of enabling a traditional Fixed Income institutional investor mandate to deploy capital in its mainstream bond mandates for a Climate Purpose.

In establishing a structural process on how traditional financial mandates could (and should) allocate capital to support how we build societies and following up through years of interaction with investors, The World Bank has become a cornerstone in establishing what we today know as The Green bond market.

At SEB, we are grateful for having had the possibility to work together with our clients and through their skills learn about the challenges they face, and the solutions they bring – to enable capital markets to play a role, not only as a facilitation for liquidity, but more importantly, as a filter for long-term financial and stability risk.

Our latest numbers are indicating that for the first time ever we may see a small set back in Green Bond issuance this year and this should not only be seen as a reflection of the overall market. We see three additional sources for the slowing growth rate, 1) China 2) Municipalities and Agencies and 3) Green Project Pipeline.

Despite the fact that we had we expected 2018 to be a year of consolidation we still expected a small amount of growth, which looks less likely to occur now. However, we have been involved in a number of client work-streams with the aim of increasing the supply of Green assets and, hence, we can expect efforts like these to enable much more issuance in 2019.

Importantly, it is worth highlighting that European issuance and financial institutions issuance are very strong this year, a trend we expect to continue. This is an indication that the structural work done by the EU Commission is actually working as an underlying supporting factor - so if the EC manages to keep up the speed and deliver guidelines, keeping the momentum, the outlook for Europe is very positive!

The market that currently offers the highest unexplored potential seems to be the U.S., so we expect a lot of news from that market throughout 2019.

As a special contribution today we have Vasakronan who has been the first issuer to follow the Green Bond Principles to issue commercial paper, as well as the IFC on draft principles for impact investing.

Enjoy your reading,

Christopher Flensborg

Head of Climate & Sustainable Finance, SEB

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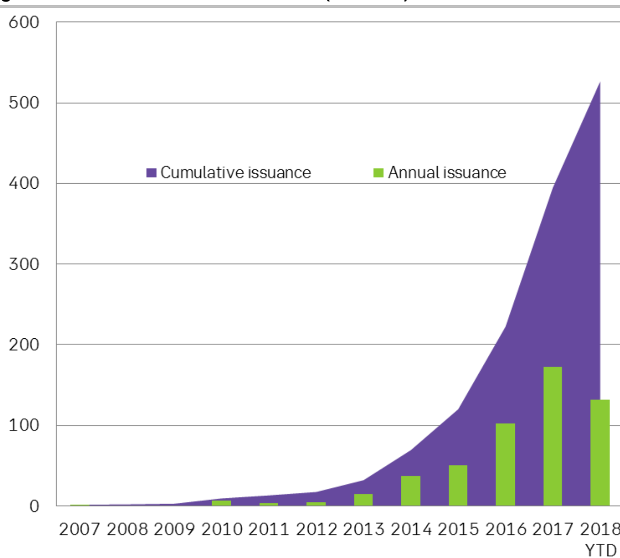
1. Green Bond Market Review and 2018 Outlook

Christopher R. Kaminker, PhD
Head of Research, Climate & Sustainable Finance; Senior Advisor, Large Corporates & Financial Institutions

At the end of October 2018, issuance in the green bond market Year-to-Date (YTD)[1] had reached **USD 131 billion**, a figure notable for being almost precisely the same quantity as issued last year over the same period (-0.3%). This apparent coincidence should be taken with a grain of salt, since this figure is very likely to be revised upwards, as it takes some time for the full volume of green bonds issued to be catalogued (in particular domestic issuance in China and securitisations, but also project bonds and increasingly, private placements).[2] The market also surpassed the symbolic **USD 500 billion** mark in 3Q18, with cumulative issuance standing at USD 525 billion at the beginning of November (Figure 1).

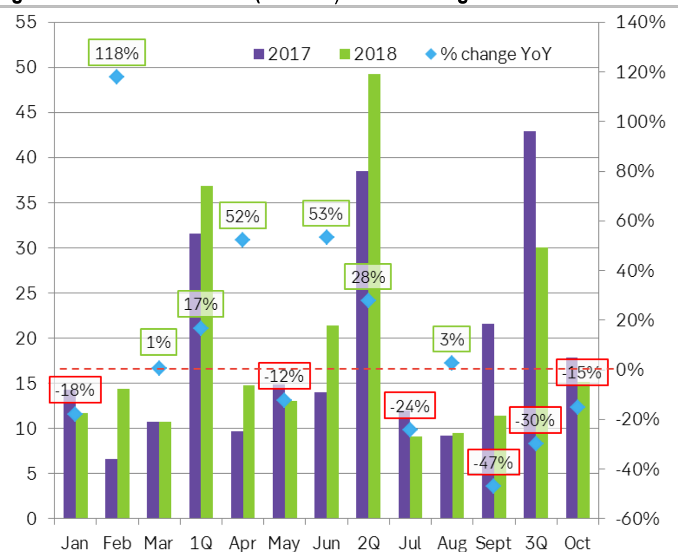
The more salient takeaway from the statistics is that the summer slowdown, along with the decreasing growth rate overall for the green bond market (from its nearly exponential last few years) has extended through to the autumn, with **USD 30.1 billion** issued in **3Q** coming in down 30% and October at **USD 15 billion** down 15% YoY (Figure 2). As discussed previously, this trend has its roots interwoven in a number of macro and financial sector dynamics, most of which have little to do with green finance.

Figure 1. Total Cumulative Issuance (USD Bn)



Source: SEB analysis based on Bloomberg and SEB data

Figure 2. Periodic issuance (USD Bn) and % change YoY



Source: SEB analysis based on Bloomberg and SEB data

As the green bond market increasingly enters the mainstream (although still making up only 0.2% of all bond issuance YTD), it integrates closer into the overall bond market which has slowed throughout 2018 linked to especially volatile and erratic market conditions, macroeconomic and geopolitical plights, downside scares, and of course the global "Red October" equities market rout that also affected other asset classes including fixed income. On the back of a weak 3Q18, global bond markets started to see signs of exhaustion, and saw deal flow in the first 9 months of the year drop to a 9-year low of 16,217 transactions according to Dealogic. Though volume of USD 5.24 trillion ranked well compared to other years this decade, it has tapered off significantly from issuance in the last two years. Global bond sales in 3Q18 declined sharply to USD 1.49 trillion, with moderate market activity over the summer and low deal activity in September.

A rising interest rate environment (USD 3M Libor has risen by over 100 bps in the last year alone) is a closely-watched area for any bond issuer and project-side actor although evidence of any meaningful impact on green project pipelines remains elusive. At the same time, there were several occasions in recent months where green bonds actually contributed to keep the overall primary market open as stocks sold off around the world, with there being one

[1] Henceforth, YTD will refer to the period of 1 January 2018 – 31 October 2018
[2] SEB uses Bloomberg (BNEF) data that includes self-labelled green bonds as well as those tagged by Bloomberg as green bonds. For methodologies used to qualify green bonds, see Bloomberg (2018) *Guide to Green Bonds on the Bloomberg Terminal*. Asset-level bonds, schuldscheine and private placements are included and pure plays excluded. The data are supplemented by SEB from other sources to provide a more current assessment of issuance, since there is a lag for some green bonds being uploaded to the Bloomberg Terminal.

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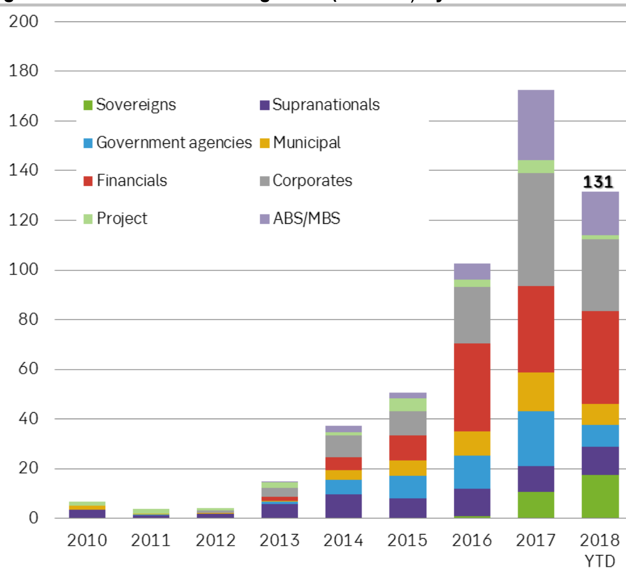
particularly tough day in October where there were actually more green bonds out in the primary market than traditional bonds.[3]

However, there are a number of areas within the green bond market that can clearly be pointed to where issuance is down significantly when compared Year-over-Year (YoY) and can be attributable to related or separate factors. In **China**, green bond issuance has fallen by 30% YoY, although over the last two years the bulk of issuance has occurred in 4Q and with a strong pipeline as well as data coverage backlog, figures may yet pick up this year. In terms of sectors, **agencies** and **municipalities** appear to have green infrastructure project pipelines that are in need of replenishing; and for **non-financial sector corporates,** specifically in the U.S., green bond uptake has been underwhelming compared to the vast potential for this class of issuer.

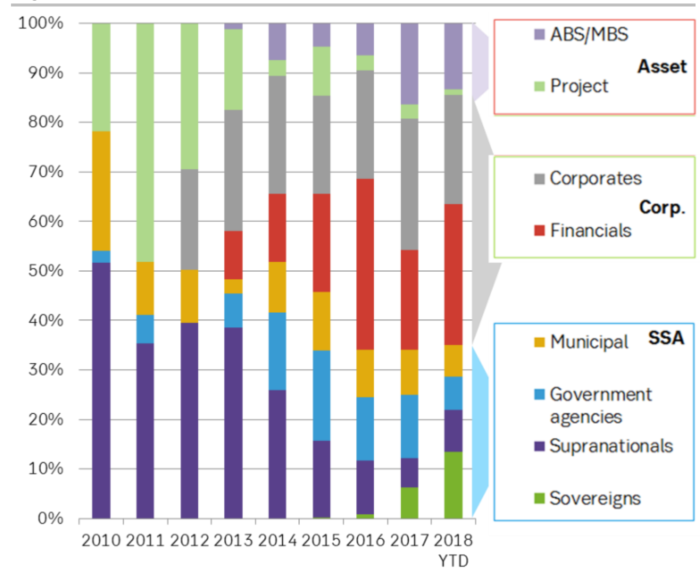
Conversely as can be seen in Figures 3 and 4 there a number of areas of genuine dynamism so far this year that have carried the market, in particular the contributions made by **sovereigns** (USD 18 bn/+87% YoY), **financial sector issuers** (USD 37 bn/+45% YoY)**, supranationals** (as The World Bank celebrates its 10 Year Green Bond Anniversary) and **European issuers** as a whole across sectors (+35% compared to -5% for all EU bonds YoY) and all issuers bringing Euro bonds (+21% compared to -7% for all EUR bonds YoY). It is these entwined trends that have led to the serrated temporal picture seen in Figure 2 that has become increasingly familiar to market participants in 2018.

Figure 3. Green bond market growth (USD Bn) by sector



Source: SEB analysis based on Bloomberg and SEB data.

Figure 4. Sectoral evolution (% share of annual issuance)



Source: SEB analysis based on Bloomberg and SEB data. SSA: Sovereign, sub-sovereign (municipal/regional), Supranational and Agency.

In our January green bond market outlook, we posited that prospects for 2018 can be expected to be balanced by issuers and investors taking time to absorb the impressive acceleration that has occurred in the market to date, while calibrating their strategies and also considering opportunities via emergent social and sustainability bond financing channels (Figures 5 and 6). As such, we expected that 2018 would be a year of "healthy consolidation with more modest growth, and potential to surprise to the upside".

This was reflected in our base-case scenario showing the market having the potential to grow by 12% YoY to USD 185 billion in 2018. While this potential remains, given the status quo, our view is more dovish for issuance prospects into the winter. Unless there are unexpected geographic or sectoral swings with new large scale issuers coming to market, and some are announced but with uncertain timing in the Sustainable Bond Pipeline (Section 3), it looks more likely that the first part of our expectations will be met in terms of a year of healthy consolidation. However, issuance levels will likely struggle to achieve our base-case scenario, let alone surprise to the upside. As such, we see a greater probability that the market will "move sideways" in 2018 with issuance levels more on par with the USD 173 billion seen in 2017.

[3] See for instance Bloomberg Story {NSN PGF91W6S9729 <GO>}

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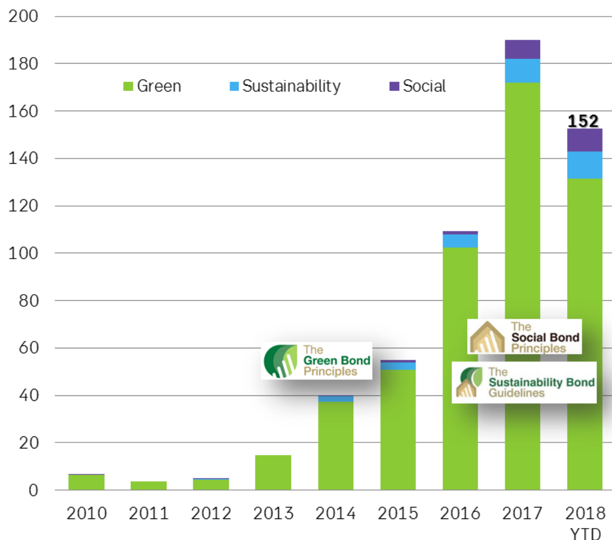
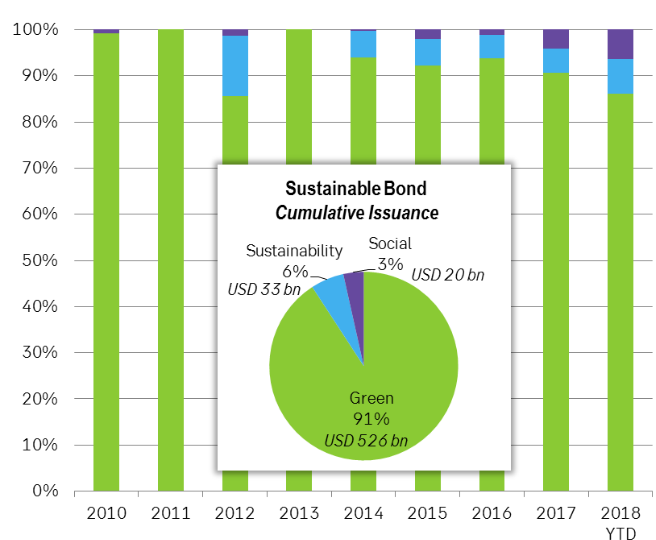
Figure 5. Sustainable Bond issuance by type (USD Bn)



Source: SEB analysis based on Bloomberg and SEB data.

Figure 6. Sustainable Bond issuance by type (% Share)



Source: SEB analysis based on Bloomberg and SEB data.

When viewed alongside social bonds and sustainability bonds, which have emerged in force since the adoption of the UN Sustainable Development Goals and critically, the elaboration of the Social Bond Principles[4] and Sustainability Guidelines last summer (as seen in Figures 3 and 4) the combined market for these three types of labelled sustainable bonds has exceeded USD 150 billion of issuance YTD growing the stock of such cumulative issuance to USD 580 billion. Sustainability bonds have added USD 11.5 billion and social bonds USD 9.5 billion to claim a combined 15% market share YTD (and 9% out of cumulative issuance). Taking into account these new cousins of the green bond, which we believe are largely additive in the sense that they do not necessarily subtract from green bond volumes, we still expect the overall sustainable bond market to feature growth in 2018. As an exemplar of this trend, as well as market action around the EC's Sustainable Finance Agenda, the **EIB** launched its inaugural **Sustainability Awareness Bond**, where SEB was honoured to act as Joint Lead Manager.

We view 2018 as a year of healthy consolidation because we are hawkish in terms of 2019 and medium-to-long-term prospects on account of a growing refinancing backlog and associated pressure, joining up with a powerful constitution of underlying green infrastructure investment dynamics on both risk and opportunity sides of the equation, as well as supportive policy attention (explored in the next pages). Combined, these underpinnings look set to bolster green (as well as social and sustainability) bond issuance in 2019 as issuers across sectors find greater supply sustainable infrastructure projects on their balance sheets.

In October, renewable energy continued to be the largest use of proceeds allocation for reporting issuers at 35%. Volumes allocated to sustainable transport were boosted to 30% thanks to three deals: Societe du Grand Paris will use proceeds to finance the first stage of a long term upgrade to urban over ground lines in Paris, ALD SA (Germany) for electric vehicles and Sichuan Railway Investment (China) for intercity rail.[5]

2. Update on drivers of green infrastructure investment & green bond financing

As a vivid illustration of some of the green infrastructure investment drivers from a technological perspective, BNEF released its New Energy Outlook[6] that sees cheap renewable energy and batteries fundamentally reshaping the electricity system from one dominated (two-thirds) by fossil fuels in 2017 to two-thirds renewable energy by 2050 (shown in Figure 7). BNEF's outlook projects that between 2017-2050 79% of new generating capacity will be renewable and 81% zero-carbon, with solar PV seeing a 17-fold increase and wind a six-fold increase.

[4] https://www.icmagroup.org/green-social-and-sustainability-bonds/social-bond-principles-sbp/
[5] CBI data (October 2018)
[6] https://about.bnef.com/new-energy-outlook/

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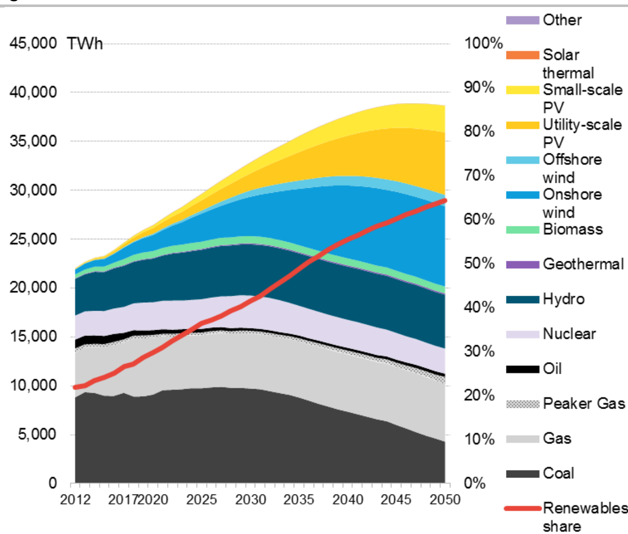
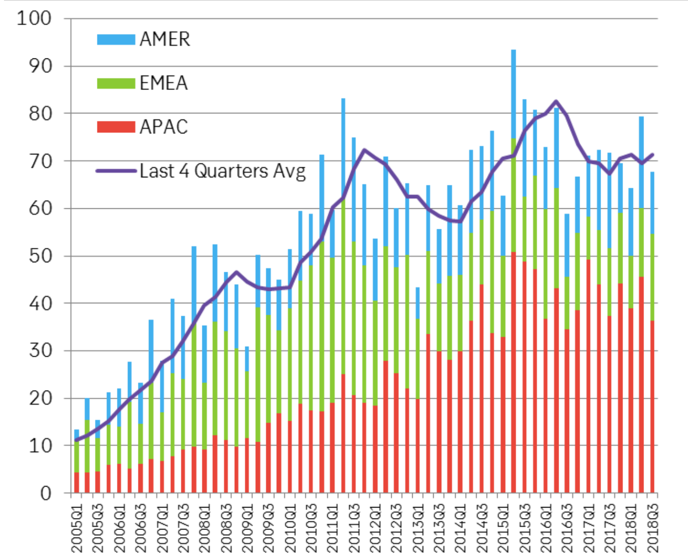
Figure 7. BNEF Outlook Power Generation shifts to 2050



Source: BNEF New Energy Outlook (2018)

Figure 8. Quarterly investment in Clean Energy (USD Bn)



Source: SEB analysis based on BNEF data

Underpinning these projections are ongoing cost declines in solar and wind technology. BNEF finds already that solar PV and wind are cheaper options than building new large-scale coal and gas plants in major markets. These markets include India, Germany, Australia, U.S. and China. By 2030, BNEF sees this ‘tipping point’ being reached almost everywhere on the planet. New wind and solar are getting cheaper to run than running existing coal or gas plants. In China, this second tipping point will occur for coal in around 2028. In the U.S., it will occur for existing gas-fired power from 2027. Batteries are seen as key to completing the ‘triumvirate’ of new technologies that will transform the electricity sector over the next 33 years. BNEF reports battery prices are already down 79% since 2010 and expects the ongoing build-out of battery manufacturing for electric vehicles to continue to drive down the price of batteries for stationary applications, reaching USD 70/kWh by 2030, some 67% down from today.

Also in October, the Intergovernmental Panel on Climate Change (IPCC) released its dramatic Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emissions pathway. The report also examined the issue of finance, and found that in order to meet a 1.5°C scenario, the world must invest USD 2.4 trillion in clean energy every year until 2035 and cut the use of coal-fired power to almost zero by 2050 (IPCC, 2018). The USD 2.4 trillion needed annually until 2035 is almost a sevenfold increase from the USD 333.5 billion Bloomberg NEF estimated was invested in clean energy last year (Figure 8).

Another development is that the credit ratings agencies have been studying the financial characteristics of green infrastructure. S&P finds, over the longer term, that infrastructure assets show a lower likelihood of default and higher ratings stability than other non-financial corporates. As shown in Figure 9, Moody’s released a study based on use-of-proceeds eligibility criteria under the Green Bond Principles and found on aggregate that green use-of-proceeds project finance bank loans (such as the type that are financed via green bonds) experienced a lower default rate than non-green use-of-proceeds project loans. The 10-year cumulative default rate (Basel II) for green projects within the total infrastructure basket studied is 5.7%, lower than that of 8.5% for non-green projects, with recovery rates being similar for both green and non-green projects in their study.[7]

[7] Moody’s Investors Service (2018), Default and recovery rates for project finance bank loans, 1983-2016: Green projects demonstrate lower default risk

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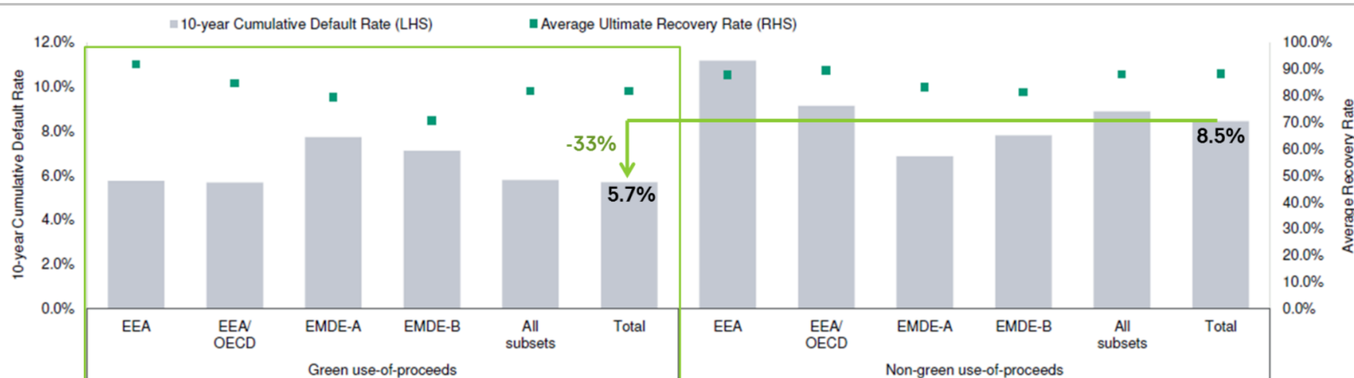
Figure 9. Cumulative default rates and recovery rates: Green and non-green use-of-proceeds subsets



Notes: Illustration for emphasis in green done by SEB

Source: Moody's Investor Service (2018) citing Data Alliance Project Finance Data Consortium

Another dynamic on the risk side of the equation that is becoming more apparent is the ongoing integration of material environmental and climate-related risk factors into fixed income markets. Over the past year, the major credit rating agencies have been undertaking new research in this area and are articulating their approaches and views.

While the previous edition of this publication featured the work of S&P Global on this topic[8], Moody's has recently released a new piece of research in this space. In an update to a 2015 study, Moody's presents a "global heat map" that dissects the environmental risk exposure of 84 industry sectors, representing USD 74.6 trillion in rated debt (up 10% from 2015).

As shown in Figure 10, the study finds that eleven sectors with USD 2.2 trillion in rated debt have elevated credit exposure to environmental risks.[9] These sectors have clear exposure to environmental risks that are either already material to credit quality or could be over the next three to five years. Coal mining and coal terminals, and unregulated utilities and power companies (with total outstanding rated debt of $517 billion) have already experienced material credit pressure as a result of environmental risks.

Nine sectors are categorized as "Elevated Risk - Emerging," accounting for USD 1.7 trillion in rated debt. They include automotive manufacturers, building materials, commodity chemicals, independent oil and gas exploration and production, oil and gas refining and marketing, mining, steel, shipping, and surface transportation and logistics. The last two represent new additions to the "Elevated Risk - Emerging" category, as they were scored as "Moderate Risk" in the 2015 report. All of these sectors exhibit clear exposure to environmental risks that could be material to credit quality within the next three to five years.

For 22 sectors with USD 10.1 trillion in rated debt, Moody's identifies some exposure to environmental risks. However, there is less certainty that these risks will develop in a way that is material to ratings for most issuers in the sector, or there is a longer runway for issuers to adjust business models and balance sheets to substantially mitigate the overall credit impact. Developing economy sovereigns (USD 5.2 trillion), manufacturing (USD 1.2 trillion), integrated oil and gas companies (USD 714 billion), and regulated electric and gas utilities with generation (USD 673 billion) are the four largest sectors that face moderate risks.

[8] Williams, J., Wilkins, M., Kernan, P., De la Gorce, N., Poignant, N., Burks, B. (2018) How Environmental And Climate Risks And Opportunities Factor Into Global Corporate Ratings - An Update.
[9] Moody's Investor Service (2018), Heat map: 11 sectors with $2.2 trillion debt have elevated environmental risk exposure

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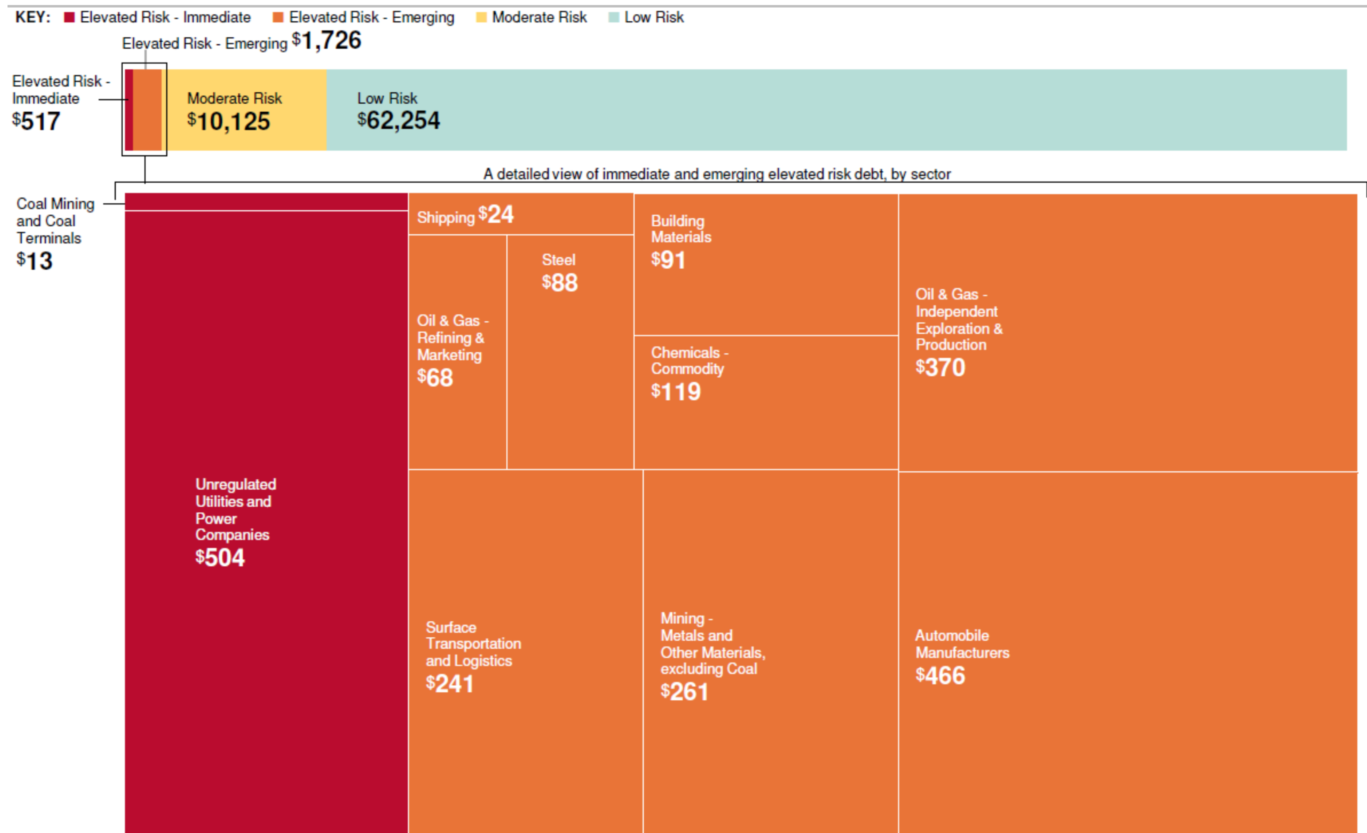
Figure 10. Eleven sectors with USD 2.2 trillion in rated debt have elevated credit exposure to environmental risks



Notes: Boxes are sized relative to the value of rated debt (in USD billion) and color indicated for overall credit exposure

Source: Moody's Investor Service (2018)

Very notably, central banks and prudential regulators have also intensified their work on these topics recently. The **Central Banks and Supervisors Network for Greening the Financial System (NGFS)** was co-founded by eight central banks and supervisors last year and has now accumulated over 20 members and observers. The key messages of its first progress report[10] released in October were the following:

1. *NGFS Members acknowledge that climate-related risks are a source of financial risk. It is therefore within the mandates of Central Banks and Supervisors to ensure the financial system is resilient to these risks.*
2. *Some NGFS members have extended their analysis to broader environmental risks finding that these are a source of financial risk as well.*
3. *Central Banks and Supervisors, as well as financial institutions, are deepening their understanding of these risks and the need for an improved approach. The tools and methodologies, however, are still at an early stage and there are a number of analytical challenges.*
4. *Central Banks and Supervisors, as well as financial institutions, need to develop new analytical and supervisory approaches, including those based on forward looking scenario analysis and stress tests.*

At the end of September, the Bank of England released a landmark report[11] examining the financial risks from climate change that impact UK banks, building societies and Prudential Regulation Authority (PRA)-designated investment firms. The report surveyed 90% of the UK banking sector representing over GBP 11 trillion in assets and found that 70% of banks recognise that climate change poses financial risks. These firms have begun considering the most immediate physical risks to their business models – for example the exposure to mortgages on homes that are at risk of flooding, or the exposure of their investment in countries that could be impacted by extreme weather events. And they have started to assess how the

[10] https://www.banque-france.fr/en/financial-stability/international-role/network-greening-financial-system/publications
[11] https://www.bankofengland.co.uk/news/2018/september/transition-in-thinking-the-impact-of-climate-change-on-the-uk-banking-sector

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transition to a low-carbon economy, driven for example by government policy and technological change, may impact the business models of the companies that banks are exposed to. However, only 10% were found to manage these risks comprehensively and take a long-term strategic view of the risks. 30% of banks still only consider climate change as a corporate social responsibility issue.

Furthermore, the report finds that physical and transition risks from climate change have financial risk implications, some of which are already materialising and that physical and transition risks materialise into increasing credit, market and operational risks that can impact the safety and soundness of the UK banking sector. Alongside the report, the PRA announced that it will publish a consultation on its supervisory expectations for banks and insurers and that the Financial Policy Committee will also consider the system-wide financial risks from climate change, and will explore whether climate-related factors should be included in a future Biennial Exploratory Scenarios (BES) stress test.

3. Green bond market evolution by geography and sector

With this coterie of drivers as a backdrop, the green bond market has continued its fruitful quest of sectoral maturation and diversification into October with over 80 issuers from 26 geographies, and over 50 new market entrants pushing the total number of green bond issuers in excess of 500. Over 80% of issuance in October came in USD 500+ benchmark format; another positive sign.

From a geographic perspective, activity in the green bond market is broad and dispersed; with 43 jurisdictions[12] (excluding Supranationals) featuring green bond issuance in 2018, compared to 42 in 2017 (and 53 in total since 2007. As exhibited in Figure 12, the center of gravity for the market resumed its pronounced shift towards **Europe** in 2018 up by 36% YoY. Europe accounts for USD 57 billion of YTD issuance (or 44%) compared to USD 42 billion (32%) YoY.

An analysis of moving Last Twelve Months (LTM) of green bond issuance shown in Figure 11 visualises how while cumulative LTM figures for the whole market peaked in June at USD 188 billion before falling down to USD 172 billion. The geographic linkages are clear when comparing with Figure 12, which shows how Chinese LTM numbers have dropped by almost USD 10 billion from their peak at USD 34 billion and North American LTM numbers have also declined, by almost USD 12 billion.

Market support has instead come from Europe, Asia-ex China and Supranationals with positive growth LTM trajectories. Europe has been the clear star with LTM numbers rising continuously over the last two years to reach USD 73 billion, helped considerably by the Nordics which have almost tripled their contribution since October 2017 to USD 16 billion.

This shift driven by European corporates, financial institutions and sovereigns, has been underway alongside increasing policy attention; as the European Commission adopted its sweeping Action Plan on Sustainable Finance and the Technical Expert Group on Sustainable Finance (TEG) has embarked on making proposals in relation to the priorities of its Action Plan on sustainable finance. While a counterfactual is indefinable, it appears that the work of the EC has supported green bond market confidence for both issuers and investors, and with continued transparency on the timeline and contents, appears set to be an enduring driver of positive momentum for the European market. Marie Baumgarts who represents SEB on the EC TEG provides an update on its work in this edition focusing on an FAQ on the formative EU green bond standard.

[12] Classified by Ultimate Parent Country of Risk.

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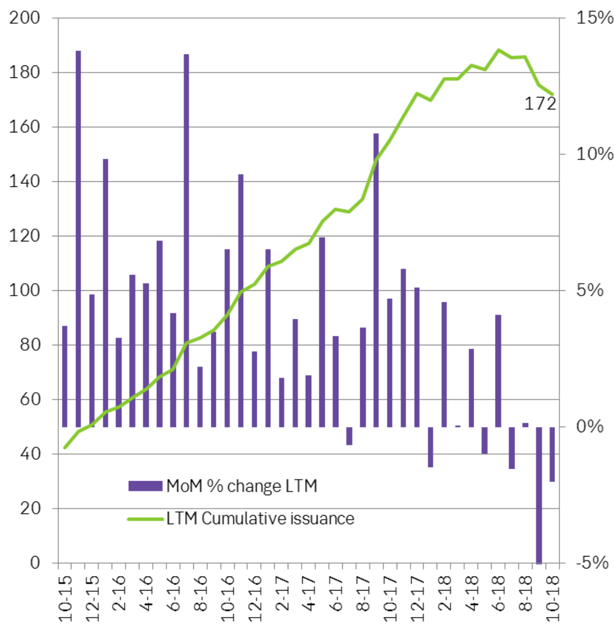
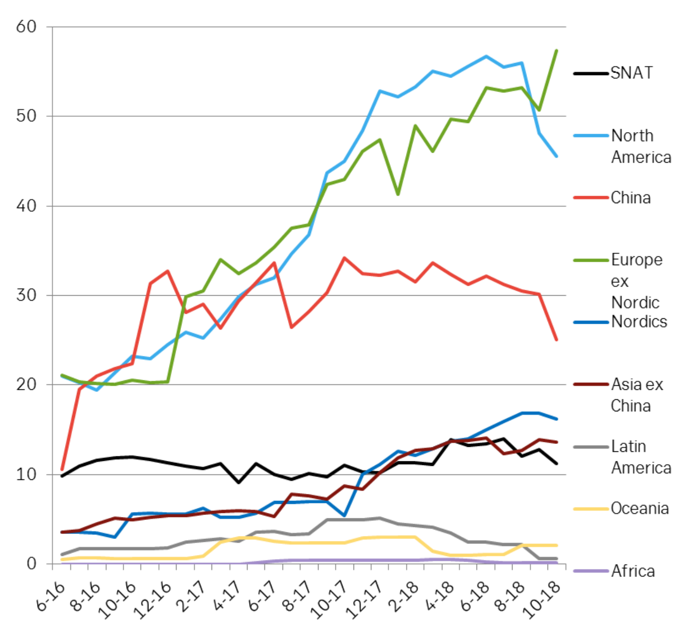
Figure 11. Last Twelve Months Analysis / % change (USD Bn)



Source: SEB analysis based on Bloomberg and SEB data

Figure 12. Last Twelve Months Analysis by Region (USD Bn)



Source: SEB analysis based on Bloomberg and SEB data.

In terms of country rank (Figure 13) the Top 5 are in precisely the same order as last year but almost all are down by double digit YoY percentage change figures. This is a sharp contrast from the next 10, who are almost all up by double digits, with several triple and even a quadruple digit. Ireland and Belgium both leap into the top 15 on the strength of their inaugural sovereign green bonds alone.

With USD 28 billion of issuance YTD the United States rested in familiar first place which it had held all throughout 2017; however issuance levels were down 14% YoY. As usual, green securitisations from five issuers account for 60% of US issuance; with Fannie Mae cataloguing their market leading USD 15 billion of green MBS issued through 3Q18.

In October, SEB again had the honour to act as Co-manager and Green structural advisor when Fannie Mae successfully issued a Green Guaranteed Multifamily Structure (GeMS) mortgage-backed security. This was the eighth GeMS offering with tranches backed by Green MBS from Fannie Mae's Green Financing business and the first Green GeMS backed by 12-year, fixed-rate collateral which expanded the diversity of Fannie Mae's green structured offerings for socially responsible investors and demonstrated the flexibility of the DUS program. The 50 Green MBS behind the security came from their Green Rewards program; where the borrowers of those loans commit to making energy or water efficiency improvements to their buildings, reducing their operating costs, the utility costs for their tenants, and ultimately their apartment's greenhouse gas emissions.

The remainder of the U.S. market came from the corporate bond market (USD 5.5 billion from 7 issuers) and USD 4.6 billion from 31 individual municipal entities, including San Francisco PUC, California Infrastructure & Economic Development Bank, New York MTA and D.C. Water.

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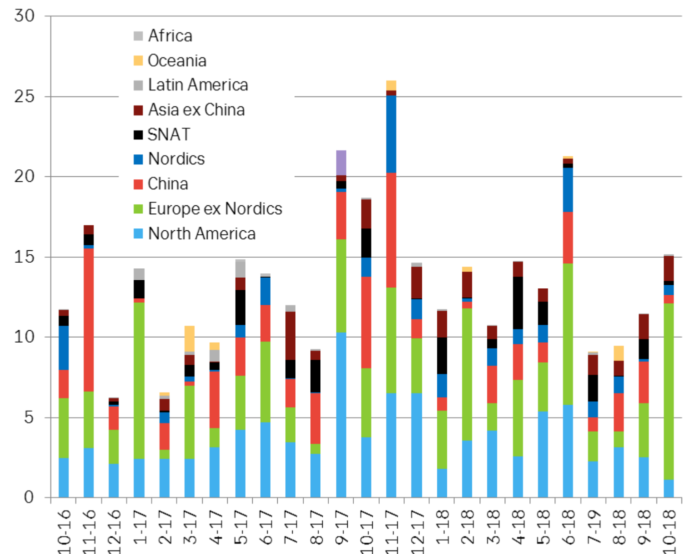
Figure 13. Top 15 geography by issuance in 2018, incl. Supras

Rank	Geography	YTD 10/2018 ($ Bn)	Rank Change YoY	Issuance Volume Δ YoY
1	UNITED STATES	28.1	=	-14%
2	CHINA	16.7	=	-30%
3	FRANCE	13.6	=	-20%
4	SNAT	11.2	=	10%
5	GERMANY	7.3	=	-19%
6	BELGIUM	6.1	NEW	∞
7	SWEDEN	5.5	=	51%
8	SPAIN	4.9	+1	56%
9	CANADA	4.0	+3	36%
10	JAPAN	3.7	+5	100%
11	NORWAY	3.5	+19	1186%
12	NETHERLANDS	3.5	-4	4%
13	IRELAND	3.5	NEW	∞
14	ITALY	3.0	-1	21%
15	SOUTH KOREA	2.1	+9	418%

Source: SEB analysis based on Bloomberg and SEB data. SNAT: Supranational

Figure 14. Regional distribution of green bond issuance



Source: SEB analysis based on Bloomberg and SEB data. SNAT: Supranational

The Chinese market held on to second place despite slipping further back compared to last year's issuance levels as the official sector pursues deleveraging initiatives, with at least USD 16.7 billion YTD according to Bloomberg figures. The distribution is dominated by corporate borrowers, split between financials (62%) and non-financial corporates (26%); the remainder comes from agencies (such as Agricultural Development Bank of China and China Export-Import Bank) along with a burgeoning set of green securitisations.

It is important to take a brief methodological digression here: Using Bloomberg figures, Chinese issuance appears to be down 30% YoY; however, official sector figures show Chinese issuance standing much higher at USD 21.5 billion (Onshore: USD 7.77 billion/ Offshore: USD 5.25 billion) which would equate to an 10% hike YoY.[13] It is normal for there to be a lag between the release of official sector statistics and when Bloomberg and other financial data providers are able to catalogue and integrate these green bonds, which likely explains some of the difference.

Additionally, in a report produced by CBI and the China Central Depositing and Clearing Co. (CCDC) it is found that out of the USD 13 billion of Chinese issuance in 1H only USD 9.3 billion meet international green definitions (and USD 4.2 billion or 49% of Q3 volumes), while the rest has been excluded in accordance with the CBI Green Bond Database Methodology. Proceeds allocation to working capital and assets/projects that are not aligned with the CBI Taxonomy remain the primary reasons for exclusion. This may go the rest of the way in explaining the difference in the numbers.

The French green bond market, returned to third place with 14 issuers. Agence France Tresor's sovereign OAT makes up 44% of the volume and the remainder comes from the corporate bond market (38% non-financial and 12% financials) with Agence France Development returning to the market. The French state-owned company developing a rail project in Paris has laid out plans for a mammoth green bond issuance programme worth as much as €31.5 billion ($36 billion).

In October, Société du Grand Paris (SGP), which is developing Europe's largest ongoing infrastructure project (to build four additional sustainable metro lines around the French capital) launched its inaugural EUR 1.75 billion green bond and announced a gargantuan green bond program with a potential magnitude of EUR 31.5 billion. The project is estimated to save 27 million tonnes of carbon dioxide equivalent by 2050.

Supranationals come in fourth place by rank but by issuance volumes were up 10% YoY, with eight multilateral and regional development banks active in a wide variety of currencies and maturities through taps as well as new lines, totaling USD 11.2 billion, well past the full year

[13] See CBI and China Central Depositing and Clearing Co. (CCDC) https://www.climatebonds.net/newsletter/china

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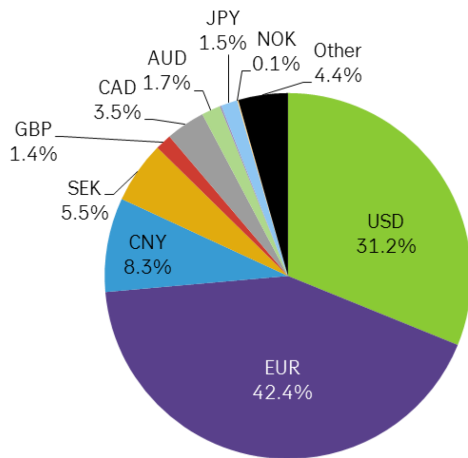
2017 total. November also marks the 10 year anniversary of The World Bank's inaugural green bond, where SEB was the lead manager.

Elevated activity in corporate and financials helped lift Germany to round out the top 5, with USD 7.3 billion of issuance, but with levels down -19% YoY in another example of a geography that is running significantly below its potential, but with some very encouraging signs. Earlier in the year, the Green and Sustainable Finance Cluster Germany was launched to further mobilise the finance sector for climate protection and sustainable investment, and it released its baseline report presenting an inventory of the rapidly increasing sustainability activities and found that sustainable investment in Germany was already at EUR 1.4 trillion in 2017 growing by 27% annually. At the end of October, SEB had the honour to act as Global Coordinator and Joint Bookrunner on EnBW's EUR 500m 15 year inaugural green bond; only the second investment grade rated green bond issue from the giant German non-financial corporate sector.

In another major bond market economy, Japan featured doubled green bond issuance levels on the back of a hot corporate green bond market, jumping 5 places to USD 3.7 billion of issuance. Following official sector clarification on green bonds, Japanese green bond issuers came to market from all across the corporate sector including aviation, forestry & paper, shipping and consumer goods. Similarly, in November Tokyo sees a green finance symposium which will mark the launch of the Green Finance Network Japan (GNFJ). Founded by Hideki Takada (Ministry of Finance / Cabinet Secretariat, Government of Japan), Takejiro Sueyoshi, CEO, Green Finance Organisation Japan, and Rintaro Tamaki, President, Japan Centre for International Finance, the GFNJ will take on the role of putting Japan amongst the select group of nations who have undertaken green finance initiatives to review and examine options for reform of their financial systems.

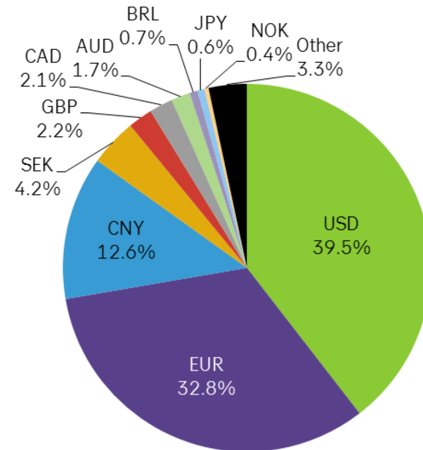
Other notable geographic hotspots include Sweden (+57%) surpassing its full year 2017 result half a year in advance, Spain (+56%), Canada (+37%) and Norway, leaping 19 places in the league tables with issuance spiraling by over 1000% YoY to USD 3.5 billion. South Korea rounding out the top 15 up 9 places with over 400% growth. LTM issuance from Asia-ex China has almost tripled over the last year, passing Supranationals as a category to touch USD 14 billion, with Japan, South Korea, Indonesia, Hong Kong, Singapore, Malaysia and others all making increasingly significant contributions as some of these economies add policy incentives to stimulate the market.

Figure 15. 2018 YTD green bond issuance by currency



Source: SEB analysis based on Bloomberg and SEB data

Figure 16. Cumulative green bond issuance by currency 2007-2018



Source: SEB analysis based on Bloomberg and SEB data.

In terms of currencies (Figures 15-16), the key takeaway through 3Q18 was that the market maintained its distinct shift towards Euros, reaching 46% at one point before falling back to 42%, while CNY issuance drifted down by 40%. The EUR trend is driven by strength in the corporate market, with financials as well as non-financial corporates, such as utilities, alongside sovereigns favouring EUR. The USD green bond market (31%) made its return to the stage with the retrospective integration of Fannie Mae's green MBS (as they report figures quarterly) and U.S. municipalities, and an increasing number of dual jumbo-sized currency deals. CAD, AUD, and SEK also proved popular currencies to target for issuers raising green capital in

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2018. The percentage of all SEK denominated bond issuance in green format surged to a world record of 14% YTD 2018, up from 6% over the course of 2017.

A waterfall diagram presented in Figure 17 shows how the USD 131 billion of issuance YTD can be broken down by classical public (SSA) and private (corporate and asset level) splits. Although SSA issuance levels are 1% higher YoY we view this as running quite some way below their potential this year.

Sovereign issuance is exceeding our expectations (honing in on a potential doubling of 2017 levels) with seven active issuers. Levels surpassed even our upgraded year-end potential figure of USD 17 billion, reaching USD 17.6 billion, with a further half dozen countries mulling sovereign issues for 2018/1, notably the Netherlands which would be the first AAA-rated green sovereign. In addition to sovereigns, supranationals (discussed above) and financials are exceeding our expectations for the year. The corporate green bond market has been particularly buoyant overall with USD 66 billion - up by 10% YoY. Even so, we see this sector as running below its potential on aggregate.

Financials have been the driving force behind this vitality with USD 37 billion, 45% higher than the amount of issuance over the same period last year. Financials look to be on track to exceed our estimate based on the assumptions we set in place at the beginning of the year. The issuance of green covered bonds grew strongly in 1H18 with four new bank issuers in 2018 taking the total to USD 6 billion outstanding from seven issuers. This trend looks set to continue with vigour in 4Q18 and beyond as the financial case behind green mortgages continues to strengthen. After a powerful October (up 84% compared to October 2017), non-financial corporates lagged by -17% YoY. We believe this level of issuance is well below its potential, due to the fact that some truly expansive geographies and sectors have yet to feature meaningful issuance.

Issuance from agencies (such as National Development Banks and other domestic public financial institutions) has fallen further away from its potential almost every month, with issuance levels half of what they achieved last year. After placing the sector on watch, we now downgrade their potential for 2018 issuance to USD 15 billion. Municipalities had also been quiet causing us to put them on watch for a downgrade, but issuance revitalised in 3Q to bring their levels to -9% YTD at USD 8.5 billion. It appears that these two sectors are lagging in terms of activity as proceeds are disbursed and project pipelines are replenished after a very busy issuance year in 2017. With regards to other types of green bond issuers, securitisations appear to be on track, again with Fannie Mae in the vanguard, although with issuance levels below last year.

Figure 17. Green bond issuance in 2018 by sector and sub-sector (USD Billion)

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Notes: ABS/MBS = Asset Backed Securities/Mortgage Backed Securities; SSA = Sovereign, Supranational, Agency and Municipal, Regional and other sub-sovereign; Financials include Real Estate and Insurance; N-F Corp. = Non-Financial Corporates. SEB uses the BICS sector classification system with some adjustments using Bloomberg/MSCI green bond sector classifications. Bloomberg (see Guide to Green Bonds on the Bloomberg Terminal) methodologies used to qualify green bonds, including Schuldscheine and private placements, and excluding pure plays.

Source: SEB analysis based on Bloomberg/BNEF and SEB data.

4. Publicly Announced Green, Social & Sustainability Bond Pipeline[14]

- Al Omrane (Dirham)
- Banco Nacion Argentina
- Bank Australia
- Bank of China Tokyo Branch
- Bank of Chongqing CNY Green Bond
- Caja Los Heroes Social Bond
- Dominion Energy USD Green Bond
- Duke Energy USD Green Bond
- Enercity EUR Green Schuldschein
- Flemish Community EUR Sustainability Bond
- Gussing Renewable Energy International
- Industrial Bank Green Bond
- ING EUR and USD Green Bond
- IREDA (Green Masala)
- Korea East-West Power
- La Poste EUR Green Bond
- LG Display USD Green Bond
- Klovern AB SEK Green Bond
- MA Clean Water Trust
- Macquarie University
- Mexico City (MXN)
- Monash University
- New South Wales TCorp AUD Green Bond
- Nigeria Green Sovereign (Tap)
- NJ Infrastructure Bank USD Green Bond
- OP Corporate Bank EUR Green Bond
- Qilu Bank CNY Green Bond
- State of Netherlands EUR Sovereign Green Bond
- Stockholm County Council SEK Green Bond
- Walloon Region

[14] As of 8 November 2018

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Climate & Sustainable Finance SEB

5. European Commission Technical Expert Group on Sustainable Finance (TEG) – FAQ on the EU Green Bond Standard, October 2018[15]

Marie Baumgarts
Head of Group Sustainability, & SEB delegate elected to the EC-TEG

Christopher R. Kaminker, PhD
Head of Research, SEB Climate & Sustainable Finance

On 5 July 2018, the members of the newly-created Technical Expert Group on Sustainable Finance kicked off the work on four key actions outlined in the Commission's Action Plan on Financing Sustainable Growth.

The recently established Technical Expert Group on Sustainable Finance (TEG) has had four plenary and multiple sub group meetings for each of its four workstreams since its inception in early July. The minutes of the latest meetings are available on the Register of Commission Expert Groups webpage.

These meetings focused on the mandate and deliverables of the group as well as the key questions surrounding the group's four tasks, which are to assist the Commission in developing:

- an EU classification system – the so-called taxonomy – to determine whether an economic activity is environmentally sustainable;
- an EU Green Bond Standard;
- benchmarks for low-carbon investment strategies; and
- guidance to improve corporate disclosure of climate-related information.

Why is the EU developing its own standard instead of endorsing already-existing ones?
As explained in the final report of the HLEG, developing an EU standard should be understood as a way to "help the market to develop fully and to maximise its capacity to finance green projects that contribute to wider sustainability objectives. (…) The EU green bond market has yet to reach its full potential, currently representing a relatively modest percentage of overall outstanding bonds from EU issuers. But it has attracted significant public interest, and it has had a disproportionate demonstration effect in support of green finance".

One of the objectives of having an EU green bond standard is to strive towards a more unified market in the EU: by setting the standard's characteristics right through the recommendations of the expert group, the EU standard aims to become the market reference. As set out in Action 2.1 of the European Commission Action Plan on Sustainable Finance, the group will build its work on current best practices.

In addition, the work of the TEG on an EU Green Bond Standard has to be understood in the broader context of the Commission's work on sustainable finance. The EU Standard would be closely linked to the creation of an EU taxonomy for environmentally sustainable activities. By being clearly grounded in this taxonomy, the 'greenness' of green bonds under the EU standard would be made more transparent and immediately identifiable, therefore limiting risks of greenwashing.

What are the links between the EU Green Bond Standard and the other existing or ongoing market initiatives?
In developing recommendations for an EU Green Bond Standard, the Technical Expert Group will consider existing market-led initiatives to capitalise on current best practises, while identifying potential areas for improvement. The Commission and the TEG also intend to consult other bodies currently developing their own standards to ensure synergies where possible and limit risks of market fragmentation.

What is the link between the EU Green Bond Standard and the EU Ecolabel for green financial products?
The Commission has recently started its work on an EU Ecolabel for green financial products. The legal framework is set out in the EU Ecolabel Regulation (Regulation (EC) No 66/2010 of 25 November 2009 on the EU Ecolabel). The Ecolabel would cover a variety of green financial products, including green bonds. Moreover, the Ecolabel will provide information to retail investors on whether a financial product respects a green standard. As far as green bonds as concerned, the subgroup's recommendations on an EU Green Bond Standard should serve as a basis for the requirements for a potential future label.

[15] EC Press Release: Available at https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/sustainable-finance-teg-frequently-asked-questions_en.pdf

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Why will the Commission explore the use of the EU Ecolabel framework for certain financial products as set out in Action 2 of the Action Plan on Financing Sustainable Growth?
Labelling schemes are very useful for retail investors. The retail market represents a significant portion of the total assets under management in the EU. Individuals are increasingly investing in products with a positive sustainability impact.

The success of the EU organic label and the EU Ecolabel shows that labels help to guide consumers in making informed choices. Labels for sustainable financial products may enable to flag investments in sustainable activities in order to raise awareness about these products. The EU Ecolabel Regulation lays down a voluntary EU-wide scheme subject to surveillance and control mechanisms, with well-established governance rules and convergence tools.

What are the links between the Commissions work on a prospectus for green bond issuances and the work of the TEG on a Green Bond Standard?
It was announced in the Action Plan to finance sustainable growth that "Within the framework of the Prospectus Regulation, the Commission will specify by Q2 2019 the content of the prospectus for green bond issuances to provide potential investors with additional information".

This work aims at providing additional transparency to investors, and is in itself separate from the TEG work on an EU Green Bond Standard. Nevertheless, it was agreed that the experts working on recommendations for an EU the Green
Bond Standard will in addition work closely with Commission services on the topic of prospectus to give guidance on the content and ensure consistency between the two initiatives.

Does the Commission have any concrete plans for a legislative proposal with respect to a Green Bond Standard?
No, the Commission does not have any concrete plans for a legislative proposal with respect to a Green Bond Standard at this stage. The Commission will wait for the subgroup's report and the respective recommendations in Q2 2019 and use this work as a basis to decide on the next steps.

The work of the subgroup on an EU Green Bond Standard should feed into the work currently undertaken by the Commission on an EU Ecolabel. It will also inform the work on the content of the prospectus for green bond issuances.

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6. Vasakronan issues the world's first use of proceeds based Green Commercial Paper

VASAKRONAN

Thomas Nystedt, Group Treasurer, Vasakronan and Anna Denell, Head of CSR

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The summer of 2008 presented large parts of the world with record heat, cloudbursts and forest fires – not only in Sweden and Europe but also around the world. Mother Nature makes a statement to us: climate change is for real and we need to cut CO_2 emissions drastically! It's as simple as that and time is not to our advantage.

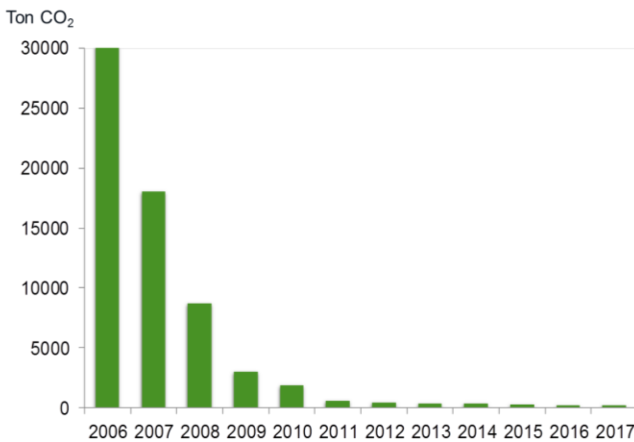
On October 8 2018, the report that many have been waiting for was published: the IPCC report on the likelihood that we manage to limit climate change to stay within a 1.5 degree Celsius rise in global warming. The report offers bleak reading and by now it should be abundantly clear to everyone that the time has passed for talk and blurred vision. It is time for action – strong action!

So, what can and what must the construction and real estate sector do? Primarily it comes down to reducing energy use in existing buildings. As so happens to be, that is where the lion's share of energy consumption takes place. Nonetheless, all new buildings must also have very low energy use – preferably close to zero. For Vasakronan – we have already reduced energy use in our properties by half and reduced CO_2 emissions by 97% over the last decade, the prominent challenge for us is the emissions in connection to the construction phase.

Construction material, construction waste and transportation to and from the construction sites generate substantial CO_2 emissions and, indeed, represent 80% of the climate footprint of a property from a life cycle perspective.

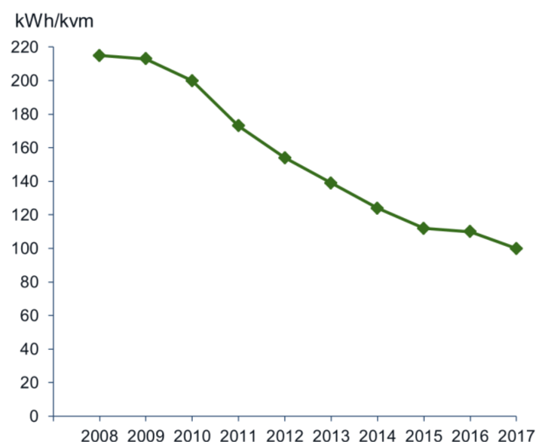
Hence, we see making our activities compatible with a 1.5 degree scenario as one of the most important contributions we as a company can make to saving the planet. But, crucially, it is imperative from a risk perspective. At Vasakronan, we hope and believe that regulating authorities will limit room for acting unsustainably and over time make the problem go away completely. Therefore, Vasakronan's goal is to have a portfolio of properties that is 100% green, consisting of buildings with a low climate impact both from the construction and management phases.

Figure 6.1 Vasakronan property CO_2 emissions



Source: Vasakronan

Figure 6.2 Vasakronan property overall energy consumption



Source: This graph shows real estate, heat and cooling. The figures are based on the respective annual data in the sustainability and annual reports. Data for 2008-2010 are corrected with respect to Atemp (previously used LOA).

Five years ago, in November of 2013, we issued the world's first green corporate bond. Since then, we have issued green bonds to a value of SEK 18.5 billion and taken up green loans from both the European Investment Bank and the Nordic Investment Bank. Combined, this makes one third of our total funding green.

So far, so good. However, some time ago we asked ourselves "If our ambition is that 100% of our assets shall be green, shouldn't 100% of our funding also be green?" Hence, we began analysing our funding and the potential to make it all green. On the bond side, we had already ticked the box, and regarding bilateral loans, several banks provide such opportunities by now.

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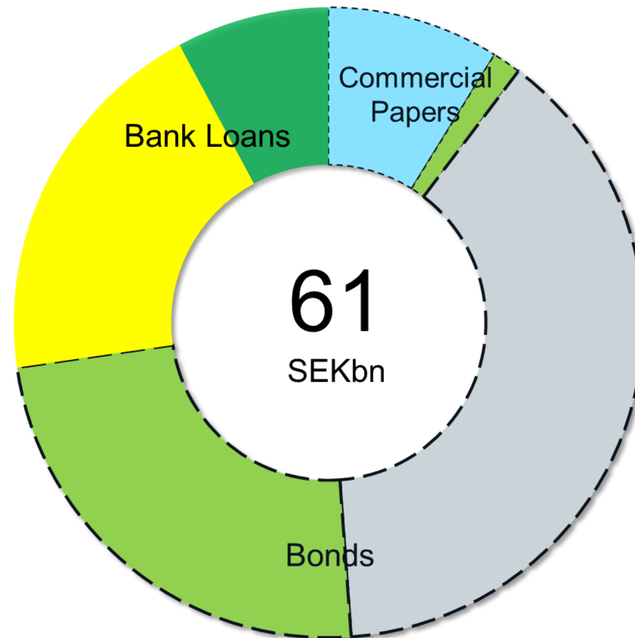
However, we also have financial reasons to raise parts of our funding on shorter maturities and naturally; we asked ourselves if our commercial papers could be structured in the green format? And it was indeed possible! Together with SEB – who also provided structural advisory to us in connection with our inaugural green bond – we sat down to develop a new concept – a new green, financial instrument for investors.

Figure 6.3. Vasakronan debt portfolio as of Q3 2018



Source: Vasakronan

On September 25 2018, Vasakronan became the first issuer globally to issue a green, use of proceeds based commercial paper at Nasdaq Stockholm.

Thomas Nystedt, Group Treasurer, Vasakronan and Anna Denell, Head of CSR

One prerequisite for issuing green commercial papers, however, is to ensure that guidelines are clear and transparent for what assets are defined as green, i.e. a framework. We revised and expanded our existing Green Bond Framework to capture all financing instruments where proceeds are earmarked for green investments according to the specified definitions; the revised Vasakronan Green Finance Framework. As with our previous frameworks, this too has been assessed by the Center for International Climate Research (CICERO) and has received the highest possible shade of green: Dark Green.

The new framework delivers multiple benefits – for us and for our investors. Vasakronan's fundamental intention is crystal clear; progressively, our entire funding shall be green. As of today, however, not all of our properties meet the high environmental requirements in our Green Finance Framework – although 85% of our properties are certified. But we are constantly working on improving our portfolio of existing buildings and on certifying remaining properties which over some time will make also these properties eligible for green financing in accordance with our framework.

During a transitional period, this implies that we will issue both green and non-green commercial papers. Hence, and as a means of making it easier for investors to identify which commercial papers are green and not, Vasakronan will list all green commercial papers on Nasdaq Stockholm's new list for sustainable commercial papers. In order to facilitate this and to cater for transparency we have updated our Noting document (in Swedish).

Summing up, for our investors, the new concept and the new framework provides our investors with a new, green investment opportunity and hence actively contributes to reducing climate impact with the 1.5 degree target in sight. And investors are evidently on track – their interest for green investment vehicles is expansive and constantly rising. It has simply become abundantly clear to all that it is more profitable to conduct business in a sustainable manner. Everybody wins!

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Climate & Sustainable Finance

SEB

Irina Likhachova
Global Engagement and Outreach

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7. Investing for Impact: Operating Principles for Impact Management

Impact investing has emerged as a significant opportunity to mobilize both public and private capital into investments that target measurable positive social, economic or environmental impact[16] alongside financial returns. A growing number of investors are incorporating impact investments into portfolios. Many are adopting the Sustainable Development Goals (SDGs), and other widely recognized goals such as COP21 as a reference point to illustrate the relationship between their investments and impact goals.

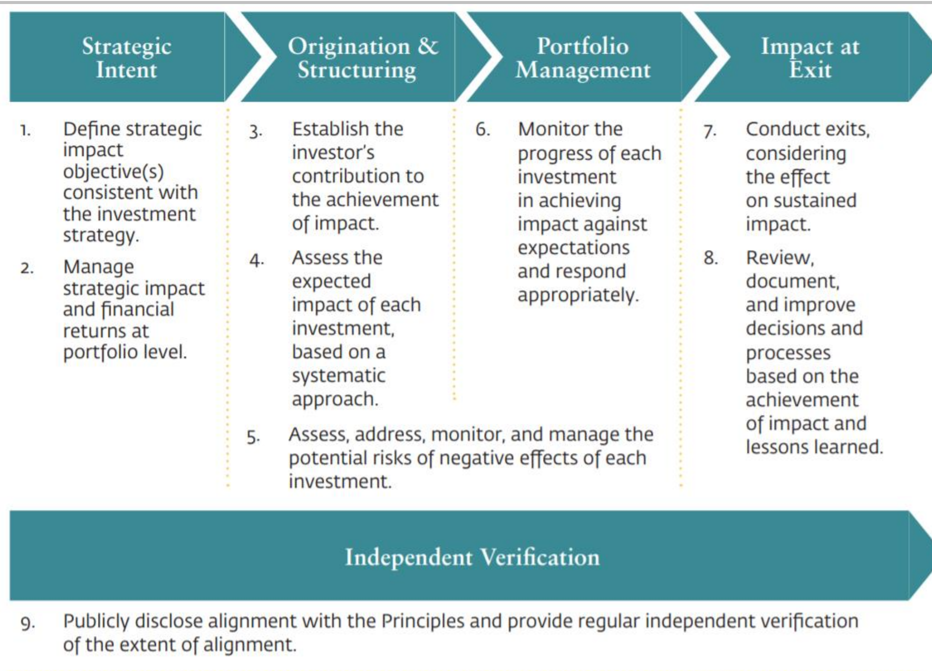
The question for many investors is how to grow the level of investments targeting impact. Despite the increased interest in and number of product launches claiming to be impact investments, there is no common discipline for how to manage investments for impact and the systems needed to support this. This has created complexity and confusion for investors, as well as a lack of clear distinction between impact investing and other forms of responsible investing.

To address this challenge, IFC, in consultation with a core group of external stakeholders—impact asset managers, asset owners and industry associations—has been developing Investing for Impact: Operating Principles for Impact Management. The objective is to establish a common discipline and market consensus around the management of investments for impact and help shape and develop this nascent market.

The Principles may be adopted at the institution, fund, or investment vehicle level. Firms that offer a range of investment strategies may adopt the Principles for those funds or vehicles which it chooses to identify as impact investments. Institutions and fund managers that only invest for impact may adopt the Principles at the institution or fund manager level. The Principles may be implemented through different impact management systems and are designed to be fit for purpose for a range of institutions and funds. A variety of tools, approaches, and measurement frameworks may be used to implement the Principles.

IFC is inviting additional reviews from stakeholders — investors, companies, academics, civil society and governments — through the end of the year after which the Principles will be available for investors to sign.

Figure 7.1. Investing for Impact: Operating Principles for Impact Management



Source: IFC

[16] The positive or negative primary and secondary effects produced by an investment, directly or indirectly, intended or unintended. Adopted from OECD-DAC.

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PRINCIPLE 1: Define strategic impact objective(s), consistent with the investment strategy.

The Manager shall define strategic impact objectives[17] for the portfolio or fund to achieve positive and measurable social, economic, or environmental effects, which are aligned with the Sustainable Development Goals (SDGs), or other widely accepted goals. The strategic intent does not need to be shared by the investee. The Manager shall seek to ensure that the impact objectives and investment strategy are consistent; that there is a credible expectation of achieving the impact objectives through the investment strategy; and that the magnitude (scale and/or intensity) of the expected portfolio impact is proportionate to the size of the investment portfolio.

PRINCIPLE 2: Manage strategic impact and financial returns at the portfolio level.

The Manager shall have a process to manage impact achievement at the portfolio level, similar to that of managing financial returns. The objective of the process is to establish and monitor expected impact performance for the whole portfolio, while recognizing that impact may vary across individual investments in the portfolio. As part of the process, the Manager shall consider aligning staff incentive systems with the achievement of impact, as well as with financial performance.

PRINCIPLE 3: Establish the investor's contribution to the achievement of impact.

The Manager shall seek to establish and document a credible, transparent narrative on the investor's contribution to the achievement of impact for each investment. Contributions can be made through one or more financial and/or non-financial channels,[18] and assessed for the individual investment, or from a portfolio perspective. The narrative should be stated in clear terms and supported, as much as possible, by evidence.

PRINCIPLE 4: Assess the expected impact of each investment, based on a systematic approach.

For each investment, the Manager shall assess, in advance and, where possible, quantify the concrete positive impact[19] potential deriving from the investment. The assessment should use a suitable results measurement framework that aims to answer these fundamental questions: (1) What is the intended impact? (2) Who experiences the intended impact? (3) How significant is the intended impact?[20] The Manager shall also seek to assess the likelihood of achieving the investment's expected impact. In assessing the likelihood, the Manager shall identify the significant risk factors that could result in the impact differing from ex-ante expectations. In assessing the impact potential, the Manager shall seek evidence to assess the relative size of the challenge addressed within the targeted geographical context. The Manager shall also consider opportunities to increase the impact of the investment. Where possible and relevant for the Manager's strategic intent, the Manager may also consider indirect and systemic impacts. Indicators shall, to the extent possible, be aligned with industry standards[21] and follow international best practice conventions.[22]

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[17] Impact objectives can be defined as the intended impact that contributes to financial, institutional, social, environmental, or other benefits to a society, community, or group of people via one or more investment. Adapted from OECD-DAC (www.oecd.org/dac/).

[18] For example, this may include improving the cost of capital, specific financial structuring, offering innovative financing instruments, assistance in further resource mobilization, creating long-term trusted partnerships, providing technical/market advice or capacity building to the investee, and/or helping the investee to meet higher operational standards.

[19] Impact is considered the material effect/s on people and the environment resulting from the activities financed by investors, as outlined in Principle 1. Impacts assessed within Principle 4 may also include positive ESG effects derived from the investment.

[20]Adapted from the Impact Management Project (www.impactmanagementproject.com).

[21] Industry indictor standards include HISPO (indicators.ifipartnership.org/about/), IRIS (iris.thegiin.org), GIIRS (b-analytics.net/giirsfunds), GRI (www.globalreporting.org/Pages/default.aspx), and SASB (www.sasb.org), among others.

[22] International best practice indicators include SMART (Specific, Measurable, Attainable, Relevant, and Timely) and SPICED (Subjective, Participatory, Interpreted & communicable, Cross-checked, Empowering, and Diverse & disaggregated), among others.

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PRINCIPLE 5: Assess, address, monitor, and manage the potential negative effects of each investment.

For all investments, the Manager shall seek to avoid, minimize, or mitigate potential negative effects by assessing and monitoring Environmental, Social and Governance (ESG)[23] and other non-financial risks, as well as the performance of the investee in managing material ESG issues. Where appropriate, the Manager shall engage with the investee company to seek its commitment to take action to address potential gaps in current investee systems and processes, using an approach aligned with good international industry practice.[24] As part of portfolio management, the Manager shall monitor investees' ESG risk and performance, provide support where appropriate, and address unexpected events.

PRINCIPLE 6: Monitor the progress of each investment in achieving impact against expectations and respond appropriately.

The Manager shall use the results framework (referenced in Principle 4) to monitor progress toward the achievement of positive impacts, including social, economic or environmental impacts, in comparison to the expected impact for each investment. Progress shall be monitored using a predefined process for sharing performance data with the investee. To the best extent possible, this shall outline how often data will be collected; the method for data collection; data sources; responsibilities for data collection; and how, and to whom, data will be reported. When monitoring indicates that the investment is no longer expected to achieve its intended impacts, the Manager shall seek to pursue appropriate corrective action,[25] consistent with the nature of the investment. The Manager shall also seek to use the results framework to capture investment outcomes,[26] or longer-term effects.

PRINCIPLE 7: Conduct exits considering the effect on sustained impact.

The Manager shall, in good faith and consistent with its fiduciary responsibilities, consider the effect which the timing, structure, and process of its exit will have on the sustainability of the impact.

PRINCIPLE 8: Review, document, and improve decisions and processes based on the achievement of impact and lessons learned.

The Manager shall review and document the impact performance of each investment, compare the expected and actual impact, and other positive and negative impacts, and use these findings to improve operational and strategic investment decisions, as well as management processes.

PRINCIPLE 9: Publicly disclose alignment with the Principles and provide regular independent verification[27] of the extent of alignment.

The Manager shall publicly disclose, on an annual basis, the extent to which impact management systems are aligned with the Principles and, at regular intervals, arrange for independent verification of this alignment. The conclusions of this verification report shall be publicly disclosed, subject to fiduciary and regulatory concerns.

[23] The application of good ESG management will potentially have positive impacts that may or may not be the principal targeted impacts of the Manager. Positive impacts resulting from ESG matters shall be measured and managed alongside with, or directly embedded in, the impact management system aligned with Principle 4.
[24] E.g. IFC's Performance Standards *(www.ifc.org/performancestandards)*.
[25] Corrective actions could include active engagement with the investee; early divestment; adjusting indicators/expectations due
to significant, unforeseen, changing circumstances; or other appropriate measures to improve the portfolio's expected impact performance
[26] Outcomes are the short-term and medium-term effects of an investment's outputs, while the outputs are the products, capital goods, and services resulting from the investment. Adopted from OECD-DAC (www.oecd.org/dac/).
[27] The independent verification may be conducted in different ways, i.e. as part of a financial audit, by an independent internal impact assessment committee, or through a portfolio/fund performance evaluation. The frequency and complexity of the verification process should consider its cost, relative to the size of the fund or institution concerned, and appropriate confidentiality.

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