

Environmental
Finance

Sustainable Bonds Insight 2019



Subscribe to Environmental Finance

for in-depth analysis and market-leading coverage of investment and financing opportunities and risks as the world transitions to a low carbon economy.

Environmental Finance



updated daily | mobile friendly | quarterly magazine

Corporate licences

If there are a number of people at your organisation that would benefit from a subscription to *Environmental Finance*, a corporate licence may be the best option for you.

For more information please
T: +44 (0)20 3651 7218
or email subs@environmental-finance.com

www.environmental-finance.com

1	Introduction	
2	Largest green bonds 2018	
3	Largest social and sustainability bonds 2018	
4	Issuer types 2018 vs 2017	
5	Bond issuance by quarter 2016-2018	
6	Top 5 largest issuing countries in the green bond market 2018	
7	Top 5 largest issuing countries in the social bond market 2018	
8	Top 5 largest issuing countries in the sustainability bond market 2018	
9	A return to green bond growth in 2019?	 BBVA Creating Opportunities
12	Helping to build the green bond market	 NRW.BANK
15	Green and social together: nudging sustainability bonds in the right direction	  IISD
18	Sustainable Development Goals	
19	Cumulative issuances and Impact reports in the green social and sustainability bond market	
20	External reviewer share of the green, social and sustainability bond market 2018	
21	Green goes rainbow: going beyond the green dimension of sustainability	 DZ BANK Bank on Germany
24	Bringing billions and housing to the green bond market	 Fannie Mae
27	Driving green growth while gearing up for new themes	 BARCLAYS
30	Lead managers in 2018	
31	Currencies used in 2018 vs 2017 in the green bond market	
32	Countries joining the green, social and sustainability bond market in 2018	
33	The European green bond market in 2018	
34	Bringing clarity to sustainability	 European Investment Bank The EU bank
37	Leading German real estate financier and European bond issuer	 Berlin Hyp
40	Is the green bond market running out of steam?	 FRANKLIN TEMPLETON
43	The benefits of going green – as seen from finance	 SEB
46	The green bond market looks east	 NOMURA
49	Market predictions for 2019	



Peter Cripps, Editor, Environmental Finance

Welcome to Sustainable Bonds Insight – a depiction in words and pictures of the green, social and sustainability bond market, reviewing 2018 and providing a vision for the evolving marketplace.

2018 was a difficult year for fixed income markets generally, but the green, social and sustainability bond market weathered the storm.

The final figures for the year, according to *Environmental Finance's* database, saw the green bond market raise \$174.9 billion, compared with \$173.5 billion the previous year.

However, the social and sustainability bond markets saw stronger growth. Social bonds saw \$13.9 billion of issues, up from \$11.2 billion, while sustainability bonds saw \$18 billion of issues, up from \$10.3 billion.

So, the value of issues for 2018 disappointed expectations – some had forecast \$250 billion of green bonds at the start of the year.

Yet the overall picture for the combined market is one of growth in the face of adversity.

And a significant milestone was passed during the year, when the green bond market – which is a little over a decade old – exceeded \$500 billion in capital raised since its inception.

The market continues to evolve. Sovereign issuers were one of the major drivers of the market last year, which is exciting because of the scale and liquidity they bring. Belgium was the single biggest issuer, with its \$4.5 billion offering. Other sovereign issues came from Indonesia, Ireland, Fiji and Lithuania, while France continued to tap its green bond. At the time of writing, it has raised a total of €16.5 billion. More sovereigns are on the way, including the Netherlands.

Another feature was the dramatic growth of issues from financial institutions in 2018. They accounted for 30% of the market, up from 21.7% in 2017. (See page 31.)

However, corporate issuers largely remain wary. The market remains driven by demand from investors in Europe – the euro overtook the dollar as the biggest currency in 2018.

But other parts of the globe are proving to be green bond

hotspots. Japan saw rapid growth, with \$4 billion of issues in 2018, up from \$2.4 billion the previous year, helped by its own green bond guidelines. Elsewhere in Asia, South Korea and Indonesia all embraced green bonds.

The launch of the biggest ever green bond fund – the IFC and Amundi's \$1.4 billion Emerging Green One – should further boost demand for emerging market green bonds.

Another highlight of the year was the launch of Seychelles' 'blue bond' to help protect its ocean-based economy. While it only raised \$15 million, it could help pave the way for similar issues. Interestingly, the Nordic Investment Bank has since launched its own blue bond, to help preserve the Baltic Sea.

The overall picture for the combined market is one of growth in the face of adversity

Ever since the market's inception, there has been a lively debate about 'what is green?'. 2019 may prove to be an important year in the debate, because the European Commission is working on its taxonomy of sustainable finance, which will underpin its own green bond standard.

While some argue that the interim period before this standard emerges has depressed issuance – who would want to issue a green bond only to find out months later that it does not comply with a forthcoming standard? – it is expected that the standard will eventually boost issuance and give comfort to the market.

And this shot in the arm could be felt around the world, as Chinese regulators are in talks about harmonising their green bond standards with those of the EU, and other countries are likely to follow suit. ■

For enquiries about the data in this Insight, or about www.bonddata.org, please contact Marine.Durrieu@environmental-finance.com

The largest deal and issuers of the year in the green bond market

Largest single green bond



The Kingdom of Belgium
Value: €4,500 M
(\$5,531 M)

Largest sovereign



Liberté • Égalité • Fraternité
RÉPUBLIQUE FRANÇAISE

Republic of France
Total Value: \$6,016 M

Largest municipal



Government of Ontario
Total value: \$803 M

Largest issuer



Fannie Mae

Fannie Mae
Total value: \$22,850 M

Largest supranational



European Investment Bank
Total value: \$4,761 M

Largest financial institution



China Industrial Bank
Total value: \$5,698 M

Largest agency



Fannie Mae

Fannie Mae
Number of deals: 1,103

Largest corporate



Iberdrola
Total value: \$1,789 M

Largest external review provider



Sustainalytics
Number of external reviews: 76

Largest in 2018 – social and sustainability bonds

The largest deals and issuers of the year in the social bond market

Largest single social bond



African Development Bank
Value: €1,250 M (\$1,468 M)

Largest issuer



BPCE
Total value: \$3,465 M

Largest agency



NWB Bank
Total value: \$2,467 M

Largest supranational



African Development Bank
Total value: \$1,507 M

Largest corporate



Danone
Total value: \$369 M

Largest municipal



City of Los Angeles
Total value: \$276.24 M

Largest financial institution



BPCE
Total value: \$3,465 M

The largest deals and issuers of the year in the sustainability bond market

Largest single sustainability bond



Federal State of NRW
Value: €2,025 M
(\$ 2,495 M)

Largest issuer



Federal State of NRW
Total Value: \$2,495 M

Largest agency



Development Bank of Japan
Total value: \$805 M

Largest sovereign



Republic of Seychelles
Total value: \$15 M

Largest supranational



IBRD
Total value: \$2,086 M

Largest corporate



Korea East-West Power
Total value: \$500 M

Largest municipal



Federal State of NRW
Total value: \$2,495 M

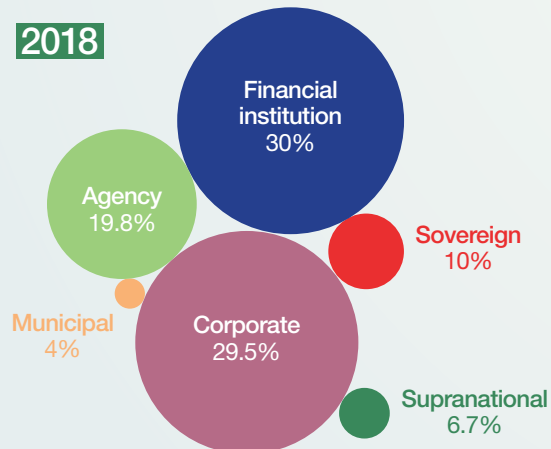
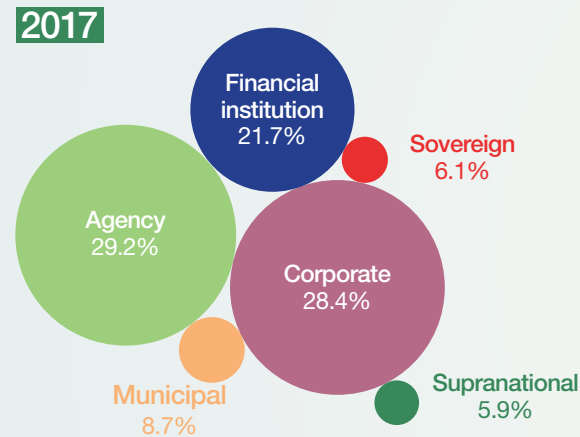
Largest financial institution



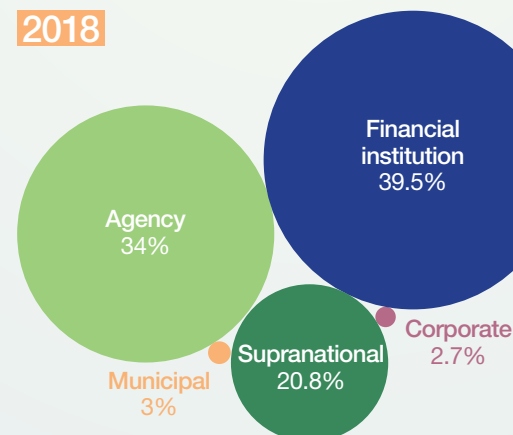
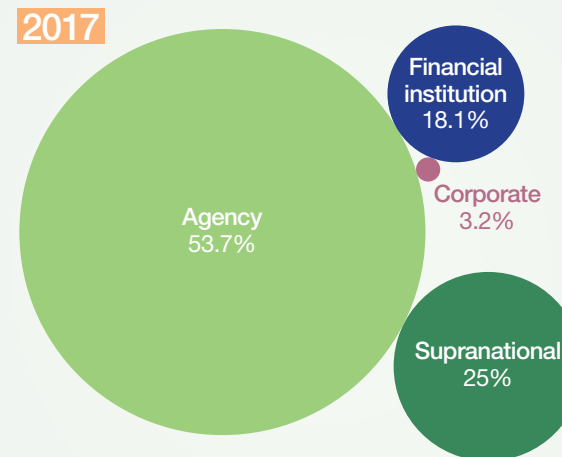
BNG Bank
Total value: \$1,356 M

In 2018, the value of issues by financial institutions rose by 8.3% in the green bond market, and 21.4% in the social bond market. In the sustainability bond market, the biggest percentage increase in the value of issues was from supranational entities.

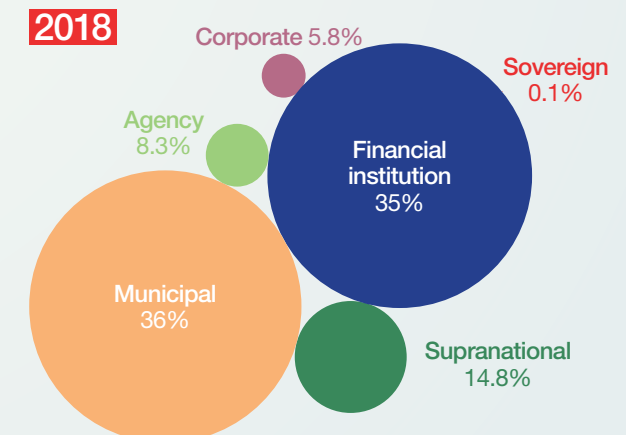
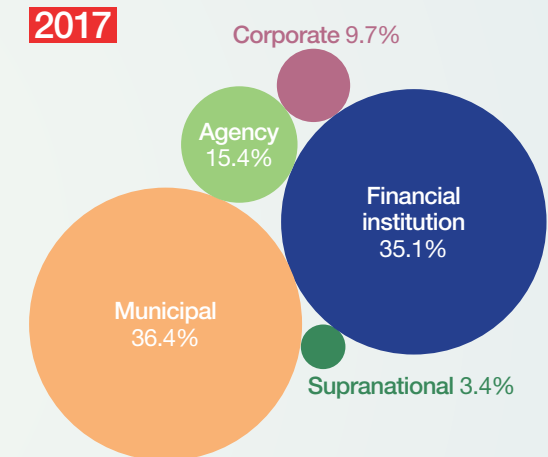
Green bonds



Social bonds



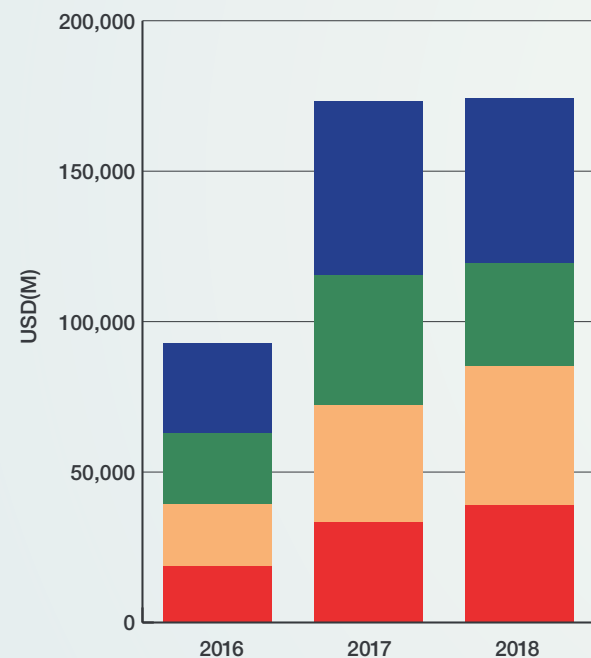
Sustainability bonds



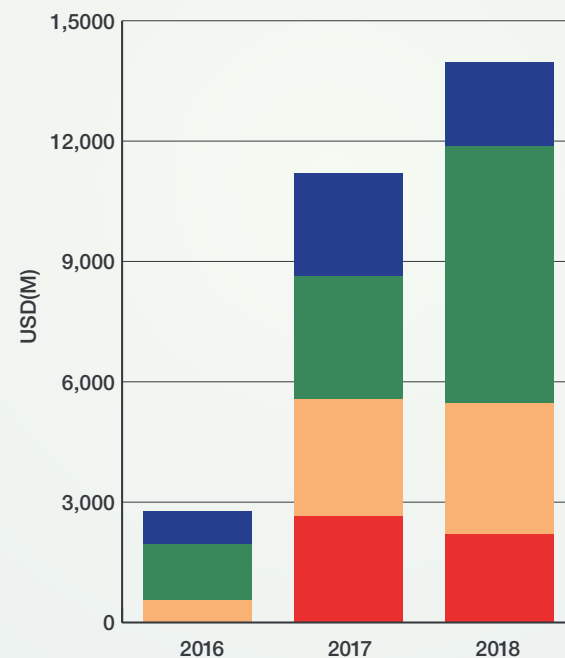
Bond issuance by quarter in 2016, 2017 and 2018

In the green and social bond markets, there has been a trend over the last three years, for the largest volume of issuances to be seen in Q4 and Q3 respectively. To date, the sustainability bond market has not followed a similar pattern.

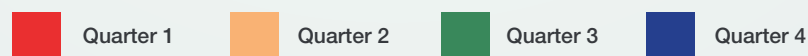
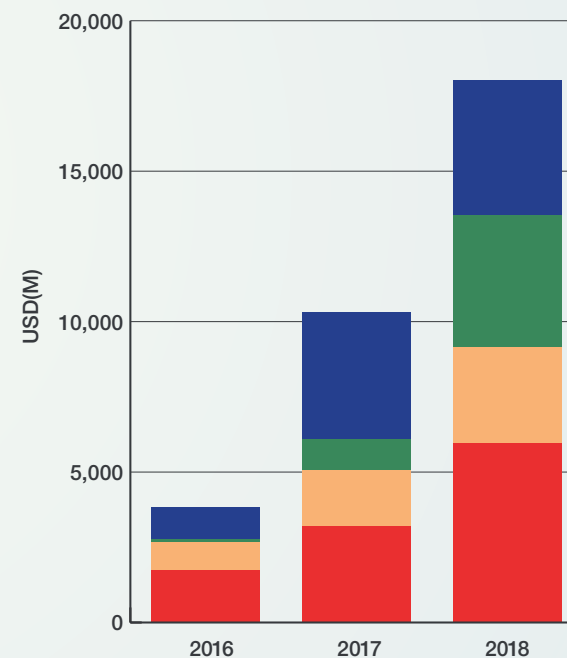
Green bonds



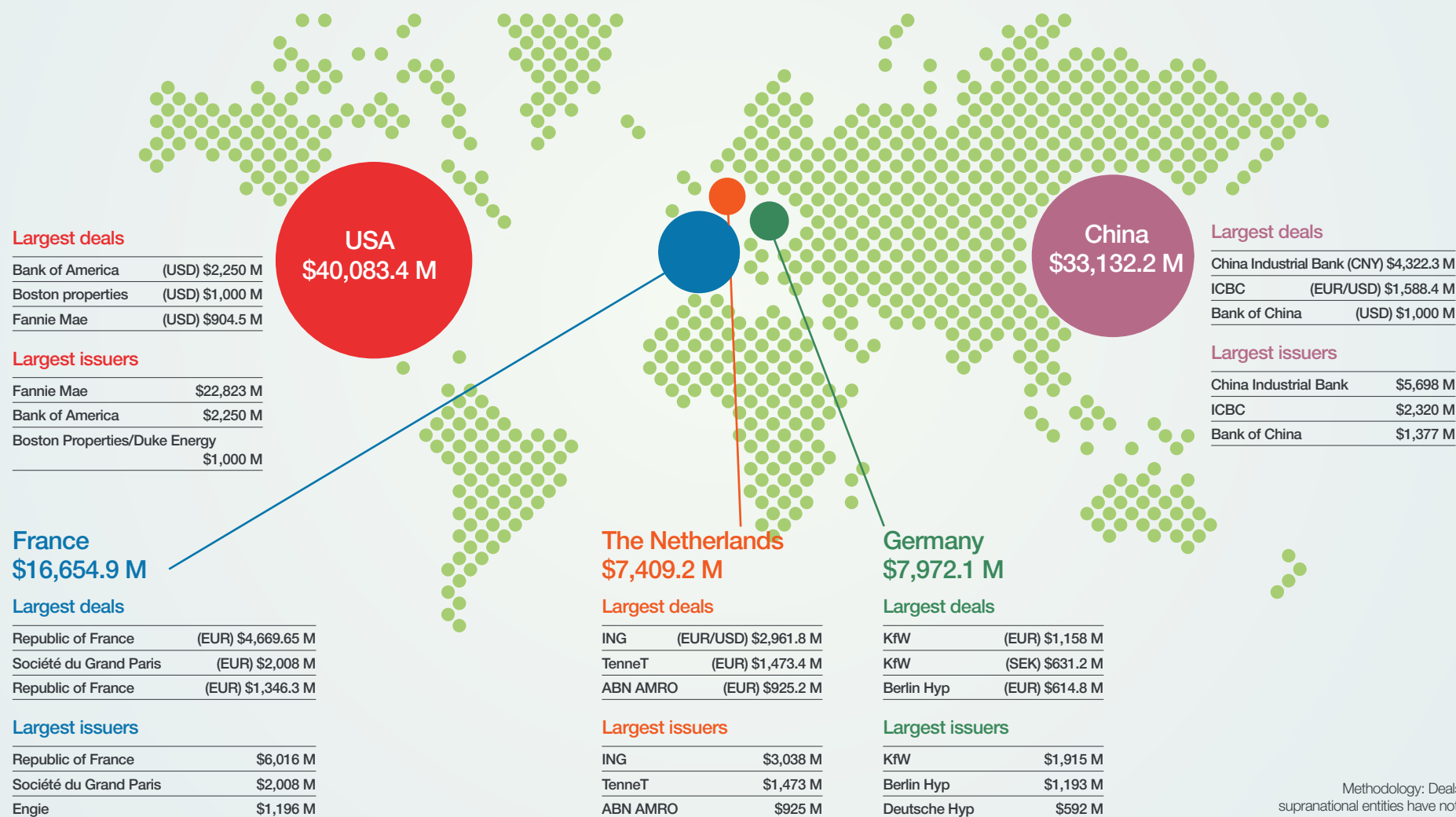
Social bonds



Sustainability bonds



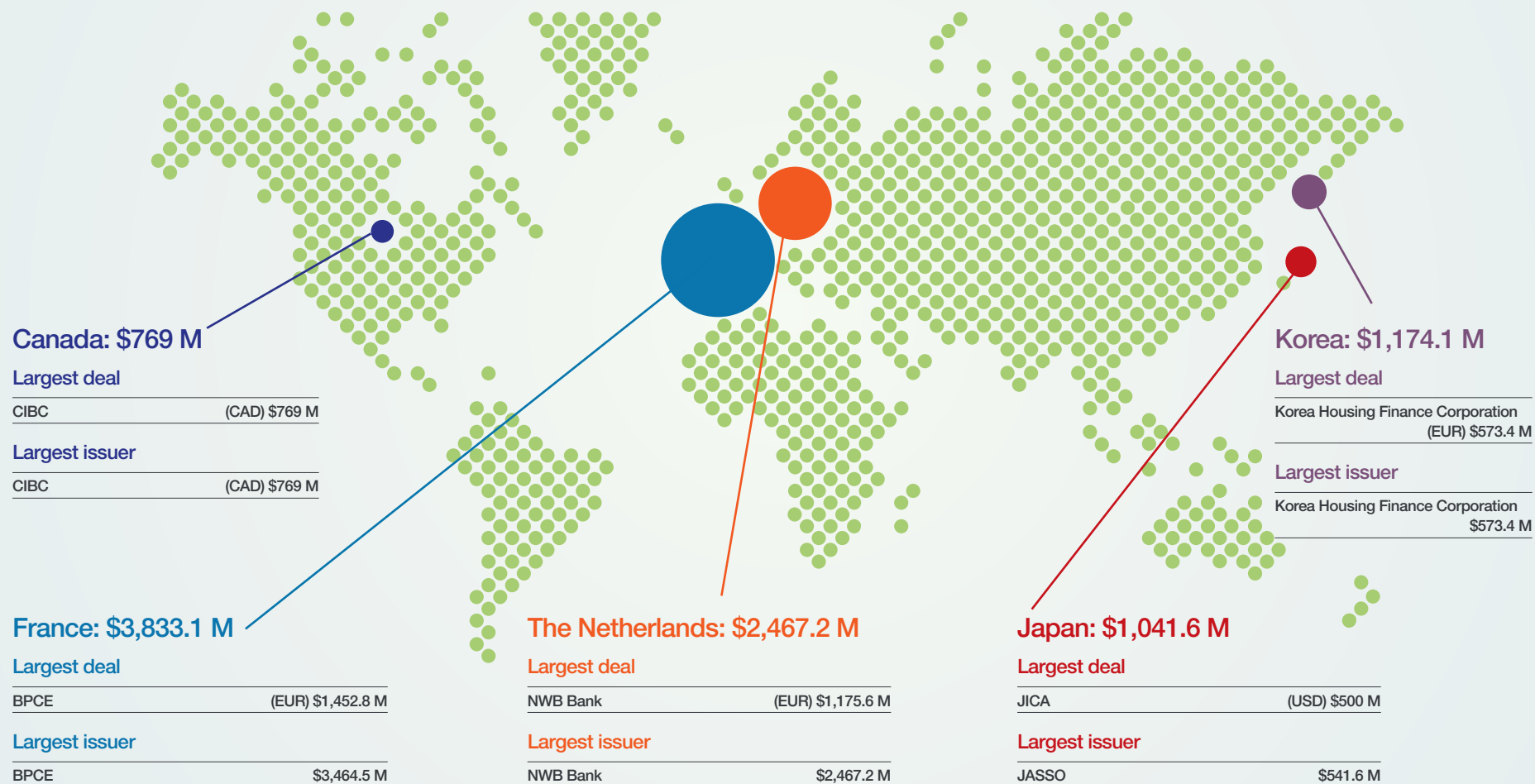
For the second consecutive year, the US, China and France were the three biggest issuing countries.



Methodology: Deals from supranational entities have not been included in individual countries.

Top 5 largest issuing countries in 2018 in the social bond market

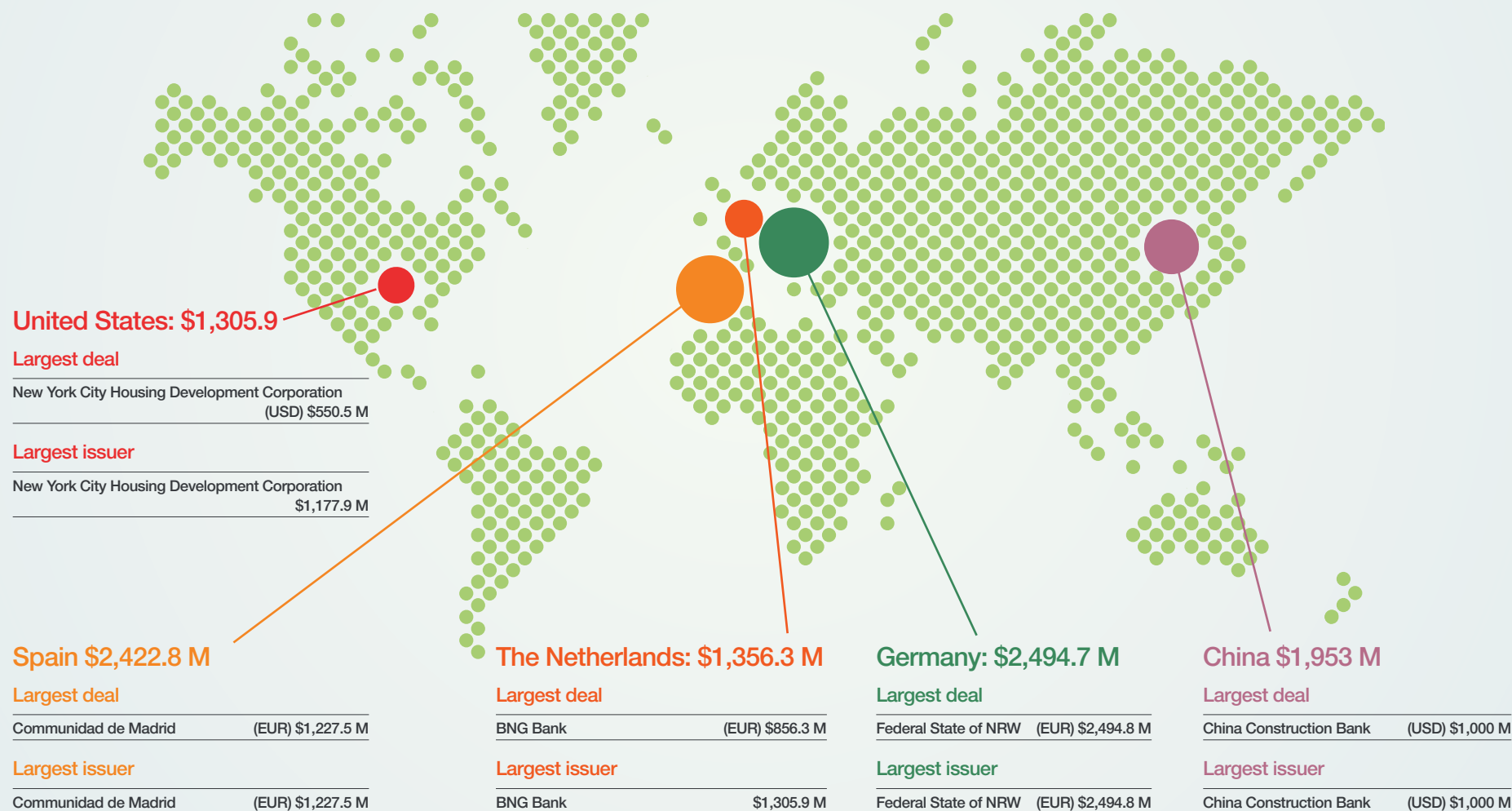
France, the Netherlands and Korea are the three biggest issuing countries in the social bond market.



Methodology: Deals from supranational entities have not been included in individual countries.

Top 5 largest issuing countries in 2018 in the sustainability bond market

Germany, Spain and China are the three biggest issuing countries in the sustainability bond market.



Methodology: Deals from supranational entities have not been included in individual countries.

A return to green bond growth in 2019?

Despite the green bond market treading water in 2018, BBVA is bullish about the market's prospects in 2019 – driven by an emerging green premium, rating agency engagement, and a light touch from Europe's regulators. Its green bond specialists talk to *Environmental Finance*

Environmental Finance: Despite green bond issuance levelling off in 2018, BBVA is forecasting a return to strong growth in 2019. What's behind the bullish forecast?

Agustin Martin, Head of European Credit Research:

There has been a combination of factors that explain why issuance in 2018 has been broadly flat. There has been a decline in green bond activity among big Chinese issuers, and there has been a decline in issuance from the largest issuer of green mortgage-backed securities, the US agency Fannie Mae.

In addition, there have also been a number of qualitative factors, such as the ongoing development of the EU's sustainable finance taxonomy and its planned green bond standards [which have encouraged some issuers to delay launching green bonds.] In addition, overall global bond issuance this year has declined compared with 2017.

But I see it as a temporary pause. Our forecast is that issuance [in 2019] will reach \$220 billion, back to the 30% year-on-year increases we've seen in the recent past. We expect to see more sovereigns coming to the market, such as the Netherlands, but we also expect that more complicated conditions in financial markets will encourage green bond issuance.

When yields were very low, there was very little benefit in spreads or secondary market performance from issuing green versus conventional bonds. From this year, however,



Agustin Martin, Head of European Credit Research

we expect to see the famous green premium, in both primary and secondary markets, making ESG bond issuance very interesting.

This is because ESG bonds tend to be more oversubscribed than their conventional equivalents. This has not had a big impact on price, given the effects of the European Central Bank purchase programme. But we saw some evidence of how this might change. In the recent turmoil in the Italian markets, some green bonds issued by Italian financials and corporates performed better than conventional bonds.

We expect to have finally the first quantitative evidence of green premiums in primary and secondary green bonds – this is what underpins our forecast for next year.

EF: What about market infrastructure? Are there any missing parts that could help kickstart the market?

AM: The prime thing for us is the greater participation of the credit rating agencies. Moody's and Standard & Poor's are doing work to develop more systematic tools to help issuers and investors better understand how their ESG credentials stand up.

In the past, this has been somewhat ad hoc and unstandardised. They are now developing issuer-level systematic tools that will allow participants a better understanding of these ESG credentials. It will really help the market infrastructure.

In addition, the fixed income markets are very conservative. Investors are familiar with the big credit rating agencies, but

they are still getting used to the second-opinion providers that have dominated ESG scoring in the green bond markets. We think that increased focus by the rating agencies on the ESG markets, and the provision of proper ESG scoring, will be an important factor to drive growth.

EF: Do you expect the proposed EU green bond standard to help or hinder the market's growth?

AM: We are quite positive about progress so far and about the conversations that are taking place. It is clear that the EU's standard will be based on current market practice. As we've seen with the European Commission's progress report, the main components will be use of proceeds, a process for project allocation and evaluation, tracking of allocation, and pre- and post-issuance reports. From that point of view, we're positive we're not seeing anything disruptive or that goes against what has been successful in the green bond market.

There are certain areas where we'd like to see some clarity. For example, the EU is proposing that external review verifiers will need to be accredited by some type of supervisory body – the Commission is due to provide guidance on this. In addition, non-EU domiciled entities will be eligible to apply the EU green bond standards.

The most important point is that the EU standards will align with the Green Bond Principles: compliance will be voluntary, and currently existing bonds that meet the provisions of Green Bond Principles will also be compliant with the EU's proposed standard. We don't see any risk of anything disruptive taking place.

EF: The EU's initiative is designed, in part, to reassure investors that they are getting what they are paying for when it comes to sustainable financial products. What advice do you give to institutional investors interested in getting involved in the green bond market?

Patricia Cuenllas, DCM, Sustainable Bond Group:

It's important to learn about the issuing companies and their strategies, and not just rely on the green reports that the various second-opinion providers produce: you need to form your own view. One of the key characteristics of green bonds is transparency, and there are various certification mechanisms that have also evolved along with the market that allow a great



Patricia Cuenllas, DCM, Sustainable Bond Group

level of comfort. Issuers are committed to this transparency and do tend to think very carefully about the projects they select to fund with green bond proceeds, and about the reports they publish, which tend to be audited.

What we usually see when we visit investors is that, in addition to the portfolio manager, there will also be an ESG expert, and they will both have a say, and will both have to agree on a particular investment.

EF: What developments you expect to see in the green bond market in 2019?

PC: Sovereigns, renewable energy, the building sector and transport are likely to continue to be some of the bigger

contributors to the green bond market. However, given the need to build out the low-carbon economy, we are seeing companies from all sectors integrating environmental drivers into their corporate and financial strategies. For example, we've seen [Spanish telecoms giant] Telefónica publish its SDG framework, and we expect to see big food companies play an increasing role in terms of issuing green bonds.

Angel Tejada, DCM, Sustainable Bond Group: Investors are very keen to see this sort of diversification. Similarly, I would like to see packaging, industrial and manufacturing companies getting involved to use green bonds to fund sustainability initiatives. The circular economy will be very important, and I'd like to see corporates using it as a motivation to issue green bonds. We also expect that issuers that have been active in one ESG pillar will get involved in other pillars, by issuing social bonds, or gender bonds, for example.

However, while we are of course very happy to see innovation, it's important that big players come back to the market with repeat issuances, and grow the market in different jurisdictions.

AM: We certainly expect to see more growth in the green asset-based finance space, particularly covered bonds and securitisations. We are particularly supportive of the energy efficient mortgage initiative led by the European Mortgage Federation, which should incentivise financial issuers to mobilise the green assets on their balance sheets to tap the market with green-backed bonds, and of efforts of countries like Luxembourg, which is developing regulations governing covered bonds supported solely by green assets.

The growth of green securitisation depends, however, on how European issuers deal with the new securitisation regulations, which are quite complex. We expect to see more green corporate securitisation which, in Europe more so than the US, is quite an exotic market.

We believe this is a likely source of growth: we expect to see a lot of demand from investors when they see that those structures are 100% supported by green assets. This is a step forward beyond the traditional use-of-proceeds green bond, where you have monitor the issuer, etc. By issuing green bonds directly to finance ring-fenced green assets, issuers can



Angel Tejada, DCM, Sustainable Bond Group

address concerns about additionality and green washing.

EF: What about the green loan market? What are your expectations there?

AT: The publication in 2018 of the Green Loan Principles was a milestone for that part of the market, and we expect to see a growth dynamic similar to that of green bonds. It's worth highlighting the potential higher degree of innovation with loans compared to bonds, mainly because of the bilateral relationship between corporate borrowers and financial institutions – we've seen ESG revolving credit facilities offered, and loans linked to companies' ESG performance.

BBVA taps green bond market

For BBVA, the green bond market is more than a means of helping its clients raise finance – it is also a source of its own capital. In May 2018, the bank issued its inaugural green bond, €1 billion of seven-year non-preferred senior paper, the largest green bond from a Eurozone financial institution. Strong demand – with €3 billion of orders taken in just three hours – allowed BBVA to shave 15 basis points (bps) off the price, from 95bps above mid-swap to 80bps above.

“Demand from ESG investors for debt from financial institutions will be increasingly important in the years to come,” says Tejada. Socially responsible investors accounted for more than 51% of BBVA's inaugural green bond, he adds.

The bond was placed weeks after BBVA published its Sustainable Development Goals (SDG) bond framework, which sets out a taxonomy of project types that can be financed by green, social or sustainable bonds issued by the bank. The BBVA SDG Bond Framework won the Best Designed Green/SRI Debt Framework in the Global Capital SRI Awards 2018.

In addition, the inaugural bond issue required more than a year of planning, with the bank putting together market-leading governance and oversight processes to enable ongoing sustainable bonds issuance.

The BBVA group followed this bond with two other green bond market firsts: In June, BBVA subsidiary Garanti issued the first private sector gender bond and, in September, BBVA Bancomer sold the first green bond from a Mexican private bank.

After starting this process in 2018, returning to the ESG bond market will be part of BBVA's 2019 funding strategy. The bank's intention is issue a benchmark bond – whether green, social or sustainable – on an annual basis.

“This market will be important for the bank in the context of BBVA's 2025 pledge, announced in February 2018, under which the bank committed to mobilise €100 billion by 2025 to tackle climate change and promote sustainable development”, says Tejada.

“The 2025 pledge is organised around three main pillars. The first, Finance, includes green finance, sustainable infrastructure, social entrepreneurship and financial inclusion,” he says. “Under the second pillar, Manage, we are committing to work to mitigate our own environmental and social risks and minimise potentially negative impacts, both direct and indirect. The third, Engage, will see BBVA engage all stakeholders to increase the financial sector's contribution to sustainable development.”

BBVA's active participation in the green bond market has helped raise the profile of the bank and bring it new business opportunities, he adds: “A pioneer role in this asset class has allowed us to be present in new geographies where we took leading roles in landmark deals.”

The development of that part of the market means we have a wider range of ESG debt products we can offer to clients, and we think that the growth of green loan provision will support increased interest in green bond issuance, as corporates graduate from green loans to fully-fledged bond issues.

PC: Generally speaking, we expect the green bond market to continue its growth trajectory in 2019, not only in volumes but also in terms of different kinds of issuers, sectors and investors coming to the market. Green bonds are increasingly mainstream – it's no longer a niche market. ■

Helping to build the green bond market

NRW.BANK has pioneered the green bond market in Germany as both an issuer and investor. As it markets its seventh green bond, its investor relations specialists talk to *Environmental Finance* about the case for best practice in the green bond market

Environmental Finance: NRW.BANK has just placed its seventh green bond: why has the bank become an enthusiastic green bond issuer?

Frank Richter, Head of Investor Relations: We're a German development bank, and Germans are very keen to fight climate change. NRW.BANK has been very engaged in financing environmentally friendly projects, such as renewable energy, etc. It was very natural for us, when we recognised that the green bond market was evolving, to get involved. We issued the first green bond in Germany, in 2013, and we have issued in total seven since then.

By issuing green bonds, we have been able to broaden our investor base; we have been able to attract investors who have not been involved in our regular funding programme. There is also a demonstration effect: we are committed to the green bond market, and we would love to encourage other issuers to follow us. That's another important benefit.

EF: You're marketing a new bond for 2019 – how has this issue evolved from previous green bonds from NRW.BANK?

FR: The green bond market is still emerging, and we try to be state-of-the-art with the bonds we issue. We issued the first bond in Germany with a second-party opinion and, since 2015, we have produced impact reports, quantifying the environmental benefits generated by each euro of lending.

David Marques Pereira, ESG Specialist, Investor Relations: Included in the reporting of our latest green bond, which was issued in the first quarter of 2019, will be a review of the bond by an auditor as part of NRW.BANK's non-financial



David Marques Pereira, ESG Specialist, Investor Relations

disclosure. Here, the auditor will look into the underlying green bond asset structure and will check that there is no green default during the lifetime of the bond. This review is recommended but not required by the Green Bond Principles, but since we have seen a growing interest in green audits by investors we are happy to include it in our reporting as an extra point of



Frank Richter, Head of Investor Relations

credibility for our investors.

In terms of the underlying asset pool, our previous green bonds were heavily based on wind energy in North Rhine-Westphalia; our latest one will for the first time (re)finance the transmission of green energy, helping to move electricity generated by wind farms to population and industrial centres

in the south of the country. While the Asian Development Bank has issued a green bond to finance electric power grids in its region, we think this is the first European agency green bond to include transmission assets.

EF: What specific type of projects will the bond finance?

DMP: The underlying assets of the 2019 green bond are divided into two groups: climate mitigation and climate adaptation. For the former, we are talking about projects that aim to reduce carbon emissions in order to contribute to the 2° target of the Paris Agreement. Besides the already mentioned transmission of wind energy, the bond also refinances wind parks in North Rhine-Westphalia, of which the majority are citizen-owned.

Another asset class included is clean transportation. While our previous green bonds funded e-mobility projects, we will see for the first time the inclusion of hydrogen-fuelled public transportation.

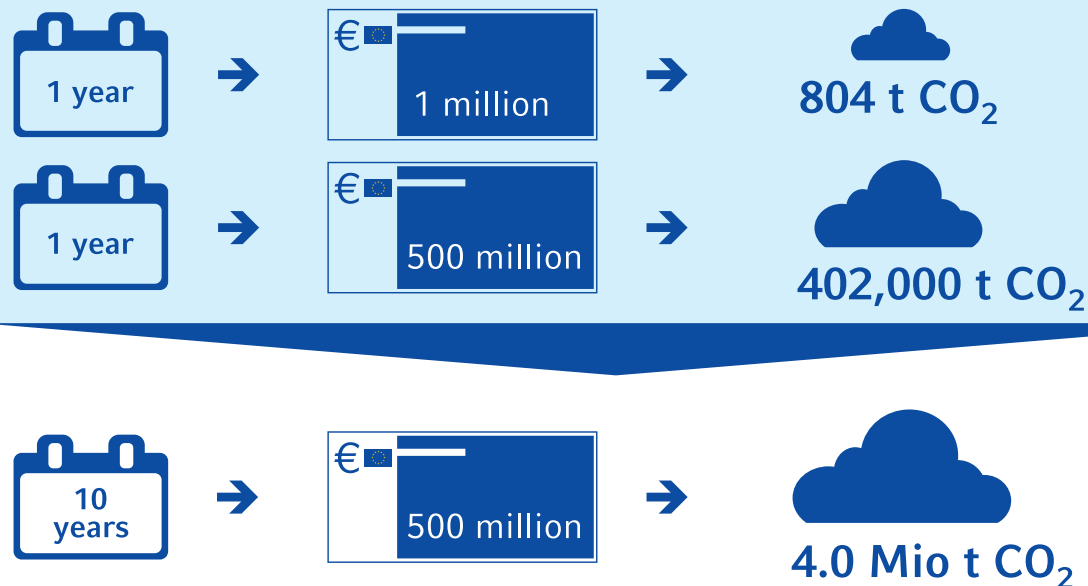
Climate adaptation, meanwhile, refers to measures that try to deal with the already existing impacts of climate change. Here we are talking about a project that many of our investors love: the restoration of the river Emscher, which is the biggest fluvial project in the EU. The project consists of creating flooding areas for heavy rain events, as well as helping to bring back biodiversity into the Emscher and its tributaries.

EF: How are projects selected for NRW.BANK's green bonds?

FR: We carry out a monthly review of our loan book to identify green assets. Our policy is to originate loans first, refinance them with money market operations and then, when we have reached a critical mass of €500 million, we seek approval from our asset and liability committee to enter the capital markets with a green bond to refinance the money market instruments.

However, the underlying assets must be fresh loans – that is, no older than 12 months before we begin the second-party opinion process. Investors like to see that their money is going into new projects. This is a particular consideration given that green technology is a dynamic field. Were we to refinance five- or six-year-old projects, we might be financing projects that aren't state-of-the-art, and thus we'd be reducing the environmental impact the green bond is delivering.

CO₂ Savings per Year:



CO₂ savings as calculated by the Wuppertal Institut

Source: NRW.BANK Green Bond 2017. For the detailed impact report and methodology, please visit www.nrwbank.com/greenbond

EF: What concerns are you hearing from investors who are considering buying green bonds in general, and NRW.BANK's green bonds in particular?

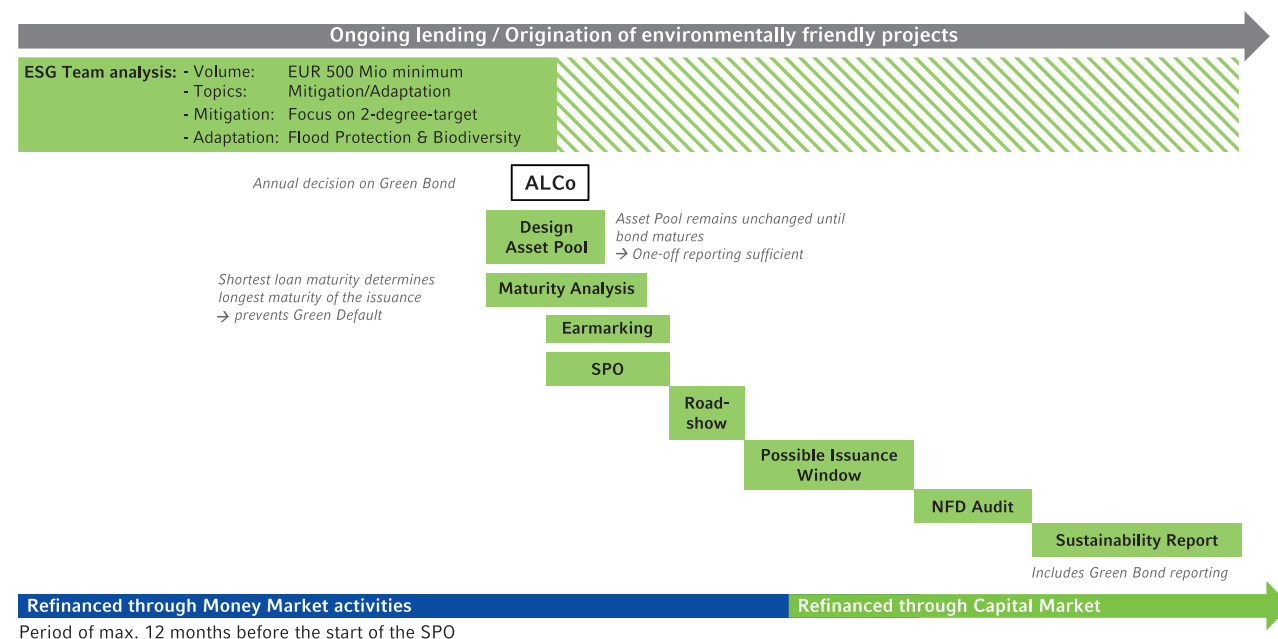
DMP: In general, the biggest topic for discussion is around the term 'additionality'. Many investors are concerned that if the green bond wasn't placed, the project would still exist – there is no additionality, no creation of green projects.

But this is not true. We have to look at it from a macro level. By issuing green bonds, NRW.BANK and other issuers support the market from the issuing side. We are helping to develop the market, to get it more established, and are generating more and more momentum. This encourages

other issuers to tap the market and more investors to enter the market on the demand side. This is exactly what we are seeing: creating awareness and visibility for green projects.

In addition, we have seen recently a pricing advantage to green bonds compared with conventional bonds. We pass through this pricing advantage on the green lending side. If you are able to offer cheaper loans, you trigger greater volumes.

We also see a great deal of attention paid to the ESG performance of the issuer; investors don't only want the green bond itself to be green, they want the issuer itself also to be environmentally friendly. We've felt this effect at NRW.BANK – we're greening our bank from the inside. As a result, NRW.



Green bond - process

Source: NRW.BANK

BANK enjoys high ESG ratings.

We've been publishing a sustainability report since 2004. Last year we published sustainability guidelines that, for the first time, set rules on the lending side of the bank. We've also set up a green bond investment portfolio, initially targeting €200 million in assets by 2020 – but we've already hit that, and upper management has decided to raise the target to €300 million.

EF: What about challenges as an issuer? Are there issues in the market you would like to see addressed?

FR: The regulatory environment for the green bond market is moving very fast. The European Commission recognises that the market is an important vehicle for mobilising capital to fight climate change. One of the big challenges is the taxonomy that

the Commission is developing. It's on a tight timetable, and we have an eye on how these developments will affect us.

For the time being, we are comfortable with how the process is developing. It is important that the taxonomy differentiates between the various themes – green, social and sustainability – and maybe the UN Sustainable Development Goals will offer some guidelines in that respect.

EF: What are the next steps for NRW.BANKs' green bond programme?

FR: As discussed, we're a frequent issuer. Because we are entering the market quite early in 2019, we expect to also issue a second green bond this year. We've already started collecting assets into the green bond pool. To give some insights into those assets, we are seeing considerable lending activity around

public e-mobility, as well lending to extremely energy-efficient hospitals.

Generally speaking, we are originating greater volumes of green loans than in the past, putting us closer to the position of issuing two green bonds in one year for the first time; the time between each green bond issued by NRW.BANK is getting shorter and shorter, because we are gathering more and more green assets.

This comes back to the additionality question. We are offering heavily interest-rate subsidised loans to green projects and, as mentioned, there is growing interest in reducing CO₂ emissions from private transportation through improved public transport, so there are municipalities heavily investing in their transport systems.

EF: As you note above, NRW.BANK is also an investor in green bonds. What are your current investment criteria? Where do you see value/opportunity as an investor in green bonds?

FR: The idea with our green bond portfolio is to support the market from the buy side, as well from the point of view of an issuer. We have strict investment criteria. Bonds should be in line with the Green Bond Principles. We need a second-party opinion of course. We carry out aggregate accounting of CO₂ savings for the green portfolio, therefore we have a preference for mitigation projects, and we need to see transparency around the carbon emissions reduced by each bond. We also prefer dark green, maybe medium green projects, according to Cicero's Shades of Green methodology. We only buy euro-denominated bonds, but we buy from issuers anywhere around the world.

EF: Equally, where do you see challenges as an investor?

FR: The main challenge is that it isn't easy as an investor to build a diversified portfolio. The market is getting broader and deeper, but it remains very hard to build a properly diversified book.

For example, there are still only four European sovereigns that have issued green bonds and, when it comes to corporates, the market remains dominated by power suppliers; we'd love to see more sectors participating, as well as a wider spread of credit ratings and maturities. ■



Green and Social Together: Nudging Sustainability Bonds in the Right Direction

Christa Clapp, CICERO Shades of Green Ltd. and Laurin Wuennenberg, International Institute for Sustainable Development (IISD)

Sustainability bonds are the newest trend to watch in the labelled bond market. In 2018, sustainability bonds and sustainability-linked loans reached record levels. Sustainability-labelled debt financing constitutes approximately 20% of the total green/social/sustainable debt financing market valued at \$247 billion and are one of the areas experiencing the fastest growth.¹

But are sustainability bonds the best solution for achieving Sustainable Development Goals? Or are they an opportunity for issuers to selectively align to only the SDGs that suit them, for example considering only specific social aims while causing negative environmental impacts, or vice versa? Only if the sustainable criteria are viewed in connection with each other, and not in isolation, can sustainability bonds avoid unintended negative consequences.

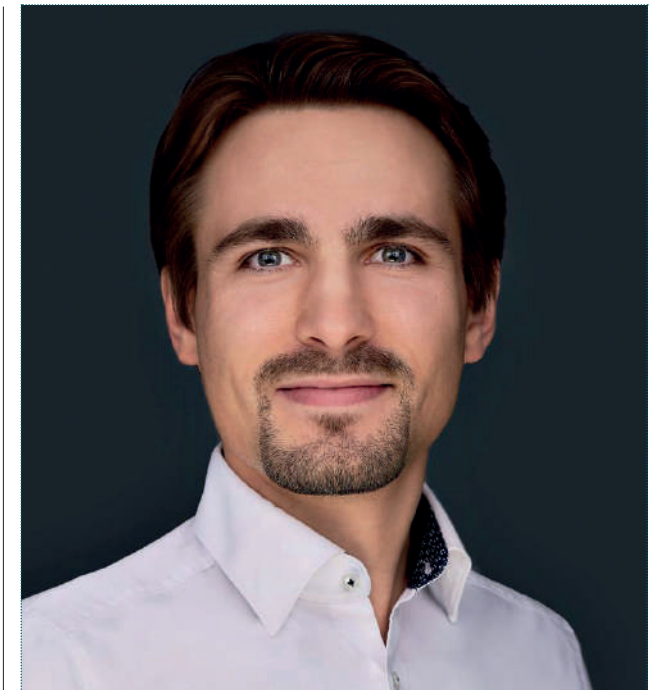
Green + social = sustainable?

Sustainability bonds are not as simple as just tagging the Sustainable Development Goals (SDGs) to project categories that yield some green or social value. How we interpret and apply the International Capital Market Association (ICMA) Sustainability Bond Guidelines should protect against green projects with potentially harmful social impacts, and vice versa: that social projects should not have negative environmental impacts.

Imagine a new housing development, designed to provide affordable housing to lower-income families, a great example



Christa Clapp, CICERO Shades of Green Ltd



Laurin Wuennenberg, International Institute for Sustainable Development (IISD)



of a social project with multiple positive social benefits such as improved urban livelihoods, better productivity of workforce, reduced crime rates, inclusiveness and social mixing. But now imagine it built with poor insulation, energy-inefficient equipment and supplied by electricity from fossil fuels, contributing to increased greenhouse gas emissions. This housing example highlights why we need to review against green criteria and social criteria for all project categories – under a sustainability bond framework the low income housing could be categorized as a social project. However, if the green criteria are not also examined, the project category becomes a loophole whereby issuers can ignore the environmental consequences. According to the IEA, the efficiency of all buildings needs to improve by 30% by 2025 to keep pace with increased building size and energy demand to be aligned with the Paris Agreement targets². Examining both green and social aspects together requires issuers to do their homework upfront – but this is necessary if we want to push sustainability bonds in the right direction.

The ICMA Sustainability Bond Guidelines (June 2018) highlight that sustainability bonds should be aligned to both the Green Bond Principles and the Social Bond Principles: “Sustainability Bonds are aligned with the four core components of both the GBP and SBP with the former being especially relevant to underlying Green Projects and the latter to underlying Social Projects.” According to ICMA’s Guidelines, Sustainability Bond Frameworks will contain both green and social project categories but there is no suggestion to establish a new third category for sustainable projects. However, this begs the question to what extent should green projects be subject to a social review, and social projects be subject to a green review?

To avoid ‘cherry-picking’ of only the Sustainable Development Goals (SDGs) that are convenient for showcasing a positive outcome, our interpretation of the Sustainability Bond Guidelines is one that is integrated. Green projects should comply with widely accepted social standards and contribute to social cohesion, while social projects should meet environmental standards and not oppose key environmental objectives such as climate change mitigation

and adaptation. In times of the climate crisis, biodiversity loss, rising inequalities, diminishing social cohesion in societies, political turbulences, and the 4th industrial revolution and its transformational impacts on our lives and workspace, there is a strong need for truly sustainable projects and mechanisms that steer capital towards such projects. Indeed, the integrated approach distinguishes Sustainability Bonds from others and justifies its space in the bond market.

The emergence of Sustainability Bonds should encourage issuers to find synergies and efficiency gains between social and environmental objectives and demonstrate to the market their capabilities and their ambition to identify and finance sustainable projects, cope with potential trade-offs and measure the impacts. Transparent and integrated review approaches to assess Sustainability Bond Frameworks are key for independently confirming the issuer’s capabilities towards the market. Combining both green and social review together provides a holistic review of Sustainability Bond Frameworks and their relationship with the SDGs.

Best practice case study: ADBC Framework for Green and Sustainability Bonds

The Agricultural and Development Bank of China (ADBC) is one of the top green bond issuers in China. Its debut offshore EUR green bond was issued under the ADBC Green and Sustainability Bond Framework, which provides an example of best practice in both green and social considerations. As a policy bank, ADBC supports China’s policies through financing focused on eliminating poverty at the regional level by 2020 and revitalizing rural areas. ADBC’s framework supports both green and sustainability bonds.³ Their green bonds can finance sustainable water and wastewater management, renewable energy, and environmentally sustainable management of living natural resources and land-use. The sustainability bonds can fund the above green bond project categories, in addition to affordable housing, affordable basic infrastructure such as water networks and basic medical facilities as well as essential services such as medical and educational services.

For the ADBC Second Opinion, the first sustainability bond

to be reviewed jointly by CICERO and IISD, we combined our Shades of Green methodology with assessment on social issues to raise the bar for sustainability bond second opinions. Both institutions saw the benefit of collaborating and combining their expertise for the review of sustainability bonds, given the critical role that financing of sustainable infrastructure will play in achieving SDGs and climate targets.

The Second Opinion by CICERO and IISD rated ADBC’s Sustainability Bond Framework Medium Green overall, noting that the Sustainability Bond Framework includes a broad range of project categories that generally support sustainable development. (The Green Bond Framework, which only contains green projects, was awarded an overall Dark Green shading from CICERO.) Example project categories and elements of the green and social analysis are shown in the table below. Sustainable water and wastewater management was assessed as a Dark Green category with some cautionary notes on reservoirs and potential health impacts. Affordable housing projects were assessed as a Light Green category based on limited energy efficiency improvements, but well aligned with SDGs 1 focused on no poverty and 11 focused on sustainable cities and communities.

For the green assessment, the Shades of Green methodology provided a framing to grade project categories Dark Green, Medium Green or Light Green, reflecting the climate and environmental ambitions of the bonds and the robustness of the governance structure of the Green and Sustainability Bond Framework. The grading is based on a broad qualitative assessment of each project type, according to what extent it contributes to building a low-carbon and climate resilient society. The shading methodology also aims at providing transparency to investors when comparing green bond frameworks exposure to climate risks. A dark green project is less exposed to climate risks than a lighter green investment. Project categories with only social targets might be rated ‘neutral’ signifying that these projects most likely will have an insignificant environmental impact.

Layering on top of the Shades of Green considerations, IISD analyzed the potential social impacts and risks of eligible green and social asset categories, based on IISD’s



extensive experience in sustainable infrastructure assessments and best practice guidelines and safeguards, such as the Environmental and Social Performance Standards of the International Finance Corporation. The reference framework of the SDGs was chosen for analyzing the benefits of social asset categories. SDGs are increasingly accepted and applied within the impact investment community, and many countries are working actively on implementing the SDGs. In addition, ICMA recently published a high-level mapping on the alignment between the SDGs and green/social asset categories of Green/Social/Sustainability Bond Frameworks. The assessment covers the bond issuer's capacity for anticipating and assessing adverse social risks when selecting eligible green and social projects. It is also reviewed whether the issuer has implemented policies that require project beneficiaries to have systems in place to avoid, reduce or minimize adverse social impacts.

Making Sustainability Bonds a meaningful trend

Given the continued spotlight on the SDGs, we expect that the market for sustainability bonds will continue to grow. We hope that this doesn't crowd out the useful work in the green bond space, but rather complements it to accommodate issuers and investors that want to integrate social aspects with green aspects. If green and social dimensions are integrated, sustainability bonds have the possibility to become something meaningful – where environmental performance and social cohesion have a symbiotic relationship. Enhanced transparency for sustainability bonds, and also social and green bonds, can inform investors on how social projects align with green impacts and on how green projects align with social objectives. ■

References

- 1 BNEF, 2019 (<https://www.bloomberg.com/professional/blog/sustainable-debt-market-sees-record-activity-2018/>)
- 2 IEA, 2017 (<https://www.iea.org/etp/tracking2017/>)
- 3 ADBC's Green and Sustainability Bond Framework: <http://www.adbc.com.cn/en/1061/c26588/content.html>
- 4 Access full ADBC opinion here: https://cicero.oslo.no/file/1238/adbc_2018_ver2.pdf



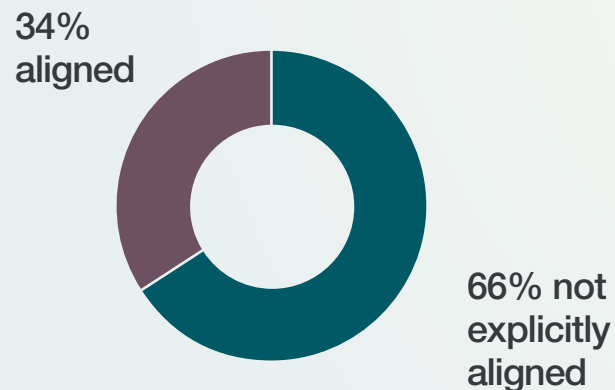
	Project category	Green analysis	Social analysis
Green projects  Dark Green	Sustainable water and wastewater management e.g. construction, operation and maintenance of water conservancy projects for flooding mitigation	Flood mitigation projects are important for mitigation of physical climate impacts. Projects that include construction of reservoirs could have large negative impacts on the local environment, ecosystem services, and biodiversity.	Well-conceived water and wastewater projects are important to sustainable development of affected regions and populations. Projects that include the construction of reservoirs could create breeding grounds for water-borne diseases and parasites. Such impacts may threaten health, safety and livelihoods of local communities.
Social projects  Light Green	Affordable housing Projects that aim to provide affordable housing to impoverished populations, including shanty town renovation projects	Resiliency considerations should be taken into account. Energy efficiency in towns may increase due to shanty town renovations. But energy efficiency performance of technologies and construction materials will likely not be best in class and there is a risk of locking in inefficient infrastructure.	Aligns with SDG 1 (no poverty) and SDG 11 (sustainable cities and communities). To support the sustainable development of communities, Projects should include the renovation of supporting infrastructure such as water treatment, waste treatment, and public transport facilities.

Table 1. Project examples from ADBC Second Opinion ⁴

Sustainable Bonds Insight

The green, social and sustainability bonds aligned with the Sustainable Development Goals amounted to \$70,238.6 M in 2018. 34% of green, social and sustainability issuances explicitly align with the Sustainable Development Goals. The three most covered SDGs are SDG11 (Sustainable cities and communities), SDG7 (Affordable and clean energy) and SDG13 (Climate action).



Methodology: Bonds that have been included in this infographic are those that have indicated that they contribute to one or more of the Sustainable Development Goals (SDGs) in their framework or external review. The figures represent the combined value of the bonds that align with each SDG. Several bonds have indicated that they align with more than one SDG.

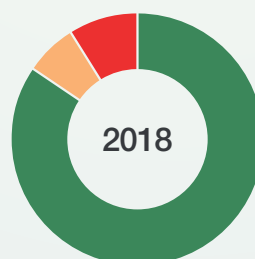
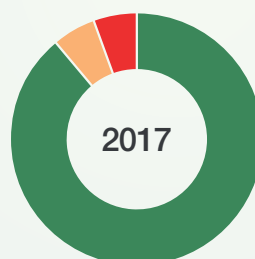
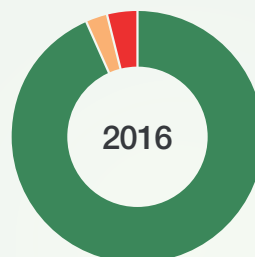
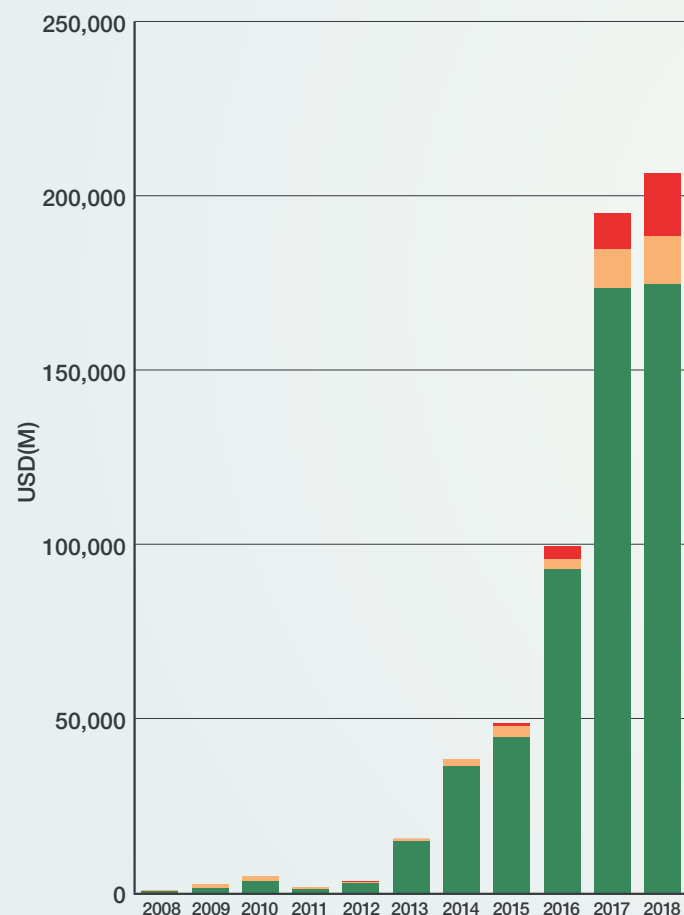
Sustainable Development Goals across the three markets combined



Cumulative issuances in the green, social and sustainability bond markets

The share of the sustainability and social bond market has increased significantly in the recent years.

Green bonds Social bonds Sustainability bonds



Impact reports across the green, social and sustainability bond markets:

Green bonds:

79.4%

of issuers in 2017 whose bonds aligned with ICMA Green Bond Principles 2017 have released an impact report in 2018.

Social bonds:

93.3%

of issuers in 2017 have released an impact report in 2018.

Sustainability bonds:

85%

of issuers in 2017 have released an impact report in 2018.

External reviewer share of the green, social and sustainability bond markets 2018 (by number of deals)

Sustainalytics remains a consistent provider of external reviews, reviewing 19.8% of deals by number. However, by value, 22.7% of issuances across the three markets remain unreviewed. 15.5% of deals using an external review are Climate Bond certified with CBI in turn using approved verifiers.



Methodology: The market share of external reviewers has been calculated according to the number of green, social and sustainability external reviews each has produced in 2018. Data covers only deals where an external review has been published.

“Green goes rainbow”: Going beyond the green dimension of sustainability

The need for a sustainable economic model with four pillars

Not only since COP21 or the introduction of Sustainable Development Goals (SDGs), there is a growing perception in the markets of developed nations that our current economic model built on the assumption of plentiful supply measuring success only in economic growth is no longer fit for purpose.

Economic growth is an incomplete indicator of wellbeing. It does not value other essential things like environmental, social and Governance quality. We have to realize that sustainable and economic development are inseparably linked with each other.

Furthermore, when talking about sustainable development we may not limit our view to the environmental perspective only. We have to consider social, Governance and economic impact as well.

Hence, we are in need of a new economic model, a sustainable economic model with four different pillars: economic, environmental, social and governance. That is the reason why DZ BANK has developed already in 2011 a unique EESG analysis and rating methodology to allow sustainable stock and bond picking for example.

Global fixed income market: Game changer to enable the transition into a sustainable future

The road towards this sustainable economy is unthinkable without the participation of the capital markets. According to the UN achieving the SDGs by 2030 for example will require a rough estimate of 5-7 trillion US Dollar annually across sectors and industries. Those financing needs are too vast to go through



Sustainable Bond Market Classification “Green goes rainbow”

Source: DZ Bank 2018

a “central pot”. Public investment alone is not nearly enough. The sustainable funding gap can only be met by significantly increasing private sector participation with the help of the capital markets. Fortunately, investors have started to recognize the sign of times and sustainable investing is on the rise.

The global fixed income market plays a key role in the transformation process. With an estimated volume of more than 100 trillion US Dollar, the global fixed income market bears huge potential for facilitating the transition to a sustainable future.

From our point of view, one of the most promising investment vehicles to support the transition towards a sustainable economy are Sustainable Bonds. They have the potential to be game changer to enable the transition into a sustainable future helping to close the sustainable financing gap.

2018 – A setback for the global Green Bond market?

Between 2007, the year when the EIB kicked off the market with its first Climate Awareness Bond, and 2017 the global Green

Bond market has experienced incredible growth. In November 2017, the new issuance volume has topped the significant 100 billion US Dollar benchmark for the first time.

Although, Green Bond volumes have broken through the 100 billion US Dollar mark in 2018 two months earlier than in the previous year, the market's growth has slowed significantly compared to the 84% year-on-year increase achieved in 2017. According to preliminary statistics from the Climate Bonds Initiative (CBI) global Green Bond issuance reached 167.3 billion US Dollar in 2018 (DZ BANK forecast: 150-175 billion US Dollar) and surpassed 2017 volume of 162.1 billion US Dollar only by 3%.

Is this a setback for the global Green Bond market being characterized by double to triple digit growth rates in the past and forecasted to top 1 trillion US Dollar by the end of 2020?

From our point of view, there is no need to worry.

On the one hand, 2018 figures reflect decreased issuance in some bond markets, particularly from US Muni issuers. According to the CBI, this is in line with a wider trend in US Muni issuance. The passing of the Tax Cuts and Jobs Acts of 2017 by Congress in December 2017 resulted in major alteration to US tax law, and that has impacted the issuance of refunding bonds in particular.

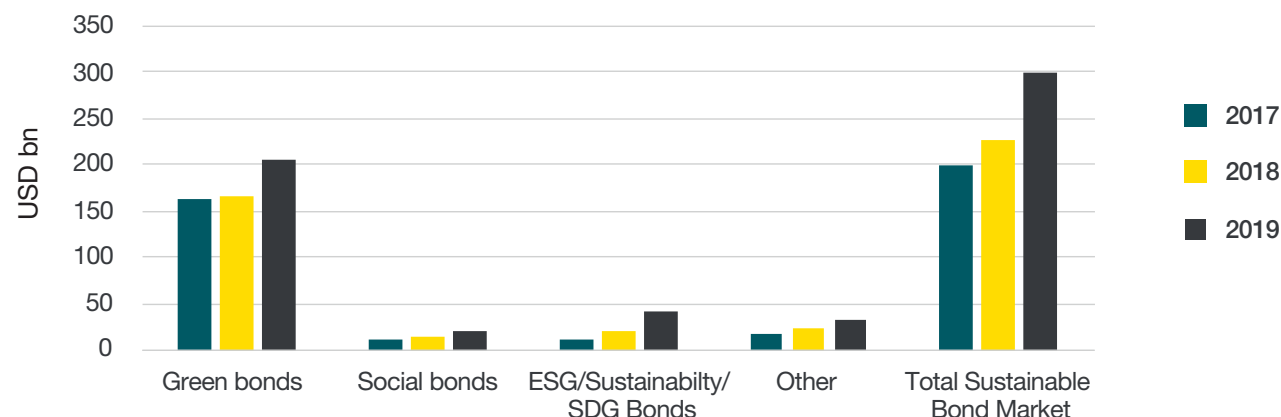
On the other hand, and this is the key development, there is the trend that "Green goes rainbow". Issuers are going beyond the pure environmental perspective. Social Bond and ESG bond issuance for example is on the rise. Bonds also act increasingly as a bridge to the 17 SDGs.

"Green goes rainbow"

In our last two annual Sustainable Bond market forecasts, we predicted the trend "Green goes rainbow", meaning that more and more issuers are going beyond the pure environmental perspective when issuing sustainable bonds.

2018 was an important year for this increasing diversification in the Sustainable Bond market, which has already begun a couple of years ago.

According to the CBI, there was a significant rise in the issuance of ESG, Sustainability and SDG as well as Social Bonds, underscoring increasing label diversification.



Sustainable Bonds: Market Forecast 2019

Source: CBI, DZ Bank (2019)

Preliminary statistics from the CBI show the overall Sustainable Bond market has grown by 13% from 199.3 billion US Dollar in 2017 to 226.1 billion US Dollar in 2018. ESG, Sustainability and SDG Bonds experienced a 114% year-on-year growth to 21 billion US Dollar. Social Bonds rose 37% year-on-year to 14.2 billion US Dollar.

For 2019, we expect this trend to continue. We forecast new issuance in the global Sustainable Bond market to grow by around one third, hence exceeding the 300 billion US Dollar mark. The Green Bond market is expected to grow at least by 20% exceeding the 200 billion US-Dollar mark by the end of this year. New issuance of ESG, Sustainability and SDG Bonds as well as Social Bonds will remain the growth driver of the market and is forecasted to increase by around 75%.

A closer look at the Social Bond market

The Social Bond market aims to enable and develop the key role that debt markets can play in funding projects that address global social challenges. Social Bonds are use of proceeds bonds that raise funds for new and existing projects with positive social

outcomes.

Since 2014, the annual issuance volume has grown more than 28x as of 2018.

Although still in its infancy, Social Bonds are one of the main growth drivers of the overall Sustainable Bond market in the coming years. The relatively young market already passed a significant milestone when the Social Bond Principles (SBP), a global framework for issuing Social Bonds, were introduced in 2017.

Like in the Green Bond market, Supranational, Sub-sovereign and Agencies (SSAs) were the pioneers of the Social Bond Market. Especially multilateral stakeholders like the Council of Europe Development Bank (CEB), where social impact is already at the heart of the mandate, were catalyst in the creation of the segment.

A forerunner in the market and frequent issuer since 2015 is Spanish state-owned bank Instituto de Crédito Oficial (ICO). With a total volume of more than 2 billion euros, ICO is currently the leading issuer of social bonds. ICO's main role is to promote economic activities that contribute to the

growth and development of the country while improving the distribution of wealth, especially sectors identified as a priority due to their social, cultural, innovational or environmental significance. This is the context in which ICO is launching its Social Bonds in order to create or maintain employment in Spain's most economically disadvantaged regions. To achieve this objective, the funds raised via the Social Bonds will be used to finance SME projects in those regions where income per capita is below the national average and that are not involved in industries considered to have a potential negative social or environmental impact, including alcohol, tobacco, gambling and coal mining.

Another frequent issuer in the Social Bond market is the Nederlandse Waterschapsbank (NWB Bank), one of the largest financial services provider for the public sector in the Netherlands, which has issued five so-called Affordable Housing Bonds since 2017. NWB Bank is a large lender to the Dutch SHO's social housing assets and the proceeds of the bonds are used for financing the social housing sector. In the Netherlands Social Housing Organizations (SHO) provide social and affordable housing to people with low incomes, or other vulnerabilities, that have difficulties to access dwellings on the market.

In November 2017, BayernLabo was the first German SSA to issue a Social Bond. As a public law institution pertaining to housing, BayernLabo's primary statutory mandate is to promote housing and urban development in Bavaria. The aim is to (re-)finance subsidised loans from three of BayernLabo's loan programmes, which are beneficial from a social point of view by providing housing to low-income households. The Bavarian loan programme of low-interest loans for private housing supports especially young families in the construction or purchase of their own living space. The Bavarian modernisation programme and the Municipal subsidized housing programme increase the supply of reasonably priced rental housing. Especially the Bavarian modernisation programme also aims at preserving and restoring the urban function of older residential areas.

We forecast that the Social Bond market will exceed the 20 billion US Dollar mark by the end of 2019.

DZ BANK EESG analysis and rating model

Since 2011, DZ BANK is offering investors an integrated analysis and rating methodology that goes beyond the traditional ESG approach. The economic, environmental, social and governance ("EESG") research model integrates economics as the fourth dimension of sustainability, hence providing a link between financial and sustainability performance. Compared with the conventional ESG viewpoint, DZ BANK's EESG method permits a more capital-market oriented analysis. It is based on the principle of materiality and is not solely focused on internal guidelines, rules, processes or corporate strategy. Rather, it includes aspects such as the ecological, social and long-term economic impact of products and services in its evaluation of issuers. In addition, this model takes into account the fact that sustainability is not a rigid concept but a complex, dynamic investment process. Conventional sustainability ratings are often only updated periodically. By contrast, the model used by DZ BANK allows continuous analysis and monitoring of issuers. The EESG model helps sustainability-oriented investors to take rapid decisions on the capital market by reducing the complexity of sustainability to a score/ranking. This enables institutional investors to undertake sustainable stock and bond picking and hence to structure portfolios from a sustainability viewpoint.

We expect SSAs to remain the guarantor for quality in the market. However, we forecast further diversification especially with regard to financial- and non-financial corporates, a trend which already begun during 2018.

In March 2018, Danone issued its inaugural social bond, hence being the first-ever corporate tapping into the Social Bond market since the publication of the SBPs mid-2017.

In September 2018, DKB, the first German commercial bank, which has issued a green bond, launched its second sustainable refinancing programme for capital market products: a Social Bond programme. This made DKB the first bank in Germany to have launched both a Green and Social Bond programme.

Given the fact that there was no Social Bond issuance from the German non-financial corporate sector so far (the only two non-financial corporate sustainable benchmark transactions from Innogy in 2017 and EnBW in 2018 were Green Bonds) we are also confident that we might see the first Social Bond from a German corporate issuer in the course of this years.

We also expect further geographical diversification in 2019, a trend, which already gained momentum during 2018.

In July 2018, state-run Industrial Bank of Korea (IBK) made a successful debut in Social Bond market. In November

2018, Korea Housing Finance Corporation (KHFC) issued the first social covered bond in Asia. In January 2019, Bank of America became the first U.S bank to issue a social bond.

The increasing mapping of financing objectives against the SDGs also bears a huge potential for the qualitative and quantitative development of the Social Bond market. According to the International Capital Market Association (ICMA) 13 out of the 17 SDGs have been identified as being relevant to the SBPs. ■



Marcus Pratsch,
Head of Sustainable Bonds
& Finance, DZ BANK AG

Bringing billions and housing to the green bond market

Fannie Mae's Green Financing programme is tapping the global capital markets to reduce energy and water bills for thousands of multifamily owners and tenants in housing, making the US housing finance giant the world's largest green bond issuer along the way

Environmental Finance: Over the last two years, Fannie Mae has been the world's largest issuer of green bonds: what was the genesis of your Green MBS programme?

Chrissa Pagitsas, Vice President, Enterprise Environmental, Social, Governance: We frequently get asked how we achieved this 'overnight success' of becoming the world's largest green bonds issuer. However, we have had a long commitment to green financing and green bonds. We launched this programme for the multifamily market in 2010 and issued our first Multifamily Green MBS in 2012. Our \$50 billion-plus Multifamily Green Bond portfolio today represents the maturation of our programme.

Fannie Mae's mission is to support the US mortgage market by providing stability and increased liquidity and to help underserved markets – such as affordable housing for low- and moderate-income families. Although we cannot directly build more affordable housing in the United States, we have the ability to make housing more affordable for tenants; we see energy and water efficiency contributing greatly to that outcome.

Here in the US, utility costs outpace inflation, rising by more than 50% over the past decade according to The Harvard Joint Center for Housing Studies. Green Financing and Green Bonds positively impact tenants' quality of life by making existing housing stock healthier and more affordable. Thinking about

this impact from the pocket book, a study by Energy Efficiency for All found that low-income households spend a median of 7.2% of their total income on energy bills annually, more than twice what the median household spends.¹ Fannie Mae sees that finding innovative ways to support affordability in housing through energy and water efficiency while also developing a strong security in the market fulfils our mission.

EF: Clearly, it took a few years for the programme to reach critical mass. What were the challenges you faced in bringing it to scale?

CP: Key to the programme's success lay with our ability to communicate to our lenders the value of the product for their customers, multifamily borrowers. We often underestimate in the financial services industry the degree to which people need to be influenced and helped to understand the value in 'green'. Our multifamily business operates through a delegated business model, using our lender partners as our sales force to reach individual apartment owners. We needed to communicate to our lenders why green financing is good, and why it benefits their borrowers. We had to help them understand the eligibility criteria, the programme requirements, and the financial and environmental impact and how they could communicate this information to their borrowers.

This volume is about technical innovation – around credit risk

The Fannie Mae Multifamily Green Bond Framework

Fannie Mae provides liquidity to the US mortgage market, purchasing and guaranteeing mortgage loans made by lenders to single-family and multifamily properties. In 2010, it launched its Multifamily Green Financing Business, which offers advantageous lending terms to owners of multifamily rental properties who commit to target reductions in energy and water consumption. Since 2012, Fannie Mae has tapped the green bond market by issuing green mortgage-backed securities (MBS), becoming the world's largest green bond issuer in 2017 and 2018, issuing a total of more than \$50 billion in green MBS by the end of 2018.

and green bond issuance – but it's also about human change management and transformation. I can't stress that enough: if a lender doesn't understand the value of green financing, we won't see a loan. Key to that, in addition to describing the benefits, was keeping it simple: so a lender could talk about energy consumption in 30 seconds or less. We also had to innovate new processes in the energy underwriting world – streamlining the energy audit turnaround time from two months to two weeks – in order to

meet the tight timeline requirements of the commercial mortgage world.

EF: How were you able to make the product sufficiently attractive to achieve \$50 billion of issuance?

CP: When something is new, you have to create an incentive to make it stand out. We offer a slightly lower all-in interest rate on green loans than borrowers can get for a non-green loan by reducing our portion of the capital stack. But that's not the only incentive: we also created industry-changing underwriting to allow for additional loan proceeds – so a bigger loan – by underwriting projected energy and water savings from the tenants' bills as well as the owner's, as well as paying the entire cost of a Level II ASHRAE-standard energy audit. We are focused on creating value for owners beyond the interest rate.

To qualify for a Green Rewards loan and all its benefits, the owner has to make capital improvements that are projected to reduce the property's energy or water consumption by 30%, and 15% of that reduction must be in energy consumption. This is a meaningful reduction for properties in the US, and that reduction impacts more than just the owner's bottom line.

We would like owners to do more than improve the energy and water efficiency of their buildings' common areas: we want them to make investments in the refrigerators, in the lighting, heating and ventilation systems in the residential units. We find ways to encourage the owners to not only think about increasing their cash flows, but also reducing their tenants' expenses. By aligning borrowers' incentives with ours and the tenants', Fannie Mae's Green Financing Business is better able to fulfil Fannie Mae's mission to support affordable housing in the United States.

Crucially, we tie additional lending to tenants' savings: if tenants are projected to save \$100 on their bills, we allow the lender to underwrite \$25 of that, so the owner can take a larger loan. We've made incentives material to the owner, but they also benefit the tenant: we look at the building holistically. No other mortgage product in the world that I've seen offers this underwriting.

EF: Given that it is the tenant, not the property owner, that sees that savings on their bills, doesn't that risk breaking the link between the mortgage holder's cashflows and the size of the loan?

CP: That \$25 will not show up directly on the owner's cashflow;



Chrissa Pagitsas, Vice President Enterprise Environmental, Social, Governance, Fannie Mae

it's the tenant's utility bill, but we're giving the owner credit in its net operating income for the tenant's projected savings. It's ground breaking, but it needs to be put in context. The influence of that underwriting may move the loan size by very little, by approximately 1-2%. There are many other assumptions that underwriters make – such as about projected rents, occupancy rates etc. – that move the needle more than that. Rather than looking at this innovation in isolation, as something new and therefore risky, we need to think about it in relation to other technical levers that can also influence loan proceeds.

EF: Issuance was down somewhat between 2017, when you sold almost \$28 billion of green MBSs, and 2018, when the figure fell to \$20 billion. What was the reason for the fall?

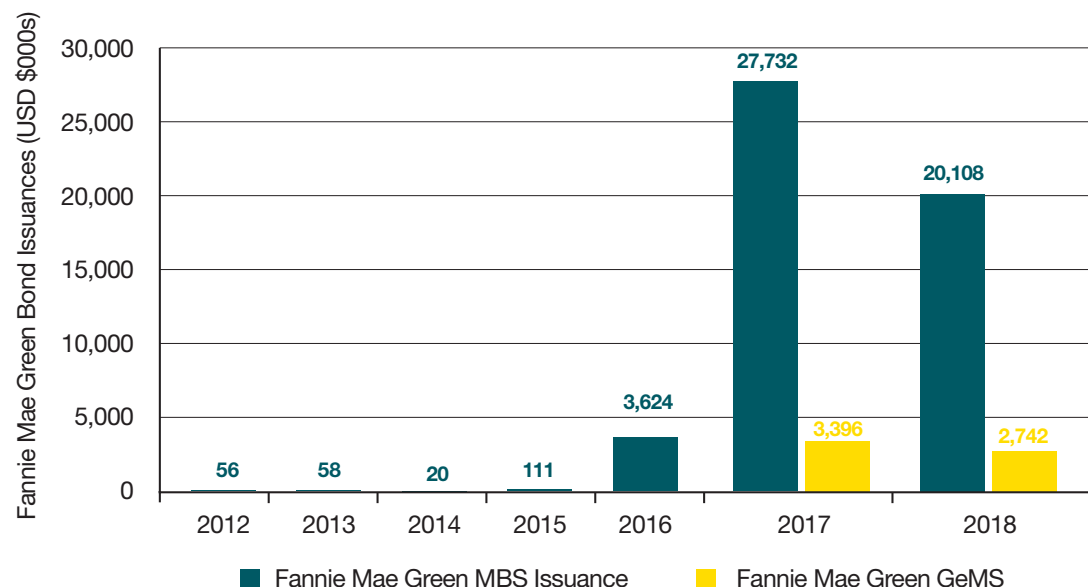
CP: If there's a highly competitive mortgage market, the spread between a green loan and a non-green loan tightens, and we may not win as many green loans. Last year was a highly competitive market. We still issued \$65 billion of multifamily MBS, which was a great number, and we are proud that we could capture 30% of that business for green.

In addition to that \$20 billion of MBS issuance, however, we also issued \$2.7 billion in Green GeMS™ (Guaranteed Multifamily Structures) in 2018. GeMS are a re-securitization of a pool of DUS® MBS into a Real Estate Mortgage Investment Conduit (REMIC) structured product. Some investors prefer our single pool MBS, and others prefer our GeMS, which allow for investors to have a larger, more geographically diverse group of MBS collateral as the base of their investment. The product also allows for time tranching and stripping of an interest-only class in order to try to provide different green investment options for different socially responsible investor demands. To date, our capital markets department has issued over \$7 billion in Green GeMS. These securities serve a dual purpose of also attracting new investors to our DUS and GeMS products, creating more liquidity for the US housing finance market.

EF: Clearly, there's been no shortage of investor demand for Fannie Mae's Green MBSs – but what questions do new buyers have about the bonds?

CP: When I'm on the road meeting with investors globally, the two most common questions I receive are: what makes our green bonds “green”? And, how does Fannie Mae operate and issue MBS? On the first one, I share our long-term commitment to Green Financing, and our strict requirements to ensure that Green Mortgage Loans are indeed targeting high levels of energy and water consumption reduction. I talk about our lenders' use of escrow accounts to manage the use of proceeds for energy and water efficiency capital improvements and our commitment to reporting. Last but not least, I highlight our CICERO Second Opinion, which is a powerful external validation of our programme.

On our business model and issuances, Fannie Mae supports the liquidity and stability of the US mortgage market, primarily through purchasing and securitising mortgage loans originated by lenders into MBS, which we then guarantee. We operate in the secondary mortgage market in two business lines, Single-Family and Multifamily. Fannie Mae is a government-sponsored enterprise, chartered by the US Congress in 1938 to support America's housing market. Since September 6, 2008, Fannie Mae has operated under the conservatorship of the Federal Housing Finance Agency and has subsequently entered into an agreement



Fannie Mae Green MBS and Green GeMS Issuances 2012-2018

with the US Treasury that permits us to continue to fulfil our mission.

There's no lack of capacity in the market for our green bonds, but I recognise the need to continually educate the market, particularly around the stability of an MBS product.

EF: In its second opinion on the Multifamily Green Bond Framework, Cicero rated it as 'Light Green', describing the solutions it supports as a "necessary and important first step in a low-carbon ... transition". Do you agree with that assessment?

CP: CICERO recognises the need for this type of transitional green bond product. We can't solve the climate problem through new-build alone; there isn't enough capital to replace every piece of real estate globally with super-green properties. And, even with low-waste construction techniques, there is still environmental impact from building new. We have to retrofit existing, aging real estate to achieve rapid, market transformation towards reducing greenhouse gases globally.

Let's look at why this matters. Data analysed by our Multifamily Economics and Market Research team shows that, in 2019, there will be an estimated 453,000 multifamily units added to the US housing stock. This is 2% of the overall 20.8 million multifamily units that are estimated to already be in the market.² Unfortunately, market data is not available on how many of these new units will be built to green building certification standards, like Passive House or LEED, but let's make a generous assumption that 10% or 45,300 of this year's new multifamily units will be built to green standards. If that's the case, then only 0.2% percent of the overall units will be green in 2019, and it will take 459 years for the existing stock to be replaced with green certified units.

Focusing on existing housing stock means that we can really impact greenhouse gas emissions. According to a Deutsche Bank study, in New York City, multifamily residential buildings account for approximately 35% of all greenhouse gas emissions. As a matter of perspective, that is equal to the emissions from all New York City office, retail, and industrial buildings combined, and

more than 50% higher than emissions from all vehicles in New York City.³

Now let's look at the opportunity to retrofit: in analysing over 2,000 Fannie Mae Green Mortgage loans, our data shows that multifamily properties can save 15% on energy consumption and an additional 15% on energy or water consumption at a reasonable median cost of \$462 per unit. This cost is important because we should be cognisant that an owner has to be willing to spend the capital to make the property energy and water efficient. This capital consideration is important because property owners are always thinking about their returns on investment and what they will return to their equity holders.

Given the waste creation of the tear-down-rebuild strategy, and the overwhelming need to create more energy and water efficient multifamily properties, it is clear that the rehabilitation of existing buildings to meet energy and water consumption reduction targets has an important place in transitioning the global economy to a carbon-neutral environment.

EF: What's next for your Green Financing programme, and Green MBS issuance from Fannie Mae?

CP: We've expanded our list of eligible Green Building Certifications this year to include additional green certificates recognized by international markets and with high energy and water saving targets, such as Passive House Institute and PHIUS. And we're encouraging borrowers to consider installing solar panels on their multifamily property rooftops as an eligible green retrofit. Solar is complicated to place on existing properties, but we are here to support both our borrowers and lenders with deep knowledge of how to do it.

We are also attempting to address the demand side of the green bond equation, by engaging socially responsible investors who may not be familiar with US Agency collateralised MBS as a green investment asset. We are spreading the word about this high credit quality, dollar-denominated, Green Bond Principle-compliant, asset-backed security offering – Fannie Mae DUS MBS. ■

References

- 1 Energy Efficiency for All, *Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities*, (2016)
- 2 NMHC 2017 data, <https://www.nmhc.org/research-insight/quick-facts-figures/quick-facts-apartment-stock/>.
- 3 Deutsche Bank Americas Foundation, *The Benefits of Energy Efficiency in Multifamily Affordable Housing* (2016)

Driving green growth while gearing up for new themes

The social and sustainability bond markets are growing, but Barclays expects investor and issuer focus to remain on green in the coming years. Its green bond experts explain how the business is positioning itself for growth – both on the investor and origination side – as the themed bond markets evolve

Environmental Finance: What are your expectations for the green bond market in 2019? What are your key areas of focus in the near-term future?

Rhian-Mari Thomas, Global Head of Green Banking, Barclays: Going into 2019 is pretty exciting for green finance and green product innovation. With the EU green taxonomy coming out later this year and financial regulators making strong statements on climate change, investors seeking greater disclosure in order to mobilise capital and the TCFD that provides that framework, gaining signatories and momentum, there's a definite sense of accelerated urgency in climate finance.

The growth of blended finance solutions and increasing co-operation between policy makers, development banks and investors could also provide a real boost of green projects in the real economy. This, in turn, could provide more impetus for green bonds.

Also, the recent Fitch Ratings report on how ESG considerations can influence credit ratings more broadly is important for the growth of the green bond market. This is something we really considered when issuing our own green bond – we were conscious we needed to strategically align our



Rhian-Mari Thomas, Global Head of Green Banking, Barclays



Maximilian Meyer, Director, Barclays Investment Bank

organisation with a sustainable pathway rather than issuing a green bond as a one-off exercise.

Maximilian Meyer, Director, Barclays Investment Bank: On the origination side I've so far focused mainly on Europe, but we're increasingly working with clients in the Asia Pacific region and expect more of this in 2019. China is obviously the biggest green bond issuer by volume and we want to keep up with this development.

This ties into another trend we're seeing. Issuers in industries at risk of being negatively impacted by environmental pressures are becoming increasingly aware of green bonds. We're already seeing such issuers reaching out to us. Rating agencies are increasingly identifying sectors such as coal mining as being at immediate risk and this is making companies think twice about their business model for the next decades.

Green covered bonds also have growth potential. Covered bonds are considered a safe haven amid wider market uncertainty and volatility, and we're expecting volatility to continue into 2019.

Stephen McDowell, Managing Director, Head of investments, Barclays Treasury: We definitely welcome more green covered bonds in the future. We saw more covered bonds last year and it's a sector we're involved in on the investor side. Because of the huge amount of loans out there we feel we haven't really scratched the surface yet on green covered bonds. There are of course many challenges in issuing covered versus issuing unsecured, but we do see some issuers solving the problem, and we are very keen to work with more to get this sector up to scale.

In the near term, the growth in sovereign green bonds are really our focus as an investor. The biggest market development for us in recent years is that governments have started to issue green – it really brought scale to the market.

We would also hope to see more issuance growth from financing large scale infrastructure projects such as the Societe du Grand Paris (SGP) bonds, which are financing EUR 35bn of green infrastructure in the next ten years. The SGP green bond programme sets a very interesting blueprint for green infrastructure finance. When we talk about global



Stephen McDowell, Managing Director, Head of investments, Barclays Treasury

infrastructure needs it's a huge financing opportunity – considering that global annual spend on large capital projects total as much as \$2.5trn per annum. The SGP programme is an example of how to exclusively use green finance to develop a major infrastructure project. Hopefully it will set an example for other imminent infrastructure projects globally.

EF: You've rapidly become a major green bond investor in the past few years – could you explain what's behind your green bond investment drive?

Stephen: My team looks after the liquid asset portfolio for Barclays, a large portfolio held to satisfy regulatory requirements. Our total portfolio across both cash and various fixed income securities is in the region of GBP 200bn at the moment. We've got large holdings of various issuers in the government sector, supranational space as well as in covered bonds. Within all these three sectors there are issuers active in the green space so that's how we ended up effectively creating a green bond mandate a few years ago. We decided we would allocate a certain amount of our portfolio to green bonds, starting with GBP 1bn and eventually GBP 2bn, which we've now satisfied. Our aim is to grow this portfolio to somewhere around GBP 4bn.

EF: What are your thoughts on the growth of sustainability and social bonds?

Rhian-Mari: Clearly we have the capability to support our clients if they want to issue social, sustainability, SDG linked bonds. These markets are growing fast, we've also seen the issuance of blue bonds and we can expect other themed bonds to develop in response to issuers aligning their business practices to the SDGs. Green bonds still represent the vast majority of themed issuance and the challenge is to evolve that market to support some of the heavier carbon emitting sectors as they transition their businesses. We want to be at the forefront of that thinking, working closely with the investors and the potential issuers to retain the integrity of the green bond label whilst addressing the underlying aim of mobilising capital to decarbonise the economy.

Maximilian: On the origination side, a lot of client conversations focus on 'who are the key investors we should target' and 'what other thematic bonds will emerge and who will invest in them'? My opinion is that the investor universe is split – a majority of investors have a preference for either green or social. Some invest in both but the majority of them still focus on green.

When we speak to issuers they struggle to distinguish between the two. The International Capital Markets

Association (ICMA) has published green bond principles, sustainable bond principles and social bond principles – but it's all happened quickly, maybe too quickly for the market to really digest all of this.

Issuers want to widen their access to investors while doing something that boosts their reputation, but they can't always differentiate between the different types of bonds. Both issuers and investors are confused, to some extent. As a result, I don't think the investor take-up has been that great on some sustainability bonds.

Stephen: Social bonds right now feel similar to green bonds when we started looking at them back in 2014, which is when we first had the idea of a green bond mandate. We had a first draft of the Green Bond Principles but we were certainly short of any agreed standards and there were few second opinion providers out there. But the market really wanted to get going.

I feel social bonds are in a similar stage of the growth cycle – the market wants to get going and we've got Social Bond Principles, but we are still lacking any coalescing on commonly agreed standards and are short of anything to do with certification and verification. That's our take on that market at the moment.

On a more personal note, my experience with green bonds back at the start of our efforts to develop a mandate was that given the lack of agreed standards, verification and certification in green bonds it was quite a difficult project for us. Entering a new market where reputational risk is reasonably present is difficult. We wanted to make sure we were really getting what we thought we were getting through our green bond investments and that's not necessarily easy to do.

It is also worth noting that social is much broader than green, so even if we're in a relatively similar part of the growth cycle as green bonds were a few years ago it's definitely a more challenging market. The complexity for a new investor probably is greater as things are more complex and blurry than with green bonds when they were quite new.

With green bonds, you can usually measure their impact in terms of outcome. There's generally something to measure and report on that's relatively clear and can generate a number. With social bonds, it's more difficult for issuers and investors

to see some sort of measurable outcome. As an institution we like the idea of social bonds and would love to join in on the investor side, but the complexities and challenges give us reason to pause here as an investor for now.

EF: What's needed for the social and sustainability bond markets to grow and mature?

Stephen: We got into green bonds way before there were any ideas around standards. Now you see certainly some published standards for the market to coalesce around such as what constitutes a good solar project and a not so good solar project. I don't think the market is there yet to discuss what's a good or bad education project – is there even a bad education project? I think it's very hard to measure. It took us a long time to get comfortable with the green bond space but as the market is getting going you see clearer and clearer ideas around what a green project is. We need this type of

verification, certification and standard efforts in social bonds also.

Maximilian: The Sustainable Development Goal (SDG) bonds gave the market a bit more of a robust framework. While I think green bonds will remain the focus of most issuers and investors, the social and sustainability market will grow. Many issuers and potential issuers, especially financial institutions, probably have much more social than green assets in their portfolio. So, in order to diversify their investor base further, more issuers will look at getting social bonds across the line.

But there is an acute need for green bonds. We have important climate targets that we need to achieve and there's an imminent threat to the world if the underlying issue isn't addressed. That's why I think the focus will remain on green for now. ■

Pursuing green through multiple financial products

While Barclays is rapidly expanding its green bond activities, it has also rolled out a number of other green products for clients who cannot access the capital markets, says Rhian-Mari Thomas, Global Head of Green Banking at Barclays. These products include green corporate loans, innovation loans, asset finance, trade loans, corporate deposits and mortgages.


















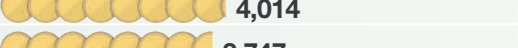

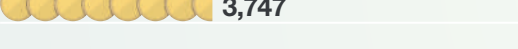
"The green mortgages have a particularly interesting backstory," she says. In November 2017, Barclays issued a EUR 500m five-year bond, proceeds of which were used to finance or refinance the most energy efficient mortgages in its UK mortgage book. "The positive reaction we got from the market to this bond really elevated the dialogue internally on green finance. It was a really helpful exercise on what we're trying to do in green innovation."

When analysing the mortgages Barclays was able to show that more energy efficient mortgages are less likely to default, she explains. "This enabled us to bring green mortgages to the market at a lower price point than non-green. We launched green mortgages in April 2018 and they've had the fastest pick-up of any mortgage proposition launched in the UK by Barclays in recent years."

On a company-level, this created a virtuous cycle for Barclays in terms of green finance, Thomas says. It is now able to demonstrate that its green bond wasn't issued in isolation but as part of a broader thinking on how to pursue green finance.

Barclays has worked with Sustainalytics to establish a definition of 'green' that it applies across its suite of products. Smaller clients who aren't active in capital markets are "very keen to engage" but want guidance on what is green. "Green loan products meet their demand – a mid-market client can come to us and say 'can I have a green loan?' and have external validation that what they're doing really is green."










Top 10 green bonds lead managers in 2018

Lead manager	Volume (\$M)	2017 Rank*
 CRÉDIT AGRICOLE CORPORATE & INVESTMENT BANK	 10,157	1
 Bank of America Merrill Lynch	 9,836	4
 HSBC	 8,752	2
 BNP PARIBAS	 7,785	6
 citi	 6,900	3
 J.P.Morgan	 5,878	5
 BARCLAYS	 4,891	9
 SEB	 4,587	8
 SOCIÉTÉ GÉNÉRALE Corporate & Investment Banking	 4,014	7
 ING	 3,747	29














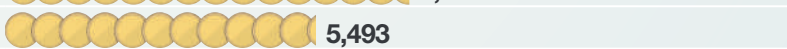



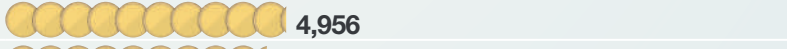

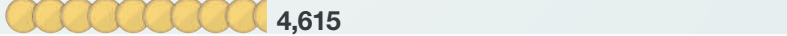
Top 10 social bonds lead managers in 2018

Lead manager	Volume (\$M)	2017 Rank*
 CRÉDIT AGRICOLE CORPORATE & INVESTMENT BANK	 1,516	1
 NATIXIS	 1,217	23
 NOMURA	 887	N/A
 HSBC	 741	2
 J.P.Morgan	 721	11
 SEB	 584	4
 DZ BANK Bank on Germany	 565	8
 citi	 546	6
 Commerzbank	 525	5
 SOCIÉTÉ GÉNÉRALE Corporate & Investment Banking	 515	14

Top 10 sustainability bond lead managers in 2018

Lead manager	Volume (\$M)	2017 Rank*
 HSBC	 2,003	1
 CRÉDIT AGRICOLE CORPORATE & INVESTMENT BANK	 1,976	2
 BNP PARIBAS	 1,042	11
 Bank of America Merrill Lynch	 815	6
 Rabobank	 713	8
 UniCredit Corporate & Investment Banking	 699	N/A
 BMO Capital Market	 657	N/A
 Morgan Stanley	 629	20
 citi	 617	7
 LBWB	 613	N/A

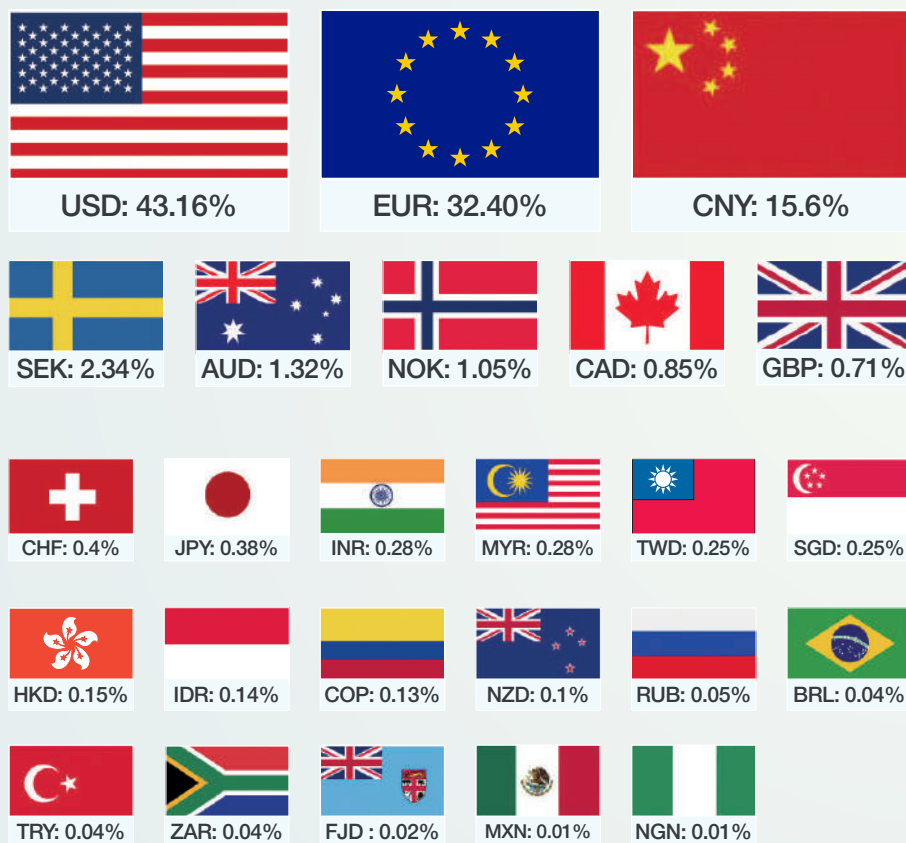
Top 10 lead managers in 2018 all three markets combined

Lead manager	Volume (\$M)	2017 Rank*
 CRÉDIT AGRICOLE CORPORATE & INVESTMENT BANK	 13,649	1
 HSBC	 11,496	2
 Bank of America Merrill Lynch	 11,101	4
 BNP PARIBAS	 9,264	6
 citi	 8,064	3
 J.P.Morgan	 7,128	5
 BARCLAYS	 5,493	9
 SEB	 5,397	7
 SOCIÉTÉ GÉNÉRALE Corporate & Investment Banking	 4,956	8
 ING	 4,615	27

Currencies used in 2018 compared to 2017 in the green bond market

In 2018, issuances in EUR dominated the green bond market, overtaking to the USD which was the main currency in 2017. The number of currencies used to issue green bonds has increased in 2018, to 32 from 25 currencies in 2017. It is the first time that the Icelandic Krona (ISK), South Korean Won (KRW), Namibian Dollar (NAD), and the Somali Shilling (SOS), have been used to issue green bonds.

2017



2018



Countries with issuers joining the green, social and sustainability bond market in 2018

First timers in 2018:

Green:

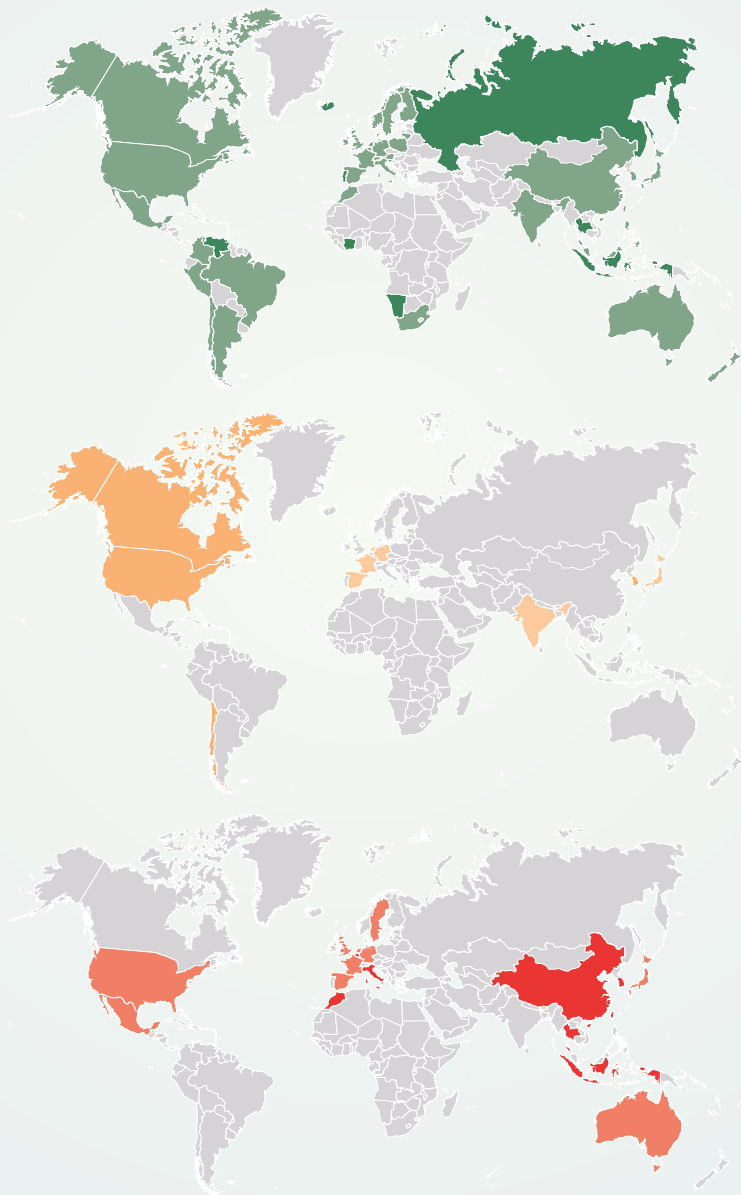
Fiji, Iceland, Indonesia, Lebanon, Namibia, Portugal, Russia, Slovenia, Thailand, Venezuela

Social:

U.S, Canada, Chile, Korea

Sustainability:

Belgium, China, Indonesia, Italy, Korea, Morocco, Seychelles, Singapore, Thailand



Repeat issuers in 2018:

Green:

U.S., U.K, Argentina, Australia, Austria, Belgium, Brazil, Canada, Chile, China, Columbia, Denmark, Finland, France, Germany, Hong Kong, India, Ireland, Italy, Japan, Korea, Lithuania, Luxembourg, Malaysia, Mexico, Morocco, The Netherlands, New Zealand, Norway, Peru, Philippines, Poland, Singapore, South Africa, Spain, Sweden, Switzerland, Taiwan

Social:

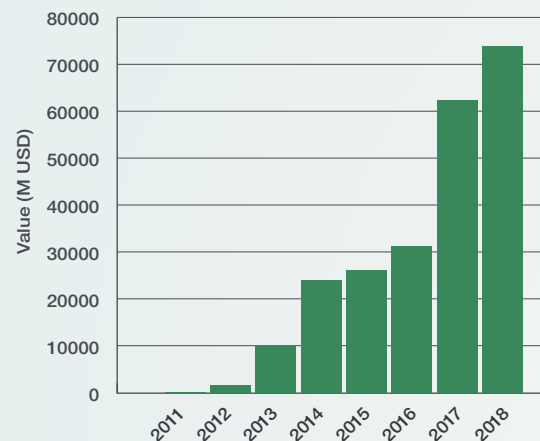
France, Germany, India, Japan, The Netherlands, Spain

Sustainability:

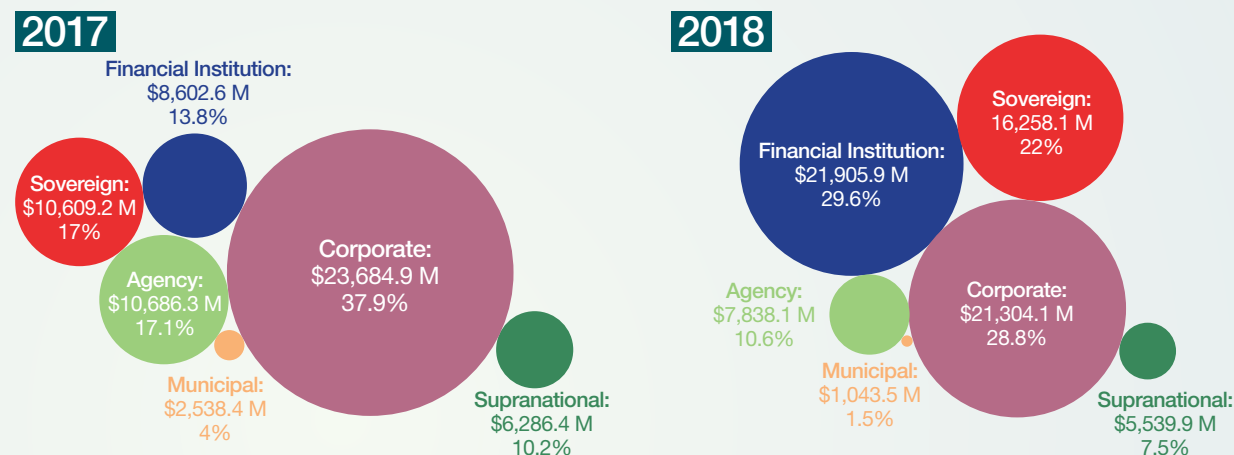
U.S, UK, Australia, France, Germany, Japan, Mexico, The Netherlands, Spain, Sweden

The European green bond market in 2018

The European green bond market



Comparison of issuer types and use of proceeds in 2018 vs 2017 in the European green bond market:



Use of proceeds (comparing 2017/2018)



Methodology: When bonds have more than one designated 'use of proceeds', the value of the bond has been divided between all of the named 'use of proceeds' types, assuming an equal share for each.

Bringing clarity to sustainability

The European Investment Bank's Head of Sustainability Funding, Aldo Romani, explains why the green bond pioneer is extending its capital market approach to sustainability and why he is optimistic about EU efforts to roll out sustainability taxonomies and standards.

Environmental Finance: Could you explain the relevance of the EU sustainable finance action plan for the green bond market?

Aldo Romani: The green bond market has provided key inputs to the reflection of the European Commission since the creation of the High-level expert group on sustainable finance (HLEG) at the end of 2016. After HLEG's final report was published in January 2018, the Commission announced the action plan, proposed a legislative framework and created the technical expert group (TEG).

The TEG is addressing HLEG's recommendations very concretely, starting with a classification (taxonomy) of the economic activities that contribute substantially to EU sustainability objectives. This analysis should facilitate the identification of what can be considered eligible for investment seeking significant impact on sustainability, not only via bonds but also via loans and other financial instruments. Another objective is the definition of an EU green bond standard. Use-of-proceeds green bonds address the widest spectrum of potential investors in a very transparent and responsive market; they are therefore the financial instrument that so far creates the highest degree of accountability on the underlying activities of the issuer and an impulse for their ongoing improvement within the framework that the EC is putting in place.

Why is this action relevant? Because it addresses the lack of clarity that hampers sustainable finance. If there is no shared

understanding of what is sustainability, you cannot orientate and accelerate mainstream capital market investments to support it. These markets need two things: certainty and comparability. This is exactly what the Commission is trying to deliver. It's the only way to provide a reference for responsible investment decisions, reduce risks and costs, enhance efficient allocation of capital and foster market support to sustainability objectives. At the same time, the focus on economic activities goes to the essence of this challenge: to pursue sustainability seriously you need to measure the contribution of your activities to sustainable objectives in a reliable manner. It's a very positive development.

At the same time, the discussions taking place in the HLEG and now in the TEG do not shy away from highlighting that developing taxonomies and standards is complex. Sustainability doesn't just refer to climate but also to other sustainability objectives. It makes practical sense to provide a showcase in the area that is on everybody's agenda, climate change mitigation, and then extend the approach consistently to other environmental and social objectives. Another important feature of the Commission's approach is that objectives may not be considered separately: a substantial contribution to one objective may not significantly harm another.

Turning theory into practice is always the most difficult part and, given the complexity and pressure involved, I don't envy those who work on the TEG sub-group on taxonomy.



Aldo Romani, Head of Sustainability Funding,
European Investment Bank

Their work is really very important, their efforts should be recognized and welcomed.

EF: Are you confident the taxonomies will be accessible and understandable to capital market participants who aren't sustainability experts?

AR: I certainly hope so. The objective of DGFISMA isn't perfection but to establish conditions to improve the way capital markets support sustainability. If the published classification of economic activities leads to an excessive degree of complexity, capital market participants will ask for more simplicity. A constructive dialogue between the market and policy makers is required to clarify what makes sense: what is needed to map reality with precision may be too complex for the market to digest. A balancing act is necessary and numerous market participants, including the EIB, are involved in the TEG to provide input and help develop solutions that serve the market pragmatically.

This is, in my view, also an important function of the Green Bond Principles (GBPs), equally represented on the TEG. EIB is one of the co-ordinators of the GBP working group on green projects eligibility and it's clear from our discussions that you can't bring in too much complexity into definitions and classifications because it will scare off market participants.

EF: The work on creating an EU green bond standard is attracting a lot of attention – can you explain what you hope the standard will achieve? And how can this work be applied outside the EU to help boost the global green bond market?

AR: There should not be any fear of standardisation because the standard will be applied on a voluntary basis. A standard in fact offers a benchmark off which it is easier to clarify one's preferences and make more informed investment decisions; it provides guidance. Compliance with minimum requirements in terms of transparency and comparability are bound to enhance accountability and credibility. Essential will be the mediation between the taxonomy required to map economic activities and the market's need for a practical tool based on a handful of primary impact indicators. The focus of the Commission on clearly defined objectives that are easy to operationalize is crucial in this regard. Even if the classification

and standard aren't perfect, the important thing is that they make core aspects of sustainability understood by capital market participants. This will drive sustainable investment in a more effective way than today.

It's important that common objectives may be pursued on different paths depending on individual circumstances and priorities, and that different standards can co-exist. China took the initiative already in 2015 to create a catalogue of projects eligible for allocation from green bonds. The establishment of an EU taxonomy and an EU green bond standard will now provide a term of comparison. China and the EU of course need to develop an ongoing dialogue on their standards for their action to converge.

EIB' projects and capital markets experts have worked together with the China Green Finance Committee for over two years now in order to develop mutual understanding and a shared classification approach in the area of green finance. The goal is to foster cross-border flows of green capital seeking significant contributions to meaningful local objectives pursued within the framework of increasing international cooperation and monitoring.

For this purpose, we should also consider establishing a platform through which you can compare different standards – essentially a high-level comparison of primary objectives, activities, impact indicators and significance thresholds adopted by individual standards, e.g. the Chinese standard, the EU standard, the MDB-IDFC standard and those provided by influential players such as the Climate Bonds Initiative. This is an idea that we are presently discussing within the GBP working group on green projects eligibility.

EF: You mentioned the increasing importance of social objectives. What is the EIB's role in supporting thematic bond growth beyond climate – for example social bonds?

AR: The EIB has recently decided to establish a dedicated sustainability funding team in its capital markets department. Sustainability funding will cover all areas of sustainability via the issuance, in all currencies, of Climate Awareness Bonds, with focus on climate change mitigation, and Sustainability Awareness Bonds, with focus on other sustainability objectives.

This is expression of the strategic stance the bank is taking in this field.

The expansion the EIB is undertaking from climate to sustainability awareness bonds is partly a reflection of policy drivers. 11 years ago, we launched the first Climate Awareness Bonds (CABs), which focused only on renewable energy and energy efficiency. Why? Because these were two key areas of focus in the 2007 EU energy action plan to mitigate climate change. The EIB is a policy instrument of the EU and decided to increase its lending targets to these two areas.

Now, what's happening is that the Action Plan on financing sustainable growth isn't just limited to climate change mitigation. The EU is designing a policy framework for broader sustainable development. As a result, we started issuing Sustainability Awareness Bond (SAB) in September

The EIB's Sustainability Awareness Bonds

The EIB issued a EUR 500 sustainability awareness bond (SAB) in September last year, marking its first capital market move into sustainable objectives beyond climate change mitigation. Investors were keen to back the new EIB product, with demand exceeding more than EUR 1bn.

The proceeds are meant for allocation to projects that ultimately contribute more broadly to UN Sustainable Development Goals, as the bank looks to highlight not just projects focused on climate change, but also other environmental and social objectives.

The first allocations have been to high-impact water projects, which the EIB said have robust performance impact indicators demonstrating strong contribution to key sustainability objectives (water conservation, pollution prevention and control, access to water and sanitation, natural disaster risks management). Over time, other sustainability objectives will be considered for SABs, with potential inclusion of projects in areas including health, education and sustainable and resilient cities.

last year to shed light on EIB's lending activities serving additional (environmental or social) objectives. The first to be allocated have been water projects with significant impact on water conservation and pollution prevention/control (environmental objectives) as well as access to water and sanitation and natural disaster risk management (social objectives).

In the SAB documentation, we've included a clear reference stating that the bonds for the first time will focus on sustainability objectives beyond climate change, with an open-ended approach to the inclusion of additional objectives and project categories over time - once it is agreed how to measure

The move towards a green taxonomy

Efforts to establish a classification (taxonomy) of sustainable activities are at the heart of the EU action plan on financing sustainable growth. The EU's 35-strong technical expert group (TEG) has been tasked with the mammoth job and in December published its draft taxonomy for climate mitigation activities as well as a suggested approach to climate adaptation activities.

TEG's taxonomy sub working-group has asked financial market participants for feedback on the usability of the proposed mitigation taxonomy. The next step is to develop an overarching approach to adaptation activities. A first taxonomy for climate change mitigation activities is scheduled for delivery in June. The complete taxonomy, to be tackled at a later stage, is expected to address other environmental and social objectives and underpin delivery of the action plan.

TEG's EU green bond standard sub working-group has undertaken targeted outreach consultations with corporate issuers, large investors, active underwriters, verifiers and supervisory agencies. It plans to open to a broader public consultation in February or March.



the primary contribution to those objectives from a wider range of projects. As a matter of fact, EIB is using its technical expertise and capital market experience to provide a test case of how the EU-approach can be used to map and measure lending activities with significant impact on sustainability in a way that is easily understandable to capital markets.

But EIB's climate bonds are not disappearing. We've decided to maintain the CAB brand for projects focused on climate change mitigation, with the idea to include additional project categories beyond RE&EE in the future.

In a nutshell, there is an enormous potential for market growth, as more and more areas of the balance sheet can be covered by green and social bond issuance.

EF: More broadly, what are your expectations for the green bond market and the wider sustainability bond market in 2019?

AR: I'd hope to see a greater awareness in the market that sustainability bonds, and now I'm referring to both green and social bonds, are not just a marketing instrument. They are an instrument we can use to shed light on what happens in the real economy, to rethink and reform its structure with the help of the accountability, not only the funds, secured by capital markets. There is an increasing incentive for financial players to contribute to environmental and social objectives and I hope the ongoing developments may help this course.

We need to create instruments to help people understand

the environmental externalities of economic activity. Sustainability bonds are contributing to this endeavour and capital markets are turning into an important vehicle of social learning.

In China, the awareness of the ecological impact of the economy is so high that the process of recognising externalities has become an absolute priority reflected in relevant legislation. It's important this takes place in Europe too – the EU has highlighted in its action plan the necessity of stimulating economic actors to “measure the environmental costs of their business and profits derived from using environmental services”.

Of course, you can't go from 0 to 100 in one day. We need strategic change and because of this it is important to clarify the impact of what you're doing and how it can be improved overtime through changes in strategy. We can't just point fingers at those not doing anything or not doing enough. We have to offer mechanisms and products through which one can address the problem concretely.

Green bonds offer a very concrete mechanism for quick and pragmatic capital markets to join the sustainability movement; bonds make visible the underlying activities, with knock-on effects. We have already witnessed a start to move beyond green bonds, with green loans that are labelled as such because they respond to capital market requirements and are eligible for green bond allocation. I expect more developments in these areas in 2019.

I also think it's useful that finance experts are increasingly playing a role in the sustainability debate, since the objective is to increase market support. Who is responsible for coordinating the taxonomy and classification work at the European Commission? It's the Directorate-General for Financial Stability, Financial Services and Capital Markets Union (DG FISMA).

Here at the EIB we're seeing a similar trend. The capital markets department is driving and co-ordinating discussions around sustainability alongside the project experts, helping them in simplification choices that are necessary to bring their stories to the markets, with ex-post reporting offering the opportunity of a more comprehensive description. ■

Berlin Hyp – a Leading German Real Estate Financier and European Green Bond Issuer

Berlin Hyp in a Nutshell

With approximately EUR 27bn of total assets, Berlin Hyp is a medium-sized German mortgage bank specialised in large-volume real estate financing for professional investors and housing societies, and developing customised financing solutions for them. Its most important refinancing instrument is the Mortgage Pfandbrief, the 250 years old German version of covered bonds. As a partner of the German savings banks, it also provides those institutions with a comprehensive range of products and services. Its clear focus, more than 150 years of experience, and integration into the German Savings Banks Finance Group make Berlin Hyp a leading German real estate and Pfandbrief bank.

Berlin Hyp pursues a long-term, responsible and risk-conscious corporate strategy. In doing so, it makes a reliable contribution to the positive development of the economy and society. The bank's sustainability management focuses on integrating aspects of environmental awareness, social responsibility and good corporate governance in its business throughout the entire value chain. This is recognized by sustainability rating agencies who classify the bank as market leader. With a rating of 86/100 Sustainalytics puts Berlin Hyp on the 5th place of 332 banks worldwide. ISS-oekom assigns a B- (Prime) which is equivalent to the 2nd place out of 53 mortgage and public sector lenders.

With approximately EUR 14bn of outstanding Pfandbriefe, Berlin Hyp is one of the bigger issuers in that asset class. At the same time, its outstanding senior unsecured bonds sum up to more than EUR 6bn, containing seven benchmark issues with

principals of at least EUR 500mn per bond. This makes Berlin Hyp one of the most frequent issuers of senior unsecured bonds in Germany.

In recent years Berlin Hyp evoked international attention when it pioneered the capital market with several innovations. In August 2018 the mortgage lender pioneered as the first German bank to issue a syndicated Senior Preferred bond. In March 2016 it became the first issuer worldwide to successfully place a covered bond with a negative yield at issuance on the market. Almost one year prior to that, in April 2015, the bank became the first issuer of a Green Pfandbrief, i.e. a Mortgage Pfandbrief that is used to refinance loans for green buildings. In June 2016 Berlin Hyp extended its green bond franchise to senior unsecured bonds and became the first bank issuer on the global capital market to issue green bonds in more than one asset class. Having issued six benchmark-sized green bonds until now – three Green Pfandbrief and three green senior unsecured – it currently is the most active European corporate bank issuer in this market.

Berlin Hyp's Green Bond Framework

In 2016 Berlin Hyp installed a Green Bond Framework that applies to all of the bank's green bonds, Green Pfandbrief and green senior unsecured bonds. Since then it has been revised twice, making it stricter every time.

All eligible assets are loans for the acquisition, the construction or the refurbishment of green buildings on Berlin Hyp's balance sheet and are part of its mortgage cover pool in the case of Green Pfandbriefe. In addition, Berlin Hyp makes

every effort to invest an amount equivalent to the net proceeds of the green bonds in new eligible assets and (in the case of Green Pfandbriefe) to include these into its mortgage cover pool. The eligible assets remain on the bank's balance sheet. Investors do not bear the credit risk of the assets and rank pari-passu with existing covered bondholders (in the case of Green Pfandbriefe) or senior unsecured bondholders. Berlin Hyp's green bonds are fully aligned with the Green Bond Principles and are included in the main green bond indices, such as Barclays MSCI, S&P, BAML and Solactive.

Characteristics of Berlin Hyp's Green Bonds

Eligible assets consist exclusively of loans for energy-efficient, sustainable commercial real estate. In order to classify properties as green buildings, Berlin Hyp defined maximum energy demand levels for various building categories (see table below). These limits are subject to constant surveillance by the bank's own Green Building Commission. In April 2018 they have been re-defined, i.e. lowered and split into energy demand for heating/warmth and energy demand for electricity. The bank then was the first green bond issuer to divide energy efficiency into its single components. Compliance with the thresholds is proven by energy performance certificates which the bank asks its borrowers to provide as an integral part of the loan origination process. In addition, the bank asks its customers for sustainability certificates issued by re-known institutions such as LEED, BREEAM, DGNB and HQE. In order to be eligible for the green finance portfolio these have to reach a certain minimum. Finally Berlin Hyp excludes various controversial businesses in its green buildings.

PROPERTY TYPE		Energy demand heating/cooling kWh/(m ² *a)	Energy demand electricity kWh/(m ² *a)
Residential	New residential properties	60	-
	Old residential properties		
Office	Office buildings without air conditioning	100	80
	Office buildings with air conditioning		
Retail	Retail buildings (shopping malls, department stores)	60	75
	Other retail buildings		
Hotels		95	60
Logistics buildings		30	35

green bond was between 8.7 and 36.3 t/p.a., depending on which baseline investors choose and whether they want to base calculation on the whole financed property or solely on Berlin Hyp's initial LTV. This way of reporting is seen as best-in-class by the Climate Bonds Initiative (CBI), and Berlin Hyp has been awarded two times in a row "Best Green/SRI Issuer for Post-Deal Reporting" by Global Capital in 2017 and 2018.

In addition, the website contains all other relevant information and documents on the bank's green bonds, e.g. final terms, investor presentations, second party opinions and annual re-verifications by ISS-oekom.

Additionality

Additionality is one of the key words in the green bond community and describes, how much the issuance of a green bond has changed the issuer itself. Berlin Hyp serves many market participants as a good example for that, which can best be explained by three prominent out of the various measures and actions the bank has been taken since issuing its first Green Pfandbrief:

Loans for green buildings are offered at a discount of 10 basis points. This measure has been taken in order to grow the green finance portfolio, which in return was necessary given that the bank promises to invest an amount equivalent to the net proceeds of every green bond into new eligible assets. At the issuance of the first Green Pfandbrief in 2015 Berlin Hyp's green finance portfolio contained eligible assets with a total nominal value of EUR 657mn. By October 2018 the volume has reached EUR 3.585mn representing an increase of 545%.

Since 2017 an increase of its green lending is one of Berlin Hyp's strategic corporate goals. Until 2020 20% of the bank's loan book shall be green. Right now it stands at 16%.

In addition Berlin Hyp takes efforts to contribute actively to the development of the green bond market and in setting best-practice standards. As the owner of the trade mark "Green Pfandbrief", Berlin Hyp always had a natural interest in growing the green covered bond market. After the bank had been the only issuer of green covered bonds for more than

Eligible external sustainability certification

LEED	Gold or above
BREEAM	Very Good or above
DGNB	Gold or above
HQE	High Level or above

Green Bond Reporting and External Review

Berlin Hyp provides an annual Green Bond Reporting on a separate website (www.green-pfandbrief.com), which among others informs about the new business in green assets on a loan-by-loan basis and which also contains an impact reporting on carbon emissions avoidance. The impact calculation was carried out for the first time in April 2016. Berlin Hyp is the only issuer in the green bond market that measures the carbon avoidance through its green bonds by employing two different baselines, one representing the European average of existing commercial real estate, the other one being derived from the reference values given by the German energy savings regulation (EnEV). In 2018 the CO2 avoided by an investment of EUR 1mn in a Berlin Hyp

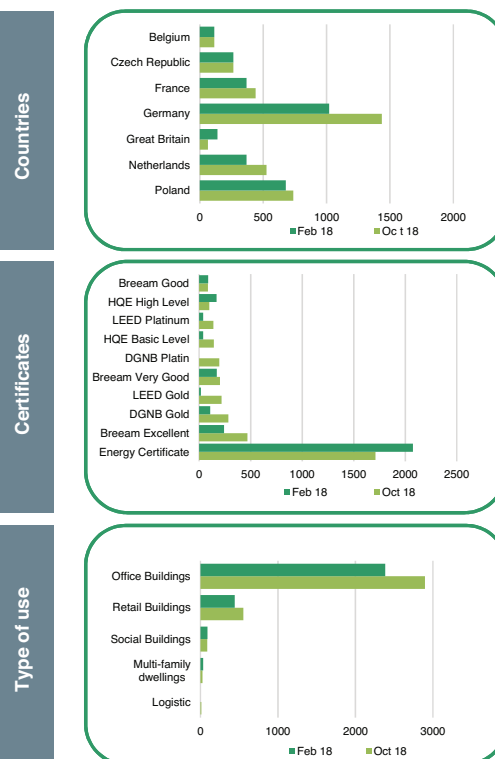
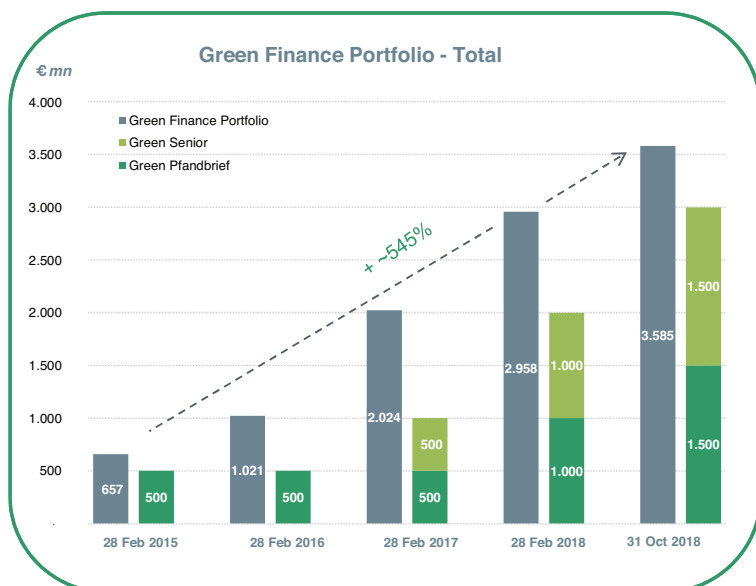
Your Contacts at Berlin Hyp



Bodo Winkler
Head of Funding & Investor Relations
Tel.: +49 30 2599 9521
bodo.winkler@berlinhyp.de



Felix Zillmann
Funding & Investor Relations
Tel.: +49 30 2599 9550
felix.zillmann@berlinhyp.de



Use of proceeds - portfolio development

two years, from November 2017 on many other European issuers used its framework as a role model for their own issuances. The first was another German issuer, Deutsche Hypo, who entered into a license agreement with Berlin Hyp allowing them to use the Green Pfandbrief trademark.

Other issuers from Germany but also Norway and Sweden followed with their own green covered bond issuances. In order to support future growth, Berlin Hyp recently entered into a process of transferring its Green Pfandbrief trademark to the Association of

German Pfandbrief Banks (vdp) with the aim to enable more issuers to come to the market on the basis of common criteria. Internationally it is one of the founding members of the Energy-efficient Mortgages Action Plan (EeMAP) and contributed to a European definition for energy efficient mortgages. In June 2018 Berlin Hyp also became one of this initiative's pilot banks. Berlin Hyp is an active partner of the Climate Bonds Initiative and sponsored the CBI's Post Issuance Reporting in the Green Bond Market study in 2017. ■

Is the green bond market running out of steam?

Gail Counihan, ESG Analyst, Franklin Templeton Investments

From its humble beginnings in 2007, when the first Climate Awareness Bond was issued by the European Investment Bank, the green bond market has been the poster child for growth in environmentally responsible assets. Adjectives such as ‘robust’, ‘stunning’ and ‘exponential’ have been used to describe the expansion of the market from \$1.48 billion in 2007 to \$173.61 billion in 2017. On the one hand, this growth is impressive if we consider that green bonds are no more legally secure than regular bonds. On the other hand, the volume of green bonds might appear insignificant when compared with the \$6 trillion that we should be investing each year just to climate-proof our infrastructure, according to the Investing in Climate, Investing in Growth report by the OECD.

So where exactly is the green bond market headed? Is growth likely to persist and reach the levels cited by the OECD? The volume of green issuance in 2018 suggests in fact that growth is waning: the market grew barely 5% in 2018. What exactly do we know about how the broader market is evolving?

Markets are innovating

In order to qualify as green, bonds must fund specific green projects. The issuer should also meet additional requirements set out in a voluntary set of guidelines known as the Green

Bond Principles (GBP). Adherence to the principles allows investors to assess the environmental impact of their green bond investment; and they assist underwriters by moving the market towards the standard disclosures which will facilitate transactions. It is generally accepted as best practice that an issuer will obtain an external review to demonstrate compliance with the Green Bond Principles, since the principles themselves are voluntary and not a legal requirement. To recap: green bonds are a debt instrument – just like any other bond, with additional reporting requirements, and no upside in terms of credit enhancement. Viewed this way, the compound annual growth rate of 54% that the green bond market has shown over the past decade is impressive.

While growth in green bonds might recently have cooled, the issuance of sustainable debt has not. Green loans, sustainability-linked loans, green mortgages – these are all market responses to investors demanding something slightly different, especially when the green bond framework is not a perfect fit for the project, the issuer or the investor. A green bond issuer must demonstrate that 90% of the bond’s proceeds are being used to fund a specific sustainable project, such as renewable energy, pollution prevention and control, biodiversity conservation, water and wastewater management, energy efficiency technologies, green buildings, climate change



Gail Counihan, ESG Analyst, Franklin Templeton Investments

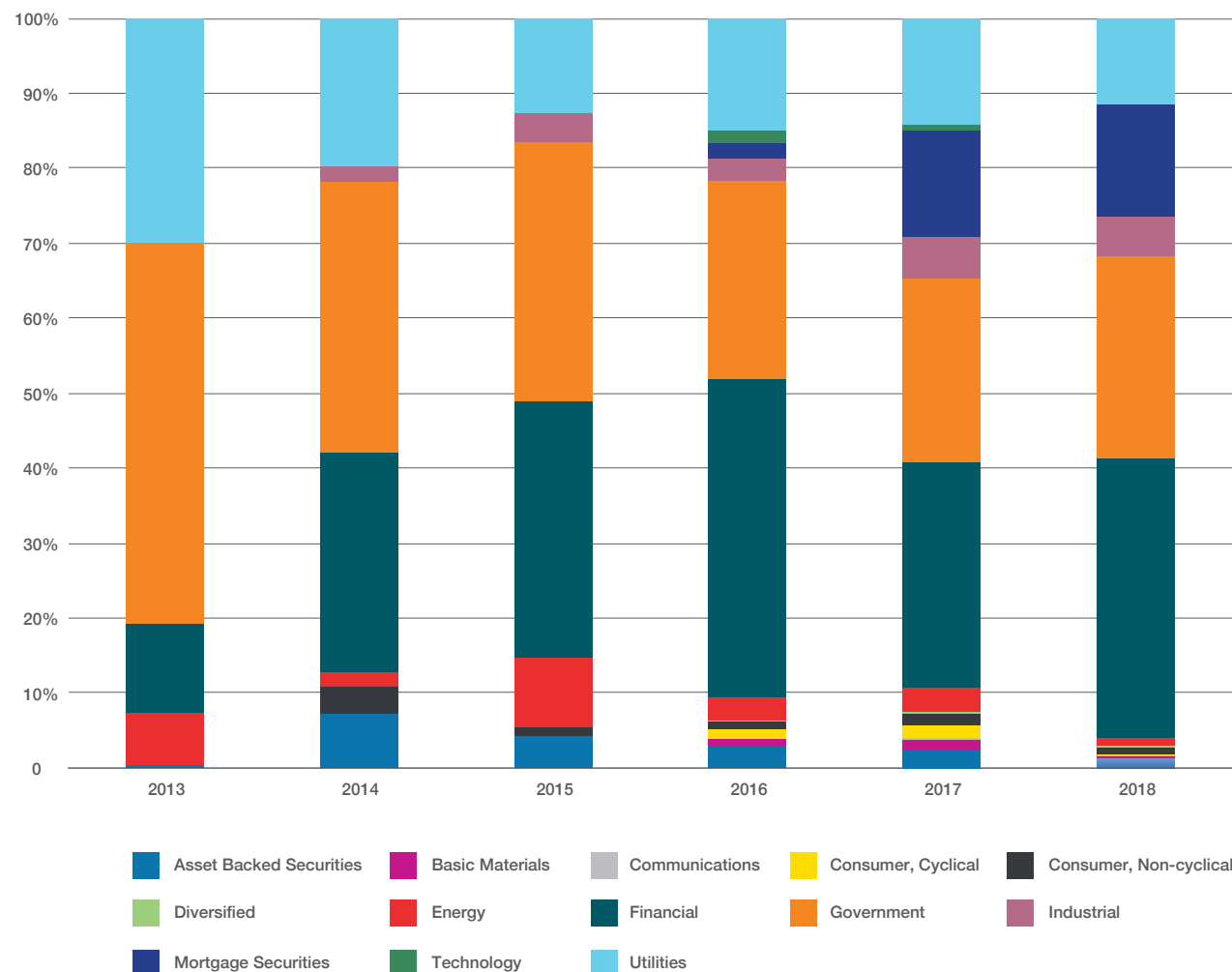
adaptation projects or technologies, clean transportation, or natural resource management. And while there is no formal minimum issue size mandated by the GBP, investors will look for a size that is big enough to guarantee liquidity and index inclusion. This usually translates to around \$300 million – a number that is simply too big for many companies to dedicate to the types of qualifying projects.

For these companies, sustainability-linked loans represent a more accessible way to tap the growing green investor base. These are credit facilities that come with sustainability targets. They can be smaller in size than green bonds and customised to the issuer in question. When the borrower fulfils the pre-agreed criteria – improving the energy efficiency of a real estate portfolio, for example – the interest rate on the facility drops. In this way, the “additionality” is very clear.

The growth in these types of products surged 677% in 2018 – showing that the market is all too willing to innovate and accommodate where investors are showing a preference for green products. Such products are also becoming more accessible to the man on the street – with Barclays launching its first green mortgage in April 2018. New build homes that meet high energy efficiency standards – an A or B EPC rating – can qualify for a 0.1% reduction on their mortgage rate. Domestic heating is a huge consumer of energy – so giving the option to home-owners to reduce their mortgage payments as well as their energy consumption is a win-win. This kind of innovation, that allows more investors to find the green product that matches their needs, will be one of the main drivers of the long-term growth of green finance.

Investors will pay for impact

From an investor's point of view, the premium attached to green bonds is hard to explain. Academic literature has fallen short of demonstrating that green bonds are more expensive simply because they are green – in line with the fact that there is simply no credit enhancement attached to the green designation. A simpler explanation for why they are pricier may be because the demand for these instruments, driven by the number of market participants with an environmentally focused agenda, exceeds the supply.



Issuers from an increasingly diverse sector base are coming to market

Source: Bloomberg

Data for 2018 from the Climate Bonds Initiative shows green bonds achieving greater spread compression than their non-green equivalents. The same data shows 2018 to be the first year in which green bonds were more oversubscribed than their non-green equivalents. The same pattern was repeated in the secondary market, where 72% of green bonds had tighter spreads than ordinary bonds after seven days, and 62% were tighter after 28 days. While oversubscription and tight pricing are regular features of the bond market, 2018 was the first year in which the effect was more pronounced in green bonds.

What could explain the outsize demand for a slightly more expensive asset? According to the same research, roughly half of green bonds are allocated to green investors – which still leaves a sizeable amount of demand coming from investors that have no disclosed mandate to target impact over return. Since investors aren't paying for a better credit profile, it seems reasonable to conclude that investors are willing to pay for this level of transparency around environmental performance, and for the environmental performance itself.

What the data does not clarify is whether investors are willing to look for this environmental dividend, or impact, themselves, or whether they are happy to compete with other investors and pay up for “green” labelled debt. From an investor's perspective, might it not make more sense to search for companies that are making products that are supportive of a low-carbon future, but which are not labelling their bonds as “green”? This would allow investors to earn a higher return on their unlabelled green debt instruments, while providing liquidity to a portion of the market that would seemingly benefit from it. These companies – known as “green pure plays” – should absolutely be recognised as compliant with the Green Bond Principles, according to Suzanne Buchta, one of the original authors of the principles.

The idea that labels and ratings create convenience – and

opportunity – is hardly novel in debt markets. Most rigorous debt analysis is predicated on the fact that inefficiencies exist, and it is up to the diligent investor to find them. For the investor who places value on environmental impact, this unlabelled universe of climate-aligned debt represents opportunity.

More companies in more sectors are issuing green debt – the green bond market is diversifying

While historically green bond issuers have tended to come from a handful of sectors, investors are now able to gain exposure to green products from a wider range of issuers, industries and regions. Recent years have seen issuances from health care, consumer staples, materials, and technology – with the number of unique issuers growing from four in 2008 to more than 300 in 2018.

In keeping with this trend, dedicated green-bond funds are also on the rise – growing by 58% between 2017 and 2018 alone. Globally, there are now four different frameworks under which green bonds can be issued – each with differing standards that factor in regional nuances – and more than five different indices against which investors can benchmark their performance, each with their own inclusion criteria.

Beyond the Green Bond Principles: the need for a global carbon tax

The Green Bond Principles have played an invaluable role in organising and catalysing the market, providing a framework to help direct the flow of capital towards climate-aligned projects. They have also guided the kind of metrics that investors should be looking for. In return, issuers have been able to tap into an investor base that is willing to compete for returns from green projects.

However, as countries come to grips with what needs to be done to meet their obligations under the Paris Agreement on

Climate Change, a voluntary set of principles will take us only so far. We need consensus on a meaningful, global price on carbon – one that can act as a clear market signal that rewards low-carbon products and services over alternatives that are more harmful to the environment.

So while the labelled green bond market may not grow as exponentially as in the first decade of its life, the trend is clear: investors are willing to pay for environmental impact. This demand will only grow as the obligations of the Paris Agreement come into effect. Both companies and governments will become more accountable for their climate strategies, and the need to raise capital to fund their strategies will grow. As this demand grows, we will likely see the market continue to respond with a greater diversity of financial instruments that are more finely honed to suit issuer, investor or region. ■

This document is intended to be of general interest only and does not constitute legal or tax advice nor is it an offer for shares or invitation to apply for shares of any of the Franklin Templeton Investments' fund ranges. Nothing in this document should be construed as investment advice. The value of investments and any income received from them can go down as well as up, and investors may not get back the full amount invested. Past performance is not an indicator or a guarantee of future performance.

Franklin Templeton Investments have exercised professional care and diligence in the collection of information in this document. However, data from third party sources may have been used in its preparation and Franklin Templeton Investments has not independently verified, validated or audited such data. Opinions expressed are the author's at publication date and they are subject to change without prior notice.

Any research and analysis contained in this document has been procured by Franklin Templeton Investments for its own purposes and is provided to you only incidentally. Franklin Templeton Investments shall not be liable to any user of this document or to any other person or entity for the inaccuracy of information or any errors or omissions in its contents, regardless of the cause of such inaccuracy, error or omission. Investments entail risks.

Issued by Franklin Templeton Investment Management Limited, Cannon Place, 78 Cannon Street, London EC4N 6HL. Authorised and regulated by the Financial Conduct Authority. © Copyright 2019. Franklin Templeton Investments. All rights reserved.

Web: franklintempleton.co.uk
Email: clientserviceuk@franklintempleton.co.uk
Phone: 020 7073 8500

The benefits of going green – as seen from finance

A story from a full-blooded investment banker who turned green – the Why and the How and what new insights can bring.

As an investment banker your duty is to generate the best risk-adjusted financial result for your clients – in short, chasing money.

As a result, investment bankers are often seen as cynical since their rhetoric is built around the cash and not the societal impact (which will be the client's job to prioritise). The banker's focus is on the best outcome in terms of cash flow and economic value creation. This is what is expected if you want to keep your clients and your job.

It is a 24/7 job, meaning that the stories you tell are about money, the success you want recognition for is about money and the failures where you need support are about money.

As an insider, nothing can be more stimulating since the price of money is an aggregation of everything going on in society right now, meaning that a precondition for being successful is to be very well informed. But it's difficult to explain to an outsider.

This all changed with green bonds. Suddenly, the money was in the background (with a clear communication and agreement that the financial proposition needed to be right!), and a new topic – 'the green' – became the main focus of discussion.

At that moment, leading environmental experts, academics

(assessors), financial specialists and investors, combined their cross-sector expertise to highlight the strengths, weaknesses and pitfalls in the proposal – as seen from their various perspectives – and we started learning from each other.

This has also changed the story we tell and the tangibility, for non-financial experts, of our successes and failures – it is easier to talk about the job. When speaking to non-financial experts, a green bond can be turned into a green bank deposit (same model). Then, suddenly, you can ask individuals how they would react if there were two major banks in their country offering the same interest rate but one of them also offered a child deposit account, where the proceeds would be earmarked for lending to technologies which secure cleaner air and cleaner water and you could follow the impact of the bank portfolio. The outcome is: you get attention and a discussion going – and, suddenly, you are reconnected to society.

So how did this start?

In 2006 and 2007 when times were good, yields low and cash plentiful, the financial market faced many imbalances, one of which was the long-term fundamental need to place a big portion of pension and insurance money in so-called risk-free assets (like Government bonds). The challenge was that Governments



Christopher Flensburg, head of climate & sustainable finance, SEB

didn't need to borrow very much money since their budgets were relatively healthy.

Issuers like SSAs (sub-sovereigns, supranationals and agencies) were, to a large extent, booked in agency or mortgage portfolios but, as their credit quality is more comparable with Government bonds, they often traded with a lower return than agencies and mortgage bonds. However, a large number of investors had also expressed a desire to do something more about global warming and, by combining the challenge with the desire, they opened up to get a deeper understanding of the credit of SSAs. As a result, the foundations were laid for the creation of the first World Bank green bond (for the full story, visit: www.worldbank.org/en/events/2018/11/16/from-evolution-to-revolution-10-years-of-green-bonds).

But, in hindsight, the most interesting development has been the collaborations across sectors, regions and disciplines as well as the (mostly) friendly collaboration between competitors to reconnect finance, in a more tangible way, with societal challenges.

The truth is that most people will think about their given mandate and use so-called key performance indicators (KPIs) to ratify their actions. This means that any ground-breaking business transition will require senior management to implement KPIs which lead individuals to action – and this won't happen unless the management understand how the engagement of the organisation in a transition will benefit the share price, as that is management's major KPI.

So, to cut a long story short, for anyone with an ambition to change – start with the value creation proposal for the stakeholders you need on board to be successful.

As a competitive tool, it is easy to understand why retail clients would run to the bank with a filter allowing higher traceability on what their money is financing. So, the question remains: how do you give management the comfort that this is the best way for business at the same time as you raise awareness sufficiently for key stakeholders to realise that it is not only good for business, but the only way to survive?

The issuers, led by The World Bank, allowed us to short-cut this structural barrier by issuing at a comparable return

to their regular non-green debt, meaning that the filter we bought came for free for many years, making the deal easy to digest for investors.

Inside my group at SEB, we believe in an inclusive transition for the simple reason that everything else is doomed to fail. With increasing consumption and fundamental assets like soil, water and air being destabilised, there is not enough time for a rhetorical debate about right and wrong. We all need to understand and build consumption models which allow our foundations for living to stay strong. However, this doesn't mean that we won't see losers.

Laggards, who in ignorance think that industries can ignore pollution and resource constraints, will eventually lose their access to markets, regardless of their industry, while leaders who forget to attach a workable business and liquidity plan to their leadership, are likely to suffer from premature death. The faster we as credit experts learn the nature of this transition – the more we can reduce both credit and society risk by ensuring that business risk is correctly priced.

For us, at SEB, the real heroes are the investors who have been, and are, investing their time and energy in building better societies and, obviously, issuers like The World Bank (and their staff) who have worked tirelessly to transfer their knowledge to investors until the investors were comfortable moving forward.

The Multilateral Development Banks (MDBs) have worked as guarantors for quality, in allowing stakeholders to acquire knowledge in a digestible way, strongly inspired by The World Bank, which spent years on individual meetings with investors before the market took off.

These issuers are providing their aggregated experience, packaging it and serving it on a silver plate to investors. For example, the Dutch water bank NWB is sharing centuries of experience on Dutch water management, Germany's KfW is reflecting on its role in supporting the greening of an industrial nation, the EIB is showing leadership on harmonisation and EU integration, Sweden's Kommuninvest is an engine for a whole country's municipality sector, and I could mention many others. Each of the issuers we worked with has its own challenges and has made its own contribution and we feel

privileged to have worked with every single one.

So, for a decade, we have been in the privileged situation that whenever we had a shortage of knowledge (and believe me, that happens) we could just call issuers and they would find their internal experts on water issues, pollution control, smart cities or something else, and let us arrange a call with the investors to make sure the investors understood how the issuers did their work and their motivation for financing particular projects.

In this way thousands of investors have slowly and steadily been invited into a new world where the focus is on the purpose of the money and good governance structures ensure compliance. This process has equipped investors to include this model in their own due diligence processes and, consequently, slowly influenced the rest of the market who want to borrow money. Put more simply, the issuers have used their experience to provide an instrument to investors to help them ensure that their money provides more than a financial return – that they actually build societies. And investors have now forcefully taken up this tool and used it to turn investments into a filter for long-term impact.

To give an illustration of how powerful this has been – let's talk about SEB.

In 2019, SEB is a strong regional bank with leadership in corporate banking, wealth management and investment services. We are 160 years old and can, with good reason, be called one of the 'old guard'. However, our engagement with sustainability, with green bonds and microfinance has brought the bank into a new era. If we can do finance at the same time as we get closer to (and support) our clients' contributions to building stronger, more resilient and more inclusive societies – that's what we should do.

When walking through the bank now, it is more difficult to find a colleague who wants to do banking as it was done five years ago than it is to find one who wants to do inclusive finance, and we are all proud of that. Without the guidance from the issuers and the strong signals from our investors, we would never have got here – and there is no doubting that we are grateful to be given this trust. In this way we can re-

connect and be more visible in our role in society at the same time as we can use our credit expertise to design better and more resilient societies.

Often we are asked if this means that everything else is 'brown'. It doesn't. There will always remain grey areas but most companies' are working to provide a solution needed by society – all the sustainable finance market is doing is to highlight this purpose and ensure that investors understand how it is governed. We will always have a transition going on and, to ensure longer-term compliance, a long-term strategy and management of that strategy becomes important – the sustainable finance markets are just capturing this.

Nobody would expect us to get everything right. But, if finance could implement a filter to see when projects destroy value (which is normal due diligence) and when projects build societies and save resources, then we could, with high likelihood, reduce most of the short-termism which currently drives the way we consume and replace those projects with projects taking care of resources and securing long term

stability. All we need is to identify the economic link – and that is where instruments like green bonds make a difference.

Trying to re-capture this and see it with a traditional investment banking eye – it all makes sense. Investors get transparency and insight on company governance models, allowing better risk assessment alongside guidance on where industry leaders see the major challenges and milestones in their industry. Issuers empower their risk centre (Treasury) to develop or fine-tune their internal supervisory platform on climate-related financial risk at the same time as the production unit gets financial support to highlight the social benefit of their solutions and investor relations are allowed to collect the company DNA to tell their story on societal action. And last but not least – society is suddenly (through the embedded education) able to use the liquidity and risk competence of the financial markets to help get the financial models right when building societies.

The only questions remaining are: how could we ever forget this and how can we avoid forgetting this in the future? ■

Christopher Flensburg is head of climate & sustainable finance at SEB

Contact: Greenbonds@seb.se
Tel: +46850523100

SEB Climate and Sustainable Finance (& Green Bonds)

Ben, Brenda, Carol, Chris, Christopher, Gabriella, Gustaf, Johanna, Kristoffer, Mats, Pontus, Sam, Sir Roger, Siri, Stefan, Terje, Vincent

The green bond market looks east

Japan's green bond market has lagged behind that of Europe's – but, with issuance picking up in 2018, that is set to change, say Nomura's ESG bond experts

Environmental Finance: Nomura has a long history of involvement in the green bond and wider sustainable investing market. Can you explain how the bank got involved, and where it currently focuses its activity?

Nick Dent, Head of Debt Syndicate: The bank was selling themed bonds – issued by supranationals and linked to a range of environmental and social projects – to retail investors in Japan from 2010, so we were involved fairly soon after the creation of the market. Structured as Uridashi bonds, and typically denominated in foreign currencies, these are usually fairly small issues, but there's now been over 260 of them, totalling more than \$12.5 billion equivalent in terms of issuance amounts.

We're still active in that market but, since 2015, we've diversified our green and social bond business into the institutional side of the bond market. We've evolved with the types of deals that are coming to market: we're acting for issuers in a whole range of sectors: most recently real estate, airlines, shipping companies, banks issuing bonds to meet incoming additional regulatory capital requirements (ie loss-absorbing debt for TLAC/MREL purposes), such as a number of samurai social bonds for BPCE or for wider funding purposes such as the Euroyen bond for Bank of China, among others.

EF: Japan is currently under-represented in terms of green bond issuance – it was ranked 13th globally at the end of the third quarter of 2018. What are the reasons for that?

Jarek Olszowka, International Head of ESG: The public ESG market in Japan was very slow from 2014 to 2016. From an institutional, capital markets perspective, there was very little going on – literally just a handful of public ESG bonds



Nick Dent, Head of Debt Syndicate, Nomura

issued in total over that three-year period. But the ESG market in Japan has grown exponentially since then: there were more than 25 issues in 2018 alone.

ND: Japan has gone through the growing pains you see in every new market, perhaps one or two years behind Europe. Buyers and sellers have been grappling with issues seen elsewhere: around the additional costs borne by issuers in setting up green bond frameworks and issuing bonds, and ongoing discussions



Jarek Olszowka, International Head of ESG, Nomura

whether there should be any kind of “greenium” associated with issuing in an ESG format etc.

Corporates in Japan have been very focused on the additional costs related to green bonds, on the incremental costs and work for the treasury, other internal divisions and senior management, rather than looking at the wider benefits of issuing green bonds around becoming overall more ESG-focused etc.

However, the offshore market in Japan developed quite quickly, with agencies such as DBJ [Development Bank of Japan] and JICA [Japan International Cooperation Agency] being very active internationally, building experience in this space that is now being applied to the onshore market.

EF: Japan's Ministry of the Environment introduced its Green Bond Guidelines in 2017 – how have they been received?

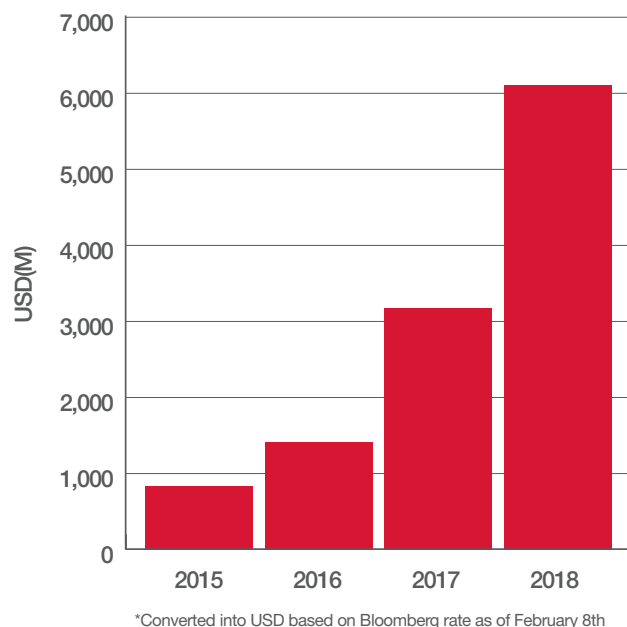
JO: The Japanese government, including the Ministry of Environment, has taken a leading role in helping to shape and further promote the development of the ESG market in Japan. Its guidelines were designed to be aligned with the ICMA Green Bond Principles, yet at the same time they were dovetailed to cater for Japanese capital markets-specific idiosyncrasies. Having the guidelines published in Japanese was also helpful to parts of the domestic issuer and investor base. The guidelines have definitely helped to reduce some of the early barriers faced by the nascent market.

In addition, the Ministry of Environment has also moved to offer subsidies to offset some of the costs issuers have to incur while issuing in green format. These include payments of up to JPY50 million to cover the cost of external verification, such as second-party opinions, and certain of the consultancy fees related to establishing a green or social framework. These were only recently introduced, so we've yet to see their full impact, but they will certainly be of help to the growth of the market in Japan.

The Ministry of Environment additionally established in 2018 the Green Bond Issuance Promotion Platform, to help showcase best practice among issuers and to share information on ESG issuances and on ESG trends inside and outside Japan.

Also, the Tokyo Pro-Bond Market, ran by the Japan Exchange Group, created last year a dedicated green and social bond platform for listing bonds, mirroring what the Luxembourg Stock Exchange has done in Europe. It allows issuers to post information on the specific use of proceeds, second party opinions, impact reporting post issuance etc. – information that allows investors to easily find and compare details of specific green or social bond issuances.

EF: Nomura has brought a number of first-of-their



Japanese ESG bond issuance, 2015-18

kind bonds to market from Japanese issuers. What do these bond issues say about the state of the Japanese market?

ND: Because Japan has set a framework that's very similar to that in the international market, that creates an opening for innovation. As long as you set very firm principles, it allows some industries that were previously excluded from the green bond market to start looking at effective ESG measures through finance.

For example, the NYK Line bond was the first green bond globally from the shipping sector, enabling the company to partially decarbonise shipping. The proceeds were used to refinance LNG-fuelled ships. The proceeds from the bond

from ANA Holdings Inc, the Japanese airline, were used for new, green energy efficient training facilities.

EF: There has also been recent activity among real estate investment trusts. Why is that?

JO: There's a big drive from the government to stimulate new construction, as part of its Abenomics initiative, and for that to have a multiplier effect on the wider economy. A lot of these buildings are being built to high environmental standards. Globally, green buildings are the second most popular underlying for which green bond proceeds are applied, just after renewable energy. For Japanese REITs [real estate investment trusts], green bonds also offer an opportunity to try and widen their investor base and make their offering more appealing.

EF: Many of these bonds have been relatively small – equivalent to \$50-100 million in size. Would you expect to start to see some of these issuers come back with benchmark-sized bonds?

ND: We were in Japan recently talking to a number of corporates, and we certainly see the motivation to print in larger sizes. For many of them, they're still in the early stages of developing green bond frameworks: they are working through their internal architecture, working with the second-party opinion providers, having discussions with the Ministry of Environment etc. It's also worth noting that, compared with conventional bond issuance, which usually takes place early in the financial year, ESG issuance tends to peak in September/October, because it takes a number of months to go through the necessary processes and gather assets. A number of issuers, especially among sovereigns and supranationals, prefer to get their funding needs in conventional format out of the way first.

EF: What is demand for green bonds like among Japanese institutional investors, meanwhile? What, if anything, could encourage greater uptake?

JO: Compared with Europe, it is fair to say that the domestic investor base is still less developed regarding ESG. Dedicated separate green bond funds are yet to emerge. But we're seeing a change in terms of focus and awareness on ESG issues in Japan. This has been led by the Government Pension Investment Fund, the biggest pool of assets in Japan, and an

early signatory to the Principles for Responsible Investment. Last year, it published a report with the World Bank on how to integrate ESG factors into fixed income investing – they are taking the lead. The increased focus is certainly now becoming more mainstream rather than just being a niche.

The level of understanding of ESG bonds has in the past years been lower than elsewhere, but we've seen a significant increase in interest over the last 12 to 18 months. It's somewhat circular: because of very little issuance in 2014-16 in this format, investors weren't dedicating resources to understanding the market. But with over 25 issuances in the last year alone, investors are getting very quickly up to speed.

As in other countries, it's certainly an education process to explain why both issuers and investors should spend additional time, resources and, in some cases, money, compared with issuing and investing in non-ESG bonds. I also wouldn't understate the problems caused historically by the language barrier. Now, however, for example most of the main second-party opinion providers are setting up offices in the region and are offering opinions in both English and Japanese.

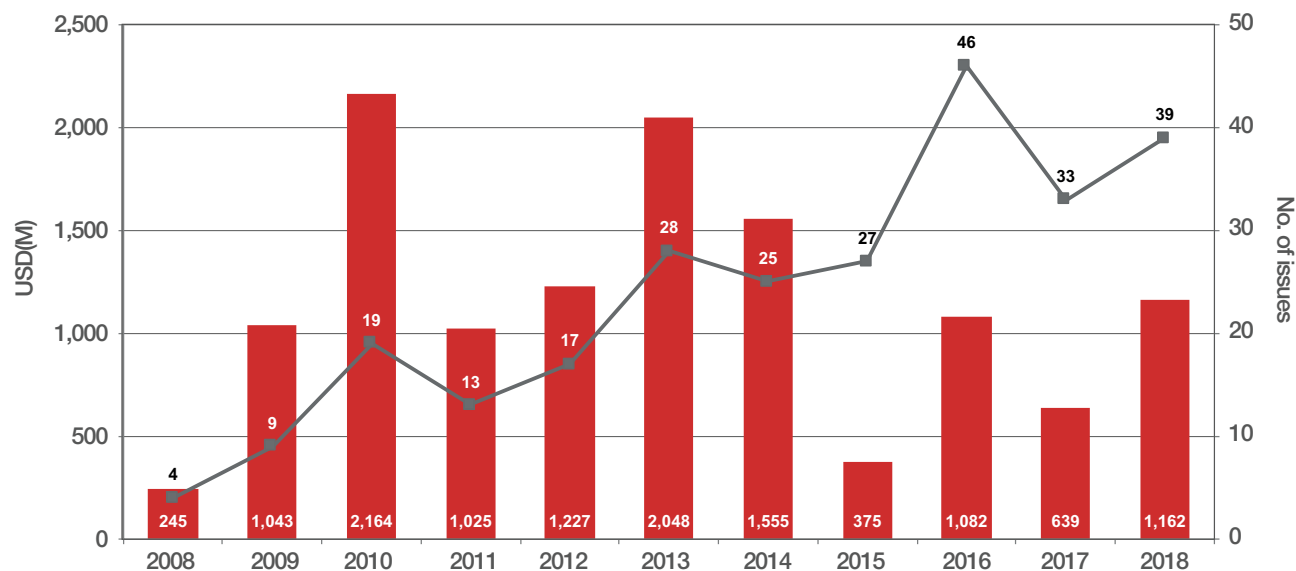
ND: It's worth remembering that Japan is one of the biggest pools of institutional investment globally. I would point to the work done by the public sector that is paving the way for bigger benchmark issues; the work that DBJ and JICA have done or the Metropolitan Government of Tokyo – all that information share is really starting to open the buy-side up in Japan. This is why we're really excited about it: we know how much cash there is to deploy in the region and a lot of it will be directed with ESG in mind.

EF: Nomura had a strong showing in social bond structuring last year, ranking the third-placed globally, lead managing on issuances totalling close to \$4 billion of such bonds in 2018. What was behind that?

ND: It wasn't a conscious decision to target the social bonds market, but it happened that we were involved with a number of large transactions. While our ESG business is much broader than that, we've certainly enjoyed the success we've seen in that part of the market.

JO: The European ESG bond market is much more focused on green, and on climate change mitigation and adaptation,

Since the wake of "Theme Bonds" in 2008, there has been c.US\$12.5bn* or 260 issues* targeting the Japanese retail investors



* Accumulated by Nomura to the best of its knowledge based on public information (as of end December 2018)

Uridashi bond issuance, 2008-18

whereas in Japan there is, in equal parts, a lot of focus on social-themed issuances as well.

EF: After a year of strong growth in 2018, what are your expectations for 2019?

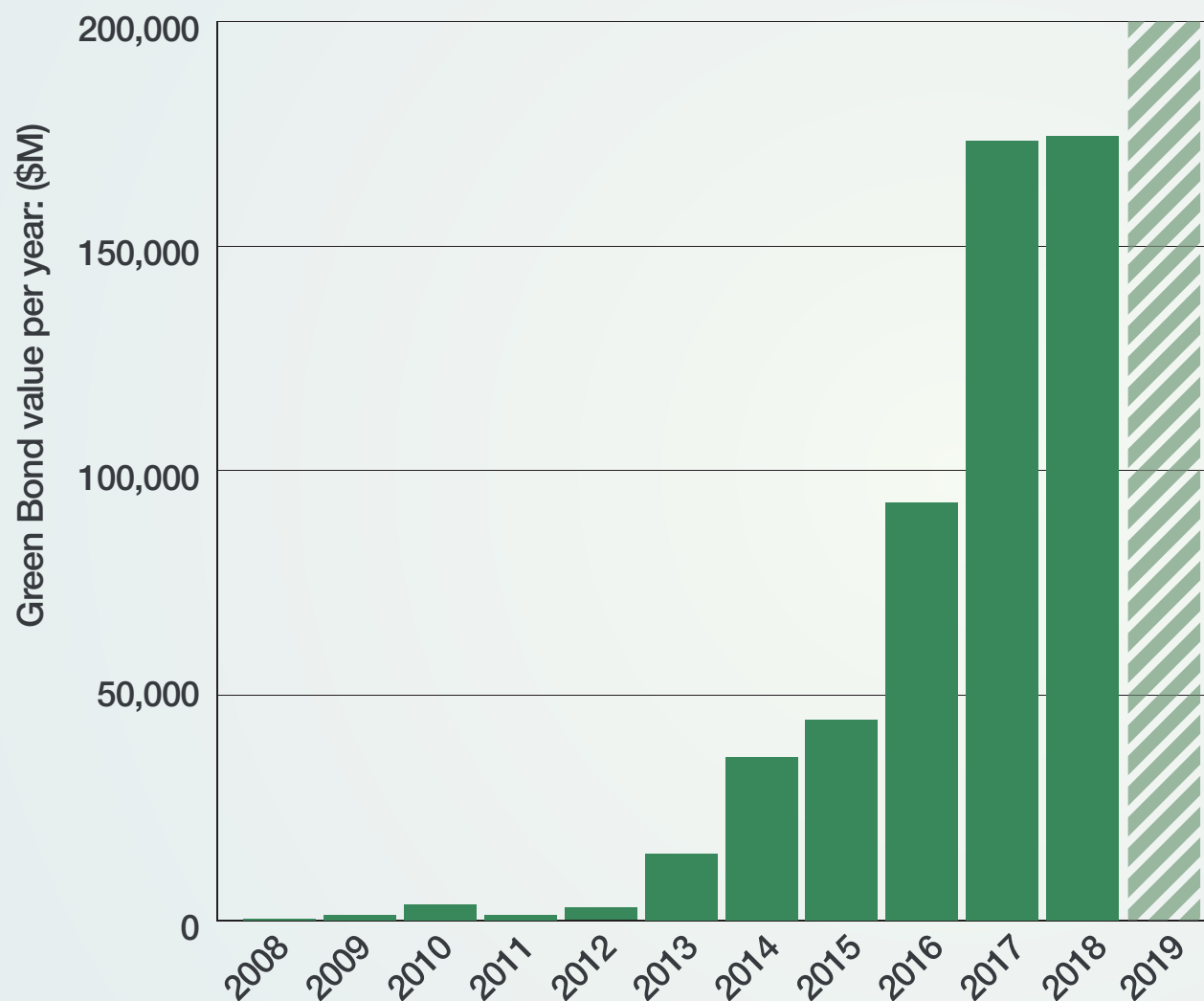
JO: Last year, the biggest growth in the green bond market year-on-year was from the Asia-Pacific. We've seen Japan's share of Asia-Pacific (ex-Australia) issuance jump from around 1% two or three years ago to almost 10% last year.

We're expecting to see more first-time issuers come to the ESG market; we've got quite a few in the pipeline, with whom we're advising on structuring, selecting assets, and whether they should target the onshore or offshore market. We also

expect a number of existing Japanese ESG issuers to look to broaden their investor base, with follow-up issues in dollars or euros.

ND: I think there's going to be a lot of action on the buy side in 2019. As we've noted, one thing we haven't seen as yet either in Japan – or in the wider region – is a lot of dedicated ESG bond funds. I predict that will be a big growth area over the course of this year. On the sell side, you can see the market's structure is in place, the architecture is there; it's just a matter of time and process to get through before the issuance comes through. But on the buy-side, I think that there's going to be an explosion in demand. ■

Market Predictions for 2019 in the green bond market



Predictions for the green bond market in 2019:

Climate Bonds

\$250 B

SEB

\$210 B

MOODY'S
INVESTORS SERVICE

\$200 B

S&P Global

\$180 B

Prediction for the green, social and sustainability bond markets in 2019:

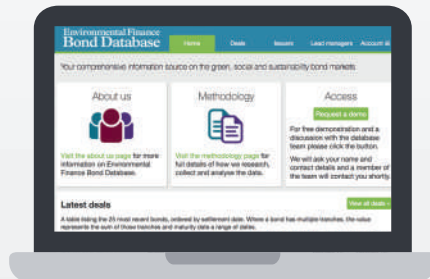
BBVA
Creating Opportunities

\$220 B

Environmental Finance Bond Database

www.bonddata.org

The most comprehensive source of
information on the green, social and
sustainability bond markets.



**User friendly
interface**



**Exportable
data**



**All the information you
need at your finger tips**

Subscribe to:

Access deal information:

- Financial documentation
- Lead managers
- Investor presentations
- Information memoranda
- External assessment forms

Filter by:

- Bond type
- Country
- Currency
- Date
- Domicile
- Identifier (CUSIP, ISIN)
- Issuer name
- Issuer type
- Sustainable Development Goals
- Use of proceeds

Keep up to date:

- Graphs and charts provide an overview of the market
- Drill down into areas of interest

To request a demo, please contact us at subs@bonddata.org