

# The Green Bond



## Special Edition: 2018 Investor Summit on Climate Risk, United Nations HQ, New York

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### Letter to the Reader

*A few reflections on the value of Green Bonds:*

In the last 10 years where Green Bond issuance has grown from 0 to over USD 350bn, three key questions endure:

- 1) How does one (as investor or issuer) define Green?
- 2) How does one define the investable universe?
- 3) What is the value-add – or – return on invested time?

I will try to answer this in a few lines in this letter.

*(Continues on page 2)*

### Christopher Flensburg

Head of Climate & Sustainable Financial Solutions, SEB



### Executive Summary

The green bond market once again achieved an impressive result in 2017 with issuance rising by **61% Year-over-Year (YoY)** to **USD 156 bn**.

The outcome of SEB's annual [sector-by-sector analysis](#) suggests that 2018 will be a year of consolidation with more modest growth. This is reflected in our base-case scenario constructed [country-by-country](#) showing the market with potential to grow to **USD 175 bn in 2018**, with possibility to surprise to the upside to **USD 210 bn**.

January 2018 might appear to have been a quiet start to the year but was actually quite busy with **USD 9 billion** of issuance. Currencies were dominated (51%) by EUR trades proving popular with corporates, followed by CAD, AUD, SEK and USD.

**Supranationals and agencies** led issuance in January; steady throughout with multicurrency trades from China Ex-IM, EIB, KfW and NWB. SEB was honored to support KfW in issuing a SEK 5bn (USD 630mn) green bond with Swedish pension fund Alecta as cornerstone investor. A [robust pipeline](#) of announced deals remains for February or later.

**Three regions** account for over half of issuance in 2017. The **U.S.** has the potential to retain its top spot in 2018 growing from **USD 40 bn** to **USD 45 bn**, followed by **China (USD 29.2 bn)** which could grow to **USD 34 bn**. **France** came third with **USD 19.8 bn**.

**Germany** leap-frogged to fifth place and has the potential to build further and grow by **50% in 2018** to USD 15 bn. In **Sweden** (USD 4.9 bn) green bonds accounted for **5.1%** of all **SEK** issuance in 2017, compared to the green share of **2%** out of all **Euro** bonds issued this year.

**Securizations** surged to **USD 26 bn**, largely due to Fannie Mae's Green MBS. In 2018, we see the potential for **USD 34-46 bn** of new securitizations. The **corporate** green bond sector turned in a magnificent performance with **USD 75 bn**, driven by a doubling in **non-financial** issuance, standing at **USD 41 bn**. Nine of Europe's largest corporate green bond issuers announced [their pledge](#) to double down on their green financing. **USD 49.5-63 bn** is possible for 2018 and **financial sector issuers**, flat at USD 34bn could grow to **USD 44 bn** under certain scenarios.

We expect **USD 17.5-22 bn** from agencies in 2018. **Green Sovereigns:** France was joined by Fiji and Nigeria. With 10 further states reported to be considering or planning sovereigns, we see 2018 potential at **USD 11-14 bn**. Strong growth in 2018 is possible for **Munis** and **Regions** to **USD 17-19 bn**. New Green Bond [Relative Value and Pricing Analysis](#) available via SEB Research Portal.

The EU High Level Expert Group on Sustainable Finance launches its [Final Report](#).

### SEB Climate & Sustainable Finance Review

*Guest contributors welcomed in this edition:*

[EIB](#): Special Comment: Green Bond Market: "Worth it" and bound to grow further; Plus commentary from [KfW](#), [IDB](#), [CUFE](#), [Ontario Financing Authority](#), [Ceres](#) and reflections from [SEB's inaugural green bond](#).

## **Letter to the Reader (cont.): A few reflections on the value of Green Bonds**

It is important to underscore up front that all comments are my personal reflections from experience and meetings (not the bank's view) and do not provide any investment advice nor guarantee for the assumptions. Anyone investing in – or issuing – Green Bonds, needs to derive their conclusion with arguments found through their own due diligence and using traditional fiduciary considerations and not these comments as the reason for their action.

### **1) Defining Green**

The definition of Green is one of the largest disputes in the market where for example China has been criticised due to the inclusion of “clean coal” where Europe and the U.S. avoid this area. The main reason for differences can be found in relative stages of macro-economic development. Where the U.S. and Europe are well developed and have an existing power infrastructure, China is currently about to build theirs. To replace, re-invest and upgrade in Europe and the U.S. doesn't interrupt power supply, and consequently changing energy sources “only” entails an economic consideration, not necessarily a social one. In China, a shutdown of power is likely to have considerable social impact and therefore the Chinese leadership has decided to include significant reductions of pollution with the help of “clean coal” alongside renewables and public transport when defining Green domestically. At a global level, we are seeing a great variety of definitions which can be explained in similar ways. In our view it is likely that these differences will remain for some time but also that the deviations will decrease and that definitions slowly align over an extended time period. In the meantime the GBPs, ratings agencies, service providers, index providers and also governments have started to coalesce around various definitions which will allow both issuers and investors to identify and calibrate their universe.

### **2) Defining the investable universe**

Depending on the drivers and reasons for the investments different approaches can be taken – I will try to illustrate some of those we have seen:

#### *a) Absolute allocation*

We have seen that most asset owners have set a cash allocation target for Green Bond investments. A few examples of those who have made public comments include Folksam (a Swedish insurer) who has stated a willingness to invest SEK 25bn (approximately USD 3bn) out of a SEK 400bn portfolio; Alecta (achieving their SEK 20bn objective last week); Zurich Financial making a USD 2bn allocation; Barclays Treasury allocating USD 3bn and AXA insurance just raising their target from EUR 3bn to 12bn before 2020. The criteria have mostly been comparable yield to similar issuances.

#### *b) Percentage allocation*

In the asset management industry the most successful strategies have been the creation of new portfolios mixing Green Bonds with Government Bonds aiming to reach 70-80% of Green Bonds.

The definition of Green is done in a few different ways, either by defining a class of issuers, adding a few additional criteria (like exclusion of fossil efficiency technologies) and adding a verifier or

rating institute review to provide some kind of assurance or by following one of the Green Bond indices.

### **3) Value-add**

#### *a) Financial*

For most investment professionals, fiduciary considerations require a comparable return regardless of the colour of the issuance; a fact that has brought about a concentrated dialogue around the financial nature of Green Bonds. We have since the inception of the Green Bond market been careful about using the financial element as a motivation for buying Green Bonds, but do see some potential embedded optionality value which could justify a difference in prices for some investors and thereby also provide a potential upside for buyers who invest in Green Bonds from the same issuer with the same financial characteristics at comparable yield. If one, as an investor, then puts a price on this option; this of course needs to be an individual decision, to which I currently have no recommendations.

#### *b) Intelligence*

The nature of Green Bond issuance often invites a *deeper* dialogue than a traditional bond issuance. This enhanced depth of dialogue enables various players to spot strategically important areas and ask issuers representing this area to provide further intelligence. A good example is the Dutch water authorities, which through their USD 4bn+ issuance of Green Bonds (through their bank the NWB) has been welcomed around the world by investors who want to get a better understanding of water issues. This intelligence has in several cases been used in allocation considerations and risk assessments of other issuers.

#### *c) Infrastructure*

We have experienced how Green Bonds allow both issuers and investors to identify areas of core importance – and through that work, they can establish structures which enable a better management of these issues. A good example of this is smart cities and the role smart cities play for industries. Some of our interactions between issuers and investors have led to establishment of both internal and external collaborations to optimize the role smart cities play for various industries (for example in the automobile industry).

#### *d) Strategic*

Lastly there is an important strategic element. We have one large European insurance company who wants to be able to show both local and global commitment to their stakeholders.

With that background, they have decided that all of their investments over time need to support better societies and are in that aspect looking in particular at investing in four of the Sustainable Development Goals (of which one is Climate). Alongside that, they have defined certain types of entities in which they want to invest proactively and incorporate in their communication, such as the World Bank Group. They find that Green and Sustainable Bonds give them a more effective means to execute this strategy and focus dialogue.

### **Christopher Flensburg**

*Head of Climate & Sustainable Financial Solutions, SEB*



## 1. Green Bond Market Review and 2018 Outlook

The green bond market once again achieved an impressive result in 2017 with issuance rising by a vigorous **61%** Year-over-Year (YoY) to **USD 156 billion**. This year-end figure may still be revised up as work to inventory all of the securitizations, municipal and Chinese issuance continues into January; however it already exceeded SEB's upper range of the USD 125-150 billion seen as possible in 2017, and was in line with our hawkish scenarios modelled in all of our seven reports this past year.

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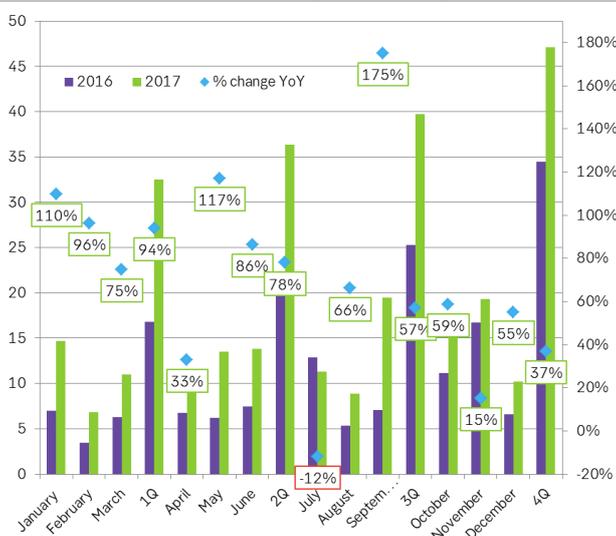
Research Associate, Climate & Sustainable Financial Solutions;  
Associate, Corporate Finance

January 2018 might appear to have been a misleadingly quiet start to the year (down -46% YoY), but was actually quite busy with **USD 9 billion** of issuance, dominated by EUR (51%) trades, with CAD, AUD, SEK and USD also popular. When adjusting for the anomalously large USD 7.5 billion French green sovereign OAT issued last January, issuance in fact stands a full quarter higher YoY (Figure 2) and a goodly pipeline of announced deals remained for February, or later in 2018 (see [Section 2](#)). The Export-Import Bank of China kicked off the year, followed by further green sukuk out of Malaysia (Segi Astana). By the second week of January, the Province of Ontario (contributing an article to this edition) sold a successful CAD 1 billion 7Y green bond to 71 investors, adding eight new investors in the process to their base while highlighting the increasing number of Canadian funds with socially responsible investing mandates and needs.

Corporate issuance commenced with Swire Properties out of Hong Kong and led into large scale EUR issuance from Enel and Engie, moving in to corporate financials with further EUR issuance from MUFG and a EUR 1 billion green covered bond from SpareBank 1 Boligkredit. Supranational issuance was the largest sector for January; steady throughout with multicurrency trades from EIB and KfW (both contributing articles to this edition) and NWB. SEB was honored to support KfW in issuing a SEK 5 billion (USD 630 million) with Swedish pension fund Alecta as cornerstone investor.

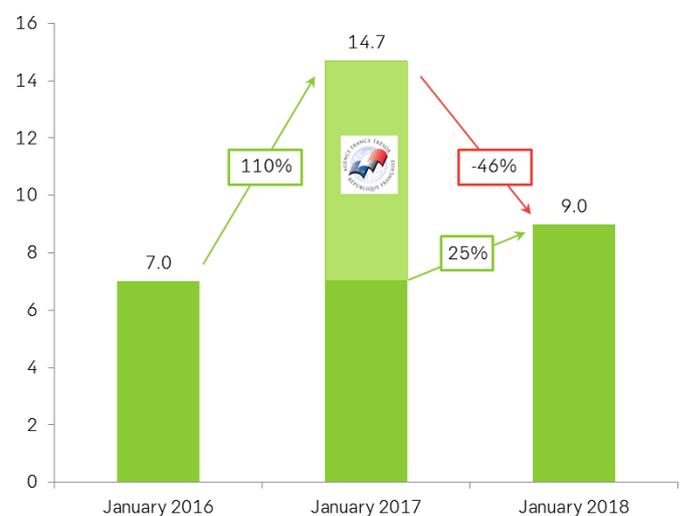
A healthy constitution of enablers and drivers stands ready to continue to support the momentum from 2017 and further elevate green bond issuance in 2018. Growth prospects can concurrently be expected to be balanced by issuers and investors taking time to absorb the impressive acceleration that has occurred in the market to date, while calibrating their strategies and also considering opportunities via **emergent social and sustainability bond** financing channels. As such, SEB's annual sector-by-sector and regional analysis (described in the sections below) suggests that 2018 will be a year of consolidation with more modest growth. This is reflected in our base-case scenario showing the market having the potential to grow by 12% YoY to **USD 175 billion in 2018**, with the possibility to surprise to the upside once again and cross to **USD 210 billion (+35%)**.

Figure 1. Periodic issuance (USD Bn) and % change YoY



Source: SEB analysis based on Bloomberg and SEB data

Figure 2. January issuance trends 2016-2018 (USD Bn)



Source: SEB analysis based on Bloomberg and SEB data

Figure 1 captures the market's vitality well, by illustrating how issuance managed to beat nearly every single calendar period on a YoY basis in 2017 (except for July). When reading solely by

the numbers, it may appear that the market's outperformance lost momentum over the course of the year (falling on a tidy quarterly basis: 1Q+94% → 2Q+78% → 3Q+57% → 4Q+37%).

However, this may mask the fact that the market had a daunting task to surmount, given the second half of 2016 was exceptionally busy and characterized by a fusillade of Chinese financial sector issuance. Market activity was smoother in 2017, compared to the serrated issuance patterns that characterized 2016 stemming from stop and start Chinese issuance. Chinese activity which had lagged at points during the year finished approaching 90% of 2016 levels (see Figures 7 and 8).

This potent progress in 2H17 and the full year result was achieved thanks to October almost matching September's record-setting **USD 19.5 billion** of issuance, November rising by 15% over last November (which had set the record for 2016 issuance) and December closing up 55%.

### Market Drivers

At a higher level, the drivers of this activity and geographic dispersion described below (and throughout our publications this year) can be attributed to sustained green infrastructure investment demand and green bond financing. This is a sincere megatrend that is a function of an extensive array of complementary enabling factors including economic, technological, security, policy, social and sector-specific forces, alongside persistently increasing appetite from institutional investors.

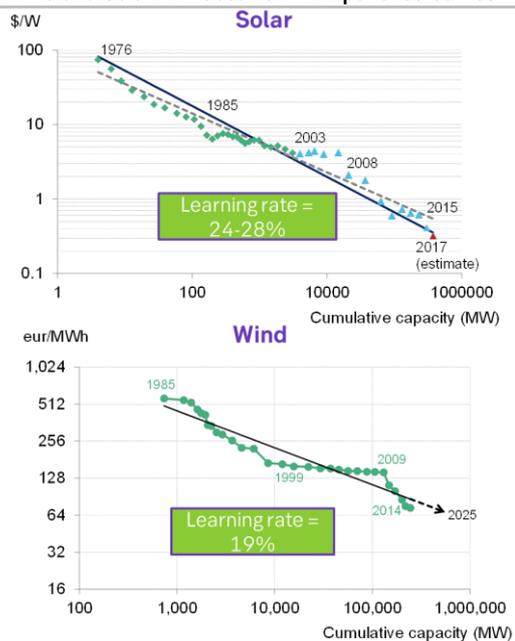
According to Bloomberg New Energy Finance (BNEF), 2017 was the 8<sup>th</sup> successive year in which global clean energy investment has been in range of USD 250 billion - USD 350 billion, rising by 3% from 2016 at USD 334 billion. Powerful "cost down" curves for clean energy and batteries continue, with the emergence of unsubsidized solar PV, onshore and offshore wind setting new record lows throughout the year and becoming significantly cheaper than any other sources of electricity in their jurisdictions. Therefore, despite fairly stable investment levels 2017 achieved another milestone for new clean energy capacity installations, mainly driven by China, Mexico and Australia.

Figure 3. Unsubsidized clean energy records set in 2017



Source: BNEF; Images Siemens; Wikimedia Commons; Masdar \*Headline figure only - may include elements of subsidy, price support or price escalation; not final. Previous unsubsidized world record US\$ 2.42 c/kWh in UAE (Marubeni/Jinko)

Figure 4. Wind and Solar PV "Cost Down" Experience Curves



Source: BNEF Database

The [One Planet Summit](#), held two years to the day after the historic Paris Agreement was concluded, provided a backdrop for a number of notable announcements (summarised here by the [UN](#)). For instance, a group of [225 global investors](#) (including SEB Investment Management) with more than USD 26 trillion AuM pledged to engage with the 100 most polluting corporates (linked to about two-thirds of all emissions from industry worldwide) and to step up their

ambition on climate action. The coalition asks corporations to improve governance on climate change, curb emissions and strengthen climate-related financial disclosures, in line with the final recommendations of the Task Force on Climate-related Financial Disclosure (TCFD).

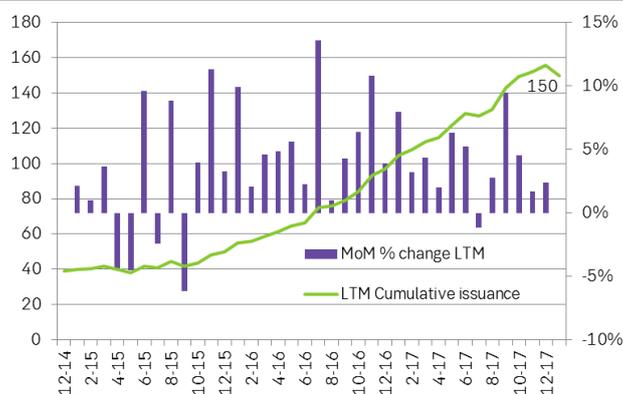
Mike Bloomberg and Mark Carney [announced](#) that the number of companies supporting the TCFD recommendations has more than doubled over the six months since the publication in June, with 237 companies (USD 6.3 trillion by market cap) having publicly committed to support the TCFD recommendations. This includes over 150 financial firms (over USD 80 trillion of AuM) and corporates from a broad range of industries, including construction, consumer goods, energy, metals & mining and transport, headquartered in 29 countries. Separately, it was announced that by 2020 every listed company in China must disclose information on environmental impacts.

Just ahead of the Summit, the European Commission launched a public consultation on institutional investors and asset managers' duties regarding sustainability, which ran until January 2018 as part of the High Level Expert Group (HLEG) work on sustainable finance.<sup>1</sup>

### Geographic Green Bond Issuance Trends and Potentials

As shown in Figure 4 (and 8), in previous editions SEB introduced analysis of moving Last Twelve Months (LTM) of green bond issuance. These metrics show that cumulative LTM figures surpassed USD 100 billion in January 2017, and continued to grow relatively steadily (taking a short summer break) and plateauing at around USD 150 billion for the last three months. A 2-month moving average of percentage change in LTM showed a downward trend for most of 2017 that was suddenly reversed in September.

Figure 4. Last Twelve Months Analysis / % change (USD Bn)



Source: SEB analysis based on Bloomberg and SEB data

Figure 5. Top 10 countries 2017-2018, incl. Supranational (USD Bn)

2017	Region	Issuance	Trajectory	2018	Issuance
1	UNITED STATES	39.6		SNAT	1.9
2	CHINA	29.2		ITALY	1.5
3	FRANCE	19.8		FRANCE	1.3
4	SNAT	10.1		NORWAY	1.2
5	GERMANY	9.8		CANADA	0.8
6	SPAIN	5.3		JAPAN	0.6
7	SWEDEN	4.9		HONG KONG	0.5
8	MEXICO	4.0		CHINA	0.3
9	NETHERLANDS	3.8		NETHERLANDS	0.2
10	INDIA	3.7		CHINESE TAIPEI	0.1

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

Three regions account for over half (56%) of 2017 issuance (compare Figure 6 with Figure 7), with the United States retaining its top spot in the ranking for most of the year (USD 39.6 billion of issuance), followed by China (USD 29.2 billion), which boosted its performance over France (USD 19.8 billion) during 4Q.

France had amongst the most diverse and granular participation across sectors. Buoyed by the French Green OAT Sovereign tapped twice throughout the year (taking its total to USD 10.5 billion), there was widespread participation from corporates and government agencies. **We see activity in France as consolidating in 2018 and dipping somewhat to USD 16 billion.**

Supranational institutions such as Multilateral and Regional Development Banks came fourth with USD 10.1 billion. Supranationals have issued almost USD 55 billion since 2007 (as seen in Figure 7), led in volume by EUR 19.5 billion (USD 23.4 billion) from **the European Investment Bank**, which also contributes an [article](#) juxtaposing the green bond market with the results of the HLEG final report.

Germany leap-frogged to fifth place (USD 9.8 billion) and is the focus of an [outlook contribution](#) in this edition provided by KfW, the largest issuer in Germany. **We see Germany as having the potential to build further and grow by 50% in 2018 to USD 15 billion.**

<sup>1</sup> [https://ec.europa.eu/info/consultations/finance-2017-investors-duties-sustainability\\_en](https://ec.europa.eu/info/consultations/finance-2017-investors-duties-sustainability_en)

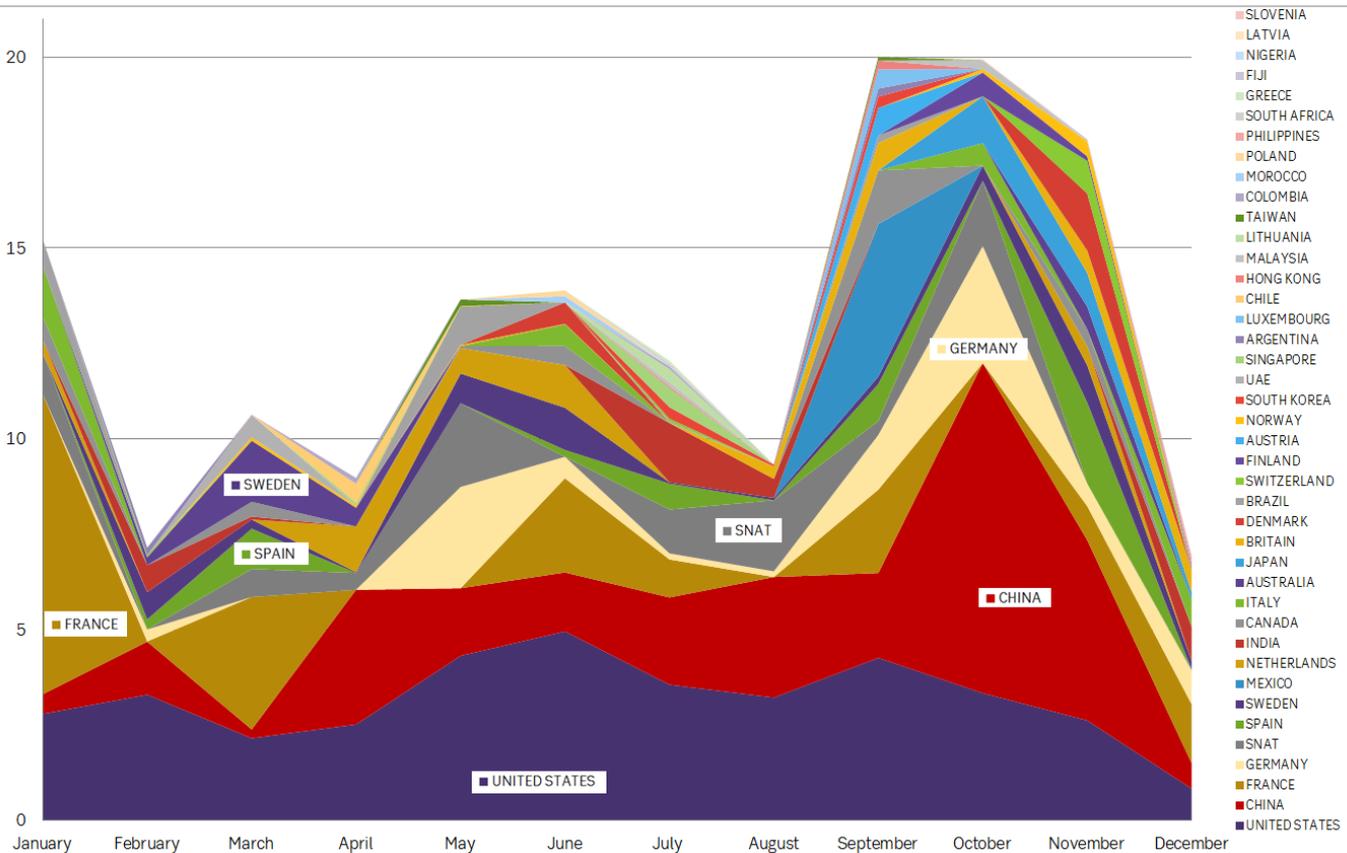
Spain and Sweden had been climbing the rankings all year and jumped over Mexico, which was closely grouped with the Netherlands and India. **Spain could see 50% growth in 2018.**

Activity in India continued to heat up after the Securities and Exchange Board (SEBI) released its final green bond guidelines in June and then cooled somewhat. India provided a fascinating case study in cost competitiveness of clean energy in 2017, as solar PV became cheaper than coal, and then was promptly overtaken by wind energy in December, which became the cheapest source of electricity domestically.<sup>2</sup> We see **India as having the potential to more than double its issuance in 2018 to USD 8 billion.**

Figure 6 showcases how the market continues its trend of geographic and sectoral diversification, with a record 40 jurisdictions featuring green bond issuance in 2017. Europe became the first region to surpass USD 100 billion of cumulative green bond issuance, and is clearly the dominant green bond market globally as can be seen in Figure 7.

This is even the case when excluding the fifth-ranked Nordic region, which is interesting to examine separately from Europe as it was closing in on USD 20 billion of cumulative green bond issuance on its own. Promisingly, the green share doubled over the last year for Euro bonds, but taking the result to only 2% in 2017. **In Sweden for instance, green bonds accounted for 5.1% of all Swedish Krona (SEK) issuance in 2017. We see the potential for issuance to rise to USD 6 billion in Sweden in 2018.**

**Figure 6. Geographic distribution of green bond issuance in 2017 (USD Bn)**



Note: Country of Domicile classifications and terminology from Bloomberg used. SUPRANAT = Supranational; Taiwan = Chinese Taipei. Top issuers labelled in chart for illustration.

Source: SEB analysis based on Bloomberg and SEB data

The American green bond market surprised many with its first place country rank in 2017, expanding by over 150% YoY. Its composition of highly consistent activity is geographically unique; dominated by green securitizations and municipal bonds, which account for over 90% of issuance. Almost two thirds of U.S. issuance (USD 24.8 billion) comes in the form of Green Asset Backed and Mortgage Backed Securities, led by Fannie Mae (the Federal National

<sup>2</sup> See: <https://www.bloombergquint.com/business/2017/12/21/wind-power-is-now-the-cheapest-energy-in-india>

Mortgage Association) which printed over USD 21 billion of green MBS in 2017<sup>3</sup> - shifting the entire market with more than all the green bonds issued in third-placed France.

A further 29% (USD 11 billion) is in the form of green muni bonds issued by 40 individual municipal entities. Provided Fannie Mae continues with its impressive program, we see the **U.S. as having the potential to grow even further to USD 45 billion in 2018.**

Canada is also making an increasingly significant contribution to the North American green bond market, sitting just outside the top 10 in 2017 with USD 3.4 billion, but with clear prospects for 2018, as discussed in a **review article** contributed to this edition from the Province of Ontario. **We see the potential for over USD 5 billion of issuance in 2018 from Canada.**

As discussed above, the Asian green bond market has been led by China, and is the focus of an [in depth commentary](#) in this edition provided by the **Central University of Finance and Economics**. As we expected, China returned in 2017 with similar issuance magnitude, while also making important domestic strides. In a move that campaigners hailed as a “monumental” step in the global fight against climate change, the Chinese government confirmed the long-awaited national emissions trading scheme (ETS) which will create the world's largest carbon market once it comes into operation, dwarfing Europe's ETS in size and scope.

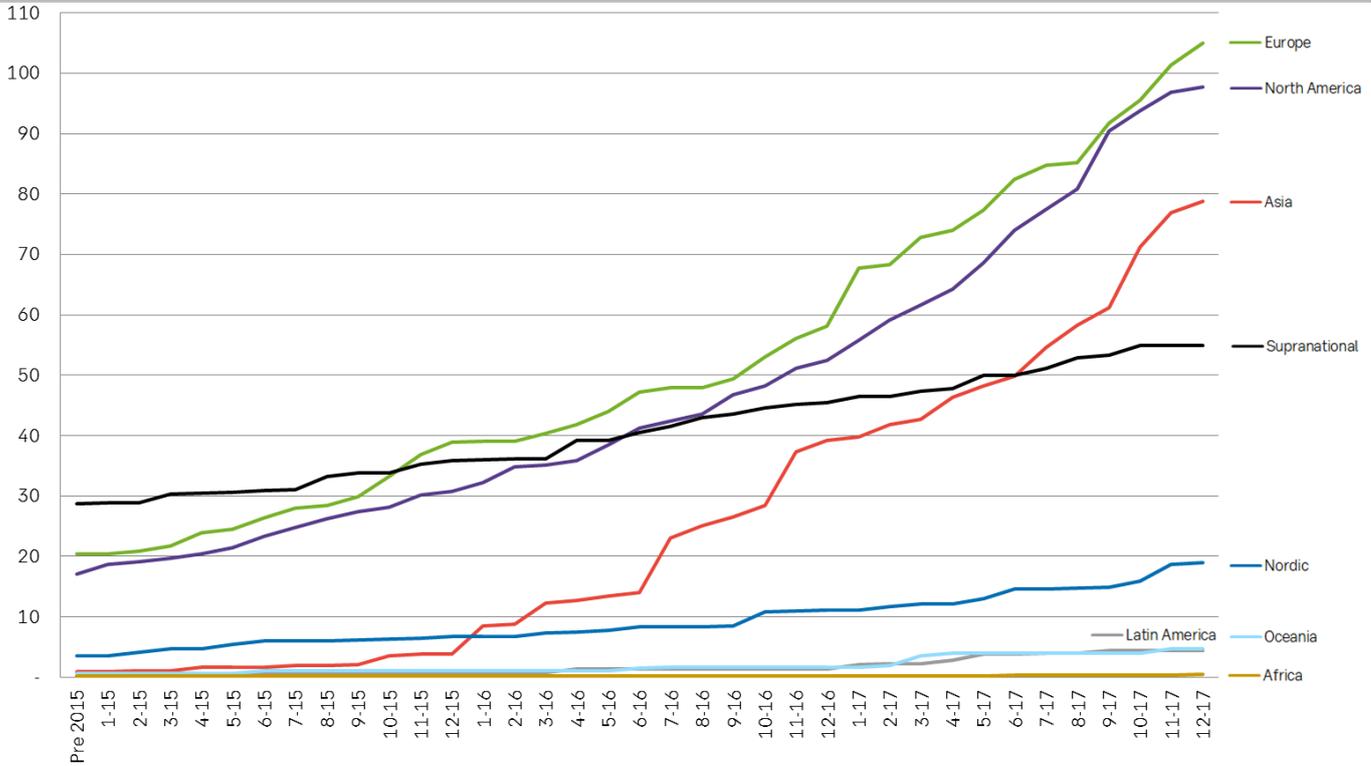
However, other parts of Asia also experienced a spike in activity in 2017. Japanese banks and corporates began to enter the market with USD 2.3 billion of issuance following green bond guidelines being launched domestically. **We see the potential for Japanese issuance to increase by up to 200% in 2017.** Following the launch of the [ASEAN Green Bond Standards](#), and the Monetary Authority of Singapore's incentives, issuance began to pick up throughout South East Asia as well. **Issuance in Singapore could grow by 75% in 2018.**

Notably, a market for green sukuk emerged in Malaysia with USD 860 million of issuance through to January, and an announced Indonesian sovereign green sukuk was in the pipeline at the time of writing.

Other geographies where we expect growth in 2018 include Australia, with potential for USD 4 billion; Brazil and the United Kingdom (USD 3 billion possible for each); Denmark (USD 2.5 billion); Argentina, Austria, Finland, Hong Kong, Norway South Korea, and Switzerland each could achieve USD 2 billion; and a further 10 jurisdictions could potentially reach the USD 1 billion mark.

<sup>3</sup> The full list of green bonds issued by Fannie Mae is available at: <https://www.fanniemae.com/multifamily/green-initiative-green-mbs>

**Figure 7. Regional evolution of green bond markets 2015-2017 (USD Bn)**



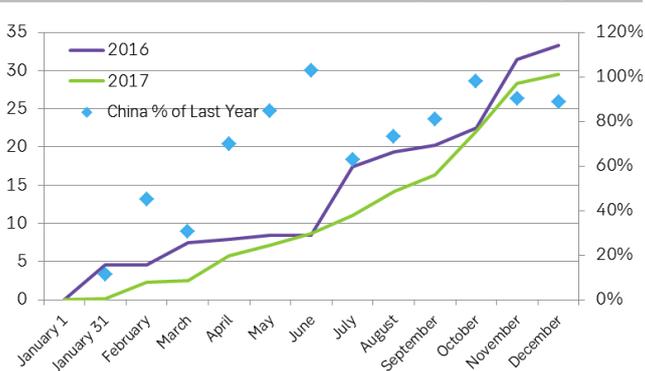
Source: SEB analysis based on Bloomberg and SEB data. "Europe" excludes the Nordics, shown separately to represent their unique contribution.

As shown in Figures 8 and 9, the Chinese market appeared healthy and characterized by smaller but more numerous and diverse issues. LTM figures have held up most of the year in the USD 30 billion range. LTM figures for number of individual bonds issued out of China had been steadily increasing all year before resting into the New Year. From an examination of secondary Chinese sources, it is very possible that once Bloomberg reconciles all of the domestic Chinese issuance that occurred in 2017 within its databases the final year total figures will rise. SEB's statistics will reflect any revisions to Chinese issuance if and when they are made.

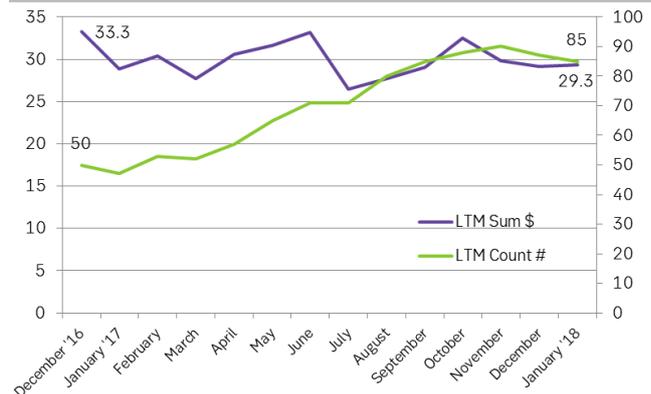
The pipeline of announced Chinese deals also continued to appear solid, complementing signaling from Chinese authorities that green bond issuance in 2017 potential is "strong" and harmonization efforts being developed to attract foreign investment into the domestic green bond market, while providing domestic policy incentives. In late December, the PBoC and CSRC jointly issued the *Green Bond Appraisal and Certification Guidelines (Provisional) Guidelines*, announcing improvements to its national green bond certification system geared at boosting its green bond market.

**We see the potential for Chinese issuance rising once again to USD 34 billion in 2018.**

**Figure 8. Steady Chinese issuance catches up YoY (USD Bn)**



**Figure 9. China: LTM Volume (USD Bn) and issue count (#)**



### Expanding Emerging Market Opportunity and Currency Distribution

Consistent with the geographic trends described above, 75% of green bond issuance has occurred in OECD markets (USD 107 billion) and from supranational institutions (USD 9.6 billion). As illustrated in Figure 10, in the OECD, issuance is relatively evenly distributed across types of green bonds and sectors.

Issuance out of Emerging Markets and Developing Economies (EMDEs) continued its increasingly important growth trend. The shift in the overall composition of the market since the beginning of the year is noticeable with 25% of issuance now occurring in EMDEs, leading to a larger universe of higher yielding EM opportunities becoming available. The sectoral distribution in EMDEs looks completely different, and is heavily weighted towards corporate bonds; split between financials (50%), where the CNY presence is obvious, and non-financial corporates (36%).

In terms of currencies (Figure 11), the key takeaway from 2017 was that the market shifted towards Euros, driven by a very active corporate EUR market (with non-financial corporates favoring EUR). The magnitude of the French Green Sovereign OAT definitely helped to push the EUR trend as well, continuing into 2018 as described above.

Figure 10. Regional evolution of green bond markets 2015-2017 (USD Bn)

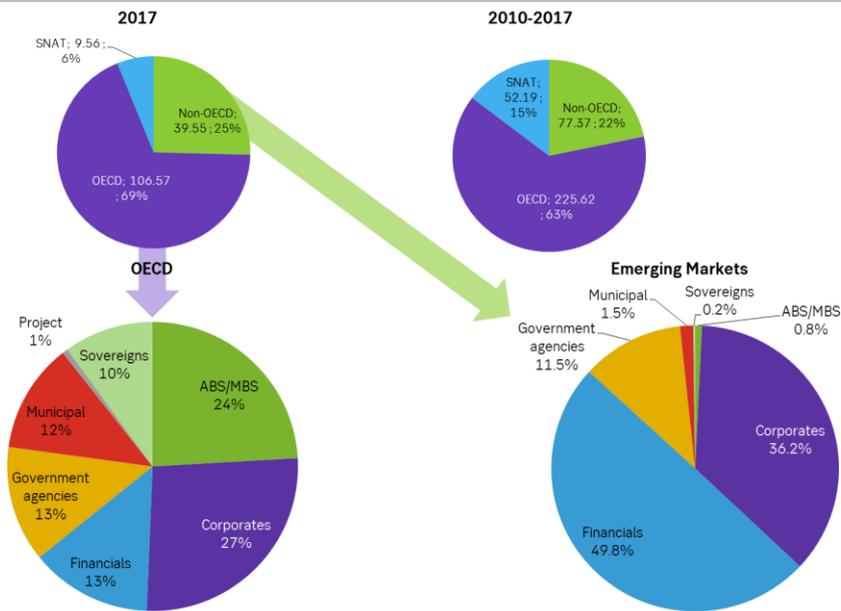
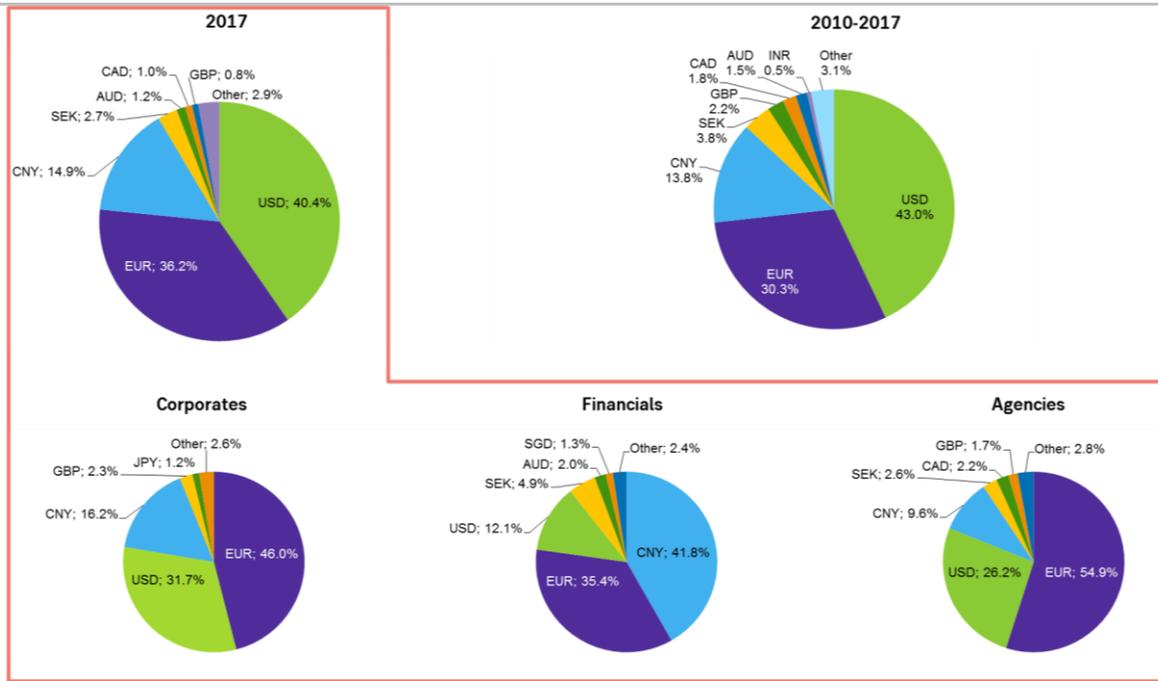


Figure 11. Currency distribution of green bond issuance in 2017 and market outstanding since 2010 (USD Bn)

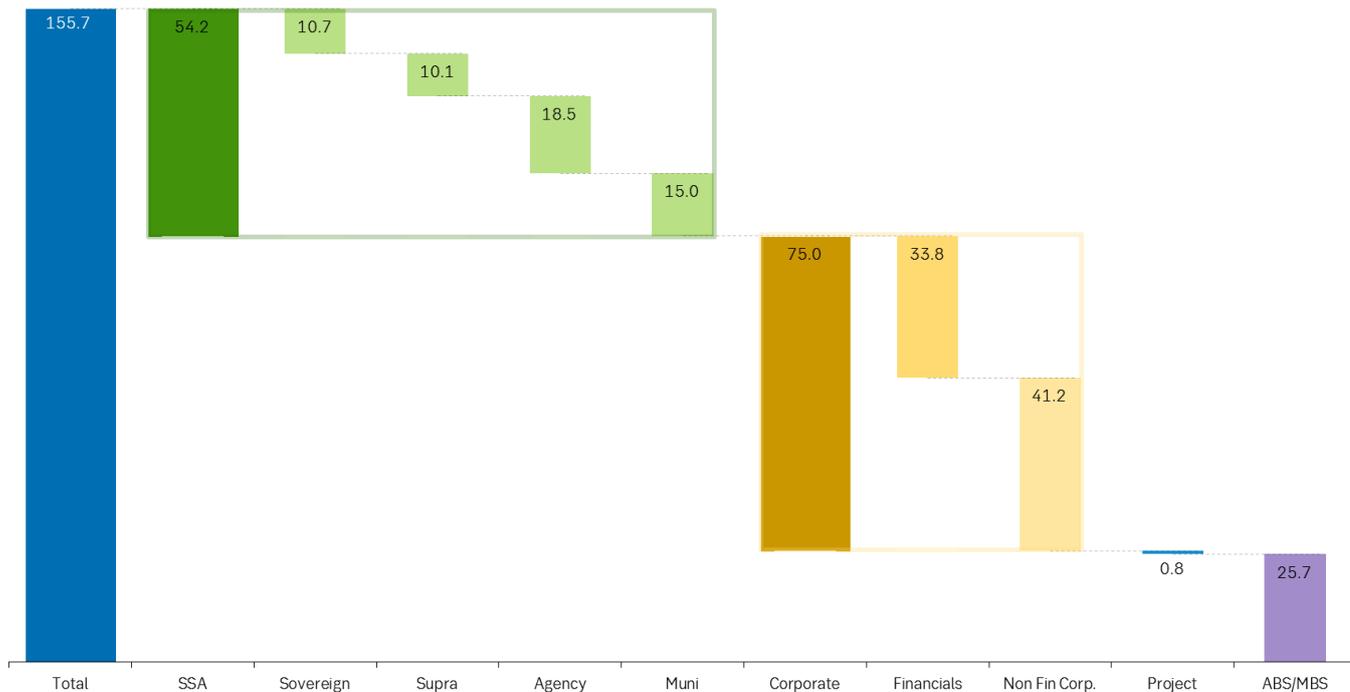


Source: SEB analysis based on Bloomberg and SEB data

**Analysis by green bond issuer sector**

SEB maintained its 2017 year-end green bond market potential issuance figures across all sectors unchanged since the beginning of the year with the exception of securitizations, where we put the sector on watch and then raised its potential to USD 20 billion.

Figure 12. Green bond issuance in 2017 by sector and sub-sector (USD Billion)



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

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

As discussed above, the market for ABS/MBS exceeded even that and finished the year with USD 26 billion, largely due to Fannie Mae’s activity. In 2018, with the caveats discussed above, **we see the potential for USD 34-46 billion of new green securitizations.** The upper end of our range would be in line with the OECD’s conservative analysis for the potential for securitizations in 2015-2020.<sup>4</sup>

The emergence of the green sovereign market, which was described in previous editions, was in line with the quantum of issuance we had expected; however the much-awaited entrance of countries other than Poland and France materialized only right at the end of the year with small green sovereigns issued by Fiji and Nigeria.

With another three new countries reported as announcing their intentions for 2018 issuance (Belgium, Indonesia and Russia), and Poland and Nigeria confirming their intention to tap their sovereigns, the pipeline looks robust. Additionally, seven further countries are the topic of press reports and conjecture suggesting they are evaluating or planning a sovereign green bond. **As such, we see the potential for USD 11-14 billion of green sovereign issuance in 2018.**

Issuance from **government agencies** jumped 58% YoY to USD 18.5 billion, with new large transactions from KfW adding to other national public financial institutions or development banks earlier in the year. We expect a gentler year in 2018 with USD 17.5 of issuance, with the potential for upside growth to 22 billion depending on certain regional activity. Sub-sovereign issuance including from **municipalities and regions** rose continually to end the year up 70% YoY to USD 15 billion with the U.S. featuring prominently (as discussed above). We see strong growth potential in 2018 with USD 17-19 billion possible, depending on whether an infrastructure investment plan is passed in the U.S. Congress.

**Non-financials drive an expanding and diversifying corporate bond market**

On the whole, the **corporate** green bond sector turned in a magnificent performance with USD 75 billion, driven by a doubling in **corporate non-financial** issuance, standing at USD 41.2 billion. This rise can largely be attributed to large-scale participation by the European electric/utility sector but also with diversifying participation from technology, engineering, water, medical/healthcare and forestry, pulp and paper sectors.

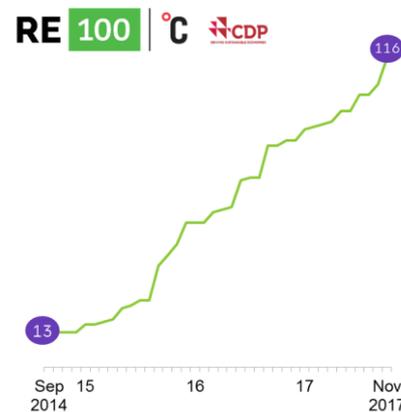
In the margins of the One Planet Summit, nine of Europe’s largest corporate non-financial issuers of green bonds (responsible for EUR 26 billion of issuance) publicly announced [their pledge](#) to double down on their green financing. The pledge also calls upon other industrial corporates to consider issuing green bonds, with the companies joining forces to voice their commitment to the green bond market as part of their strategy, financing policy and their active engagement in the reporting debate and dialogue with investors. The year also observed a continuous increase in the number of multinational companies using shadow (internal) carbon pricing (Figure 13) and the number of companies committed to powering themselves 100% with renewable energy procurement surging to 116 (Figure 14), driving a market for corporate PPAs in the 4-5 GW range for the fourth year in a row. Non-financial corporates could add **USD 49.5-63 billion** to the market in 2018.

Figure 13. Multinational companies pricing carbon



Source: BNEF and CDP

Figure 14. Companies committed to 100% renewable power



Source: BNEF and <http://there100.org/>

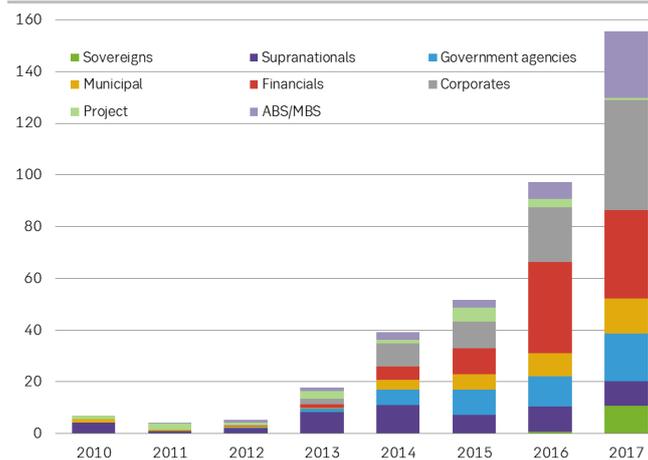
<sup>4</sup> In sustainable energy, energy efficiency and electric vehicles, in a 2 degree scenario, in four regions: See [OECD](#).

The **corporate financial sector (including real estate)**, had lagged 2016 issuance earlier in the year caught up briefly over the summer, but just missed last year's extraordinary total by -4% to a still impressive USD 34 billion. In 2018 we expect in our baseline scenario another strong but flat year as large financial institutions (including real estate in the West and large banks in China) return to service their balance sheet needs.

However much depends on whether green loans and mortgages take off, smaller financial institutions start to join the green bond market (especially in emerging economies) and if the insurance sector opens up further in 2018, following dipping its toes into the market this year. As such, we see **strong upside potential for the market to hit USD 44 billion under these more optimistic assumptions.**<sup>5</sup>

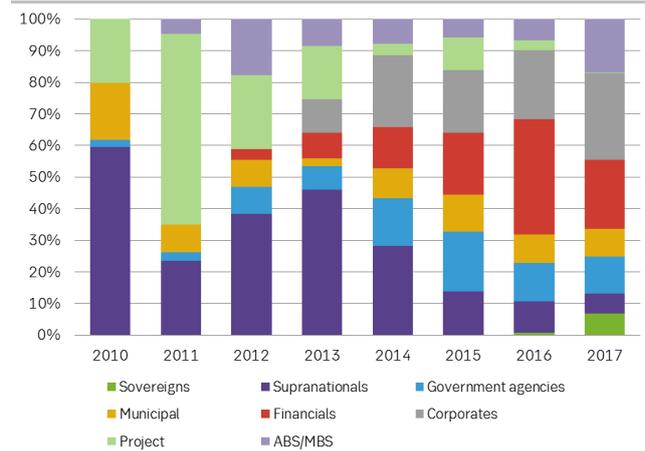
**Supranational institution** (Multilateral and Regional Development Banks) activity had been up and down throughout the year and ended up 5% YoY with USD 10.1 billion, almost precisely what we had expected. We expect a similar result next year with between USD 9-10 billion of issuance, as supranationals explore other innovations including social and sustainability bonds.

**Figure 15. Issuance evolution by sector 2010-2017 (USD Bn)**



Source: SEB analysis based on Bloomberg/BNEF and SEB data. YTD through December 19.

**Figure 16. Sector shares, issuance 2010-2017**



Source: SEB analysis based on Bloomberg/BNEF and SEB data. YTD through December 19.

<sup>5</sup> Which exclude the possibility of any regulatory preferencing, should that occur.

## 2. Green Bond Publicly Announced Pipeline

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- Banco Nacion Argentina
- Bank of Russia / Russia Green Sovereign
- Belgium Green Sovereign
- City of Barcelona Sustainable Bond
- Henang Yuguang RMB
- Indonesia Green Sovereign Sukuk
- Invenergy
- IREDA green masala
- Jacinta Solar Farm
- KfW Benchmark USD and EUR
- Mexico City MXN
- MidAmerican Energy
- Midpeninsula ROSD
- New Development Bank Green Panda
- Nigeria Green Sovereign Tap
- Nordex
- Poland Sovereign tap
- Sindicatum
- State Bank of India USD
- T-Solar



### 3. Green Bond Market: “Worth It” and bound to grow further

In November 2015, just ahead of the COP 21 Paris conference, two Yale Professors pointed, in the Financial Times<sup>6</sup>, to the lack of reliable information on the environmental impact of economic activities, questioning the credibility of green finance. The authors of the article could thus explain a temporary slowdown in green bond issuance with “*scepticism among green bond investors and issuers about whether the market is ‘worth it’*”.

Since then, the green bond market has grown to new highs, with EUR 125bn of issuance in 2017 alone. In 2018, SEB expects new issues to reach EUR 140bn to 170bn. What has changed in the meantime? What is still to be done? And what can realistically be expected in terms of market growth and relevance?

Addressing these questions permits to highlight a tangible, albeit thus far underestimated, dimension of green bonds. Systematic reporting on the use of proceeds has uncovered fundamental reasons for lack of clarity in green finance: the absence of scientific consensus on material aspects of “*green*” (classification of activities, impact assessment methodologies and metrics), as well as of a framework for definition of priorities, co-existence of competing objectives and clear guidance (within as well as across individual jurisdictions). These limits are a source of uncertainty that hampers efficient decision-making, weakening market support to public policy. Rather than throwing in the towel, however, practitioners have responded to this challenge by developing pragmatic solutions in the form of agreed conventions that are changing the green landscape.

One example is the IFI-Framework for Green Bond Impact Reporting Harmonization developed by 11 International Financial Institutions (IFIs) under the coordination of the EIB in 2015 and subsequently referenced to the whole market by the Green Bond Principles (GBP) in 2016<sup>7</sup>. This framework has established shared reporting principles for renewable energy and energy efficiency and is being extended to further areas of activity. Recently, the approach has been adapted to the circumstances of 10 Nordic public sector issuers advised by NIB, Credit Agricole, and SEB in a [joint position paper](#) launched at the OECD Green Investment Financing Forum.

EIB inaugurated the green bond market in 2007 with a first “*Climate Awareness Bond*” whose main raison d’être was “*accountability in the future disbursement in the fields of renewable energy and energy efficiency and precise definition of the types of projects to be included in this category*”<sup>8</sup>. The Bank’s recent initiatives illustrate how green bonds are not only financing “*green*” activities but also engaging capital markets in the definition of what is green and why in the eyes of different actors (not only issuers and investors but also policymakers and civil society).

The measurement of the impact of every economic activity to policy objectives (e.g. climate change mitigation) is the condition for effective allocation of capital and ultimately the successful transformation (“*greening*”) of the economy. This allocation is however not possible without comparability of information across activities, actors and financial products. EIB’s work on impact reporting harmonization has shown that shared reporting principles are a necessary, yet insufficient, condition for comparability. A shared classification of economic activities or at least a shared framework within which different classifications can be “*translated*” into one another is required.

The importance of this requirement has been emphasized in the 2016 G20 Green Finance Synthesis Report. China has already responded with ad hoc legislation and incentives since 2015<sup>9</sup>, based on the early recognition that green bonds can provide a useful tool for the environmental assessment of financial and industrial policy ex post. This move has been instrumental in making green bonds an important financing means for China’s real economy and in creating the largest green bond market globally.

<sup>6</sup> T. Cort and C. Krosinsky, “*Green finance environmental impact is hard to measure*”, Financial Times, 4/11/2015

<sup>7</sup> A.M. Romani and D. Rosolowska, “*An analysis of the IFI-framework on Green Bond impact reporting harmonization*”, Environmental Finance, July 2016

<sup>8</sup> 2016 CAB [Statement with Reasonable Assurance Report](#), page 3.

<sup>9</sup> Catalogues endorsed by People’s Bank of China (PBC) and National Development and Reform Commission (NDRC), followed by Shanghai/Shenzen Securities Exchanges in 2016 and National Association of Financial Market Institutional Investors (NAFMII) in 2017. A single classification is currently in the process of being finalised by NDRC.



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The “*shared EU classification of sustainable assets applicable for all sustainable finance products*”<sup>10</sup> is also a focus of the European Commission’s (EC’s) [High Level Expert Group on Sustainable Finance](#) (HLEG), which was created at the end of 2016 and is about to publish its final recommendations. EIB is an Observer in this group and its Capital Markets Department has coordinated EIB’s delivery of a proposal for classification in the area of climate change mitigation. This has been used as showcase to address further classification efforts in other areas of climate, green and broader sustainability.

EIB’s approach has built on its technical expertise supplemented by extensive market consultations co-convened with WWF and i4CE. The Bank’s experts have rearranged the economic activities listed in China’s “*Green Bond Endorsed Project Catalogue*” by five environmental policy objectives<sup>11</sup>. For climate change mitigation, a conversion table<sup>12</sup> has been established between the Catalogue, EIB’s list of activities and the list of activities agreed by the Multilateral Development Banks (MDBs) and the International Development Finance Club (IDFC) for the compilation of joint climate finance statistics<sup>13</sup>. 21 external green bond reviewers and 13 MDB-IDFC members have then been given the opportunity to complete the picture with their own activities’ lists. A conversion table has permitted to compare the respondents’ primary screening criteria for each activity.

While the collection of feedbacks is still ongoing, the initial results of this work were published in a joint White Paper<sup>14</sup> by EIB and the Green Finance Committee of China Society for Finance and Banking at the COP23 Bonn conference last November - with the endorsement of People’s Bank of China. The Paper was drafted by the authors of this article, who also coordinated the underlying consultation work, together with Prof. Yao Wang and Mathias Lund Larsen of the International Institute for Green Finance of Beijing’s Central University of Finance and Economics. One week later, EIB delivered its classification proposal to the HLEG. Two key conclusions could already be retained in EIB’s technical advice:

- Classification needs to be standard-neutral, since different views of “*green*” cannot be reconciled at this stage. This can be addressed in two steps:
  - a. first, by establishing a matrix encompassing a “*universal*” list of (on one axis) activities and (on the other axis) policy objectives that jointly cover all views of “*green*” and can be applied to any financial product; and
  - b. secondly, by populating the matrix with a set of a limited number of “*internationally comparable indicators*” (as per G20 Study Group recommendation<sup>15</sup>) measuring the primary contribution of activities to policy objectives.

Standards would be derived from this matrix by specifying which activities and policy objectives are standard-eligible, as well as by disclosing standard-conform target values for the indicators.

- Adoption of one single classification is unrealistic at this point. This can be addressed by using a single universal activities’ list for conversion purposes, enabling comparison of target indicator values by activity in spite of the different terminologies in use. Such a conversion table would, in the words of an SEB banker, “*build bridges between silos*”.

EIB’s proposal, which entails a detailed matrix in the area of climate change mitigation, has been conceived to live up to these challenges. After the conclusions of the HLEG Final Report, it would be beneficial for the EC to:

- first, endorse the proposed approach to classification (standard-neutrality, agreed primary indicators, convertibility of classification standards);

<sup>10</sup> HLEG, “*Financing a sustainable European Economy*”, Interim Report, July 2017, p.55

<sup>11</sup> Climate Change Mitigation, Climate Change Adaptation, Natural Resource Conservation, Biodiversity, Pollution Prevention and Control, all mentioned in the Green Bond Principles.

<sup>12</sup> To highlight its purpose, the table has been nicknamed “*Rosetta Stone*”, after the Hellenistic stele that was key to deciphering Egyptian hieroglyphs, presently on display at the British Museum.

<sup>13</sup> MDB / IDFC “*Common Principles on Climate Mitigation Finance Tracking*”, June 2015

<sup>14</sup> A.M.Romani and D. Rosolowska, “*The need for a common language in Green Finance – Towards a standard-neutral taxonomy for the environmental use of proceeds*”, SEB’s *The Green Bond* 4Q 2017.

<sup>15</sup> 2016 [G20 Green Finance Synthesis Report](#), p. 27.

- secondly, develop, with the help of dedicated working groups, a universal classification matrix sporting the outlined features;
- thirdly, specify the EC classification standard (eligible activities, policy objectives and consistent target indicator values<sup>16</sup>) based on such matrix;
- finally, apply such EC classification standard to the definition of EC product standards (e.g. for green bonds and loans).

This would provide an efficient platform for the comparison of the EC classification standard with those reflecting other regional circumstances (e.g. the one that is being finalized by China's NDRC), offering the opportunity for a coordination in the definition of policies and targets towards a common goal (such as the implementation of the Paris Agreement). At market level, these authoritative standards would guide issuance and investment decisions within the framework of an open and inclusive architecture that leaves actors free to express their own preferences.

The Green Bond Principles - the only forum that is expression of the market at large – has proven capable of mediating among different views and interests. By reflecting the proposed approach in the Use of Proceeds section, the GBP could engage practitioners in its implementation. In an initial phase, this would require the disentanglement of activities and objectives in the text and the adoption of an activities list that facilitates the comparison of issuers' and investors' preferences. Issuers would choose which primary objectives they intend to pursue and the indicators envisioned for measurement and reporting. This information would be made public in standardized form prior to issuance for transparent and comparative analysis by investors. These arrangements, which are neutral vis-à-vis individual standards across multiple jurisdictions, would align policy and market narratives, consolidating the GBP's role as the international hub for discussion on themes of market interest.

To secure maximum relevance, policy and markets should coordinate their classification efforts within the supranational framework established by the UN and the G20, where MDBs have been vested with a key role in policy implementation. Specifically, MDBs' expertise in green lending, funding and technical assessment can help the definition of credible and consistent indicators and their target values across jurisdictions. In the area of climate change mitigation, for example, the MDBs' [Common Principles](#) have established a platform for discussion, which may now be used to complement the already agreed list of activities with shared screening criteria aligned with the goals of the Paris Agreement. EIB coordinates the dedicated MDB expert group and aims to create a synergy with its efforts on the market side.

A consistent classification approach across financial products will strengthen the transmission of policy. It will also enable collection of consistent environmental risk data that can lay more solid foundations for a system of green support factors, strengthening market engagement on pure financial grounds. Finally, it will permit the determination of indicators (such as the ratio of monetized GHG-emissions avoided to total project cost) that measure impact significance in relative terms, directing investments more efficiently.

In a nutshell, green bonds have, for the first time, bound together all of these different dimensions and their impact goes far beyond the current size of the segment: they provide society with a lever that fosters the transparent interaction between policy and markets and their convergence for the delivery of results.

If the efforts described in this article bear fruit, green bonds will increasingly make visible which part of the economy can be mapped to serve environmentally sustainable goals in a measurable manner considered reliable by all. This, together with the clarification, standardization and comparability of policy signals and impact information, will reduce uncertainty for newcomers and facilitate their issuance, taking the process forward.

These are the good reasons why the green bond market is “worth it” and bound to grow further, proving its added value on the ground.

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<sup>16</sup> Target indicator values should take into account the trade-offs and interdependencies between different policy objectives in order to ensure overall consistency.

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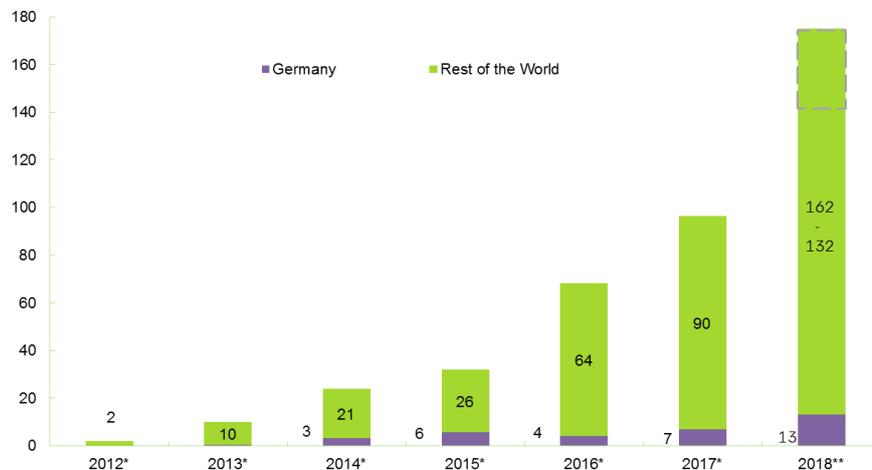
#### 4. The prospects for the green bond market in Germany in 2018

In 2017, the German green bond market has developed substantially in line with the dynamic evolution of the global green bond market. On a year-on-year basis, the new issuance volume nearly doubled from EUR 3.5 billion to EUR 6.8 billion, making up 7% of this year's new issuance volume worldwide and positioning Germany as the 3<sup>rd</sup> largest market in terms of new issuance (source: Bloomberg data).

New German green bond issuers entered the market (e.g., Deutsche Hypothekbank and LBBW) while regular issuers (e.g., NRW.Bank, DKB, Berlin Hyp and KfW) pursued their green bond activities. NRW.Bank and DKB followed KfW's role model adopting a dual approach as a green bond issuer and investor. As of today, KfW has issued Green Bonds - Made by KfW amounting to around EUR 13 billion, thereby being the second largest issuer of green bonds globally, and is building up a green bond portfolio with a target volume of EUR 2 billion. In 2017, KfW invested approx. EUR 350 million in green bonds. The total portfolio currently amounts to approx. EUR 920 million.

Diversification in terms of products was brought forward with German issuers introducing innovative green finance instruments over the years. The first green bond index was launched by a German index provider in 2014. In 2016, the first green Pfandbrief was issued by Berlin Hyp and the first green Schuldscheindarlehen (SSD) was brought to the market by the wind turbine provider Nordex. Other green covered bonds and SSDs followed in and outside Germany in 2017.

#### Global Green Bond Issues (in EUR billion)



Note: \* Excl. asset-backed securities and US municipal bonds\*\* SEB estimate (incl. asset-backed securities and US municipal bonds)  
Source: Bloomberg

With regard to the profile of green bonds issuers, the German market is largely dominated by issuers from the banking and agency sector. KfW itself plays a prominent role holding a share of more than 65% of all green bonds outstanding. German corporates are still reluctant to enter the market. Innogy presented its debut issuance, even though formally issued out of the Netherlands. This is all the more worth noting given that in 2017, the global green bond market has been characterized by large corporate issuances and a further diversification in terms of industry sector. In addition, green bond issuance from public sector entities is lagging behind in the German market with Land North Rhine-Westphalia being currently the only German public sector sustainability bond issuer.

One of the reasons for the limited volume of green bonds issuance by German corporates and public sector entities is owing to the fact that capital market funding is not that common in Germany compared to many other countries. Given the easy access to funding via traditional loans from German financial institutions and the lack of clear funding advantage, incentive for potential issuers is low to undergo the process of setting up the structures required for green bond issuance and to assume the related efforts and costs.

Globally, it is positive to note that the exchange between the public sector, market participants, scientists and other stakeholders on sustainability, climate risk management and a corresponding financial infrastructure has intensified considerably.

While Germany was relatively late in taking the journey to sustainable finance, it has been catching up recently. In January 2017, the State of Hesse announced its intention to create a Green Finance Cluster Frankfurt which was officially launched in October 2017. The objective is to create a competence center for sustainable and green finance in order to play an active role in the current national and international discussions about a sustainable financial system. In May 2017, Deutsche Börse AG co-launched with major stakeholders from the Frankfurt financial center the Acceleration Sustainable Finance Initiative. By signing the so-called 'Frankfurt Declaration', the signatories committed themselves to join forces in order to develop sustainable solutions and new structures for a sustainable capital market. Working groups with dedicated tasks have been set-up with focus on Sustainable Products & Services, Impact Investing & Financial Inclusion and ESG data.

With the view to consolidating and coordinating these current and already existing initiatives in a sensible way, Deutsche Börse AG and the German Council for Sustainable Development (*Rat für Nachhaltige Entwicklung*) decided in summer 2017 to start a strategic cooperation. The main tasks of the newly created Hub for Sustainable Finance are to coordinate joint activities and identify potential areas and measures to promote sustainable finance in Germany. Based on these findings the German Council for Sustainable Development will advise the German Federal Government. KfW is active in all these initiatives.

Sustainable finance is also gaining relevance in German public sector asset management. The investment guidelines for the EUR 24 billion German Fund for the Financing of Nuclear Waste Disposal (*Fonds zur Finanzierung der kerntechnischen Entsorgung*), created in 2017, specifies that investments have to follow sustainability criteria. Deutsche Bundesbank recently organized a portfolio day with public sector representatives from the German government and federal states in order to discuss the incorporation of Environmental, Social and Governance aspects in the public sector asset management. The German activities form part of a broader development where various financial centers have organized similar initiatives. At European level, a milestone was set with the creation of the EU High-Level Expert Group on Sustainable Finance, in 2017 an interim report with recommendations was published, and the [final report](#) released in January 2018. The report inter alia refers to the recommendations of the Task Force on Climate-related Disclosure and it is increasingly obvious that the TCFD recommendations will have significant impact on the "real economy" as well as on the financial sector.

## Green Finance – Sustainable Finance



Source: KfW

While it is difficult to exactly quantify the influence of all these initiatives and developments on the German green bond market and its prospect for 2018, it is clear that they definitely contribute to raising awareness amongst German investors and bond issuers about green and sustainable finance thereby broadening the scope of potential green bond issuers and investors, including the public sector. KfW will continue its green bond activities. It plans to issue at least one large-scale green bond in both euros and US dollars in 2018. It will also carry on building up its green bond portfolio and taking an active role in initiatives like the Green Bond Principles with a view to further promote the green bond market, both globally and in Germany.



## 5. The Latin America and the Caribbean (LAC) green bond market in 2017

Green bond issuance in Latin America and the Caribbean (LAC) continues to grow, albeit the region remains one of the smaller markets compared to the US, Europe and especially Asia. Total issuance to date in LAC for 2017 has reached an overall market value of US\$8.1 billion for 18 transactions from 15 issuers. The 2017 market value is more than twice the US\$3.7 billion in 2016, and US\$1 billion in 2015.

With almost 80% of the total regional market, Mexico and Brazil dominated 2017 issuance. However, it is worth noting the issuance that occurred in Argentina with two mid-sized bonds from two provinces to finance wind farms within the national renewable energy program RENOVAR.

In terms of issuers, state-owned vehicles and subnational entities accounted for more than 50% of the market value, this also because of the outsized issuance for the Mexico City Airport. Corporates and financial institutions followed with 25% and 20% of the total market respectively. National Development Banks in Brazil, Colombia, and Mexico were the most active issuers among the financial institutions,

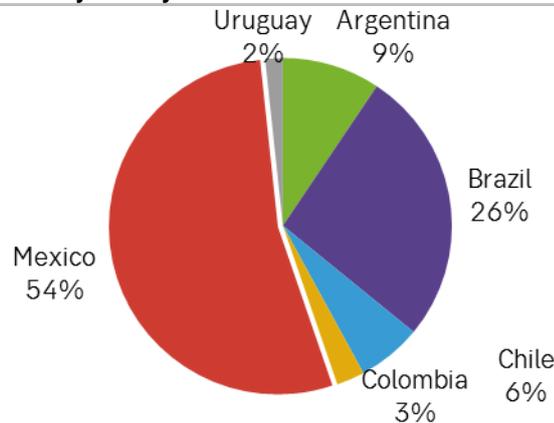
Finally, the majority of the bonds were issued with 10-year maturity; however the average tenor of the new issued paper increased from 9 to 11 years, with two 30-year bonds and one 20-year bond contributing to such increase.



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### Total 2017 green bond issuance in LAC broken down by country



Source: Cepal (2017), Climate Bonds Initiative (2017)

### Notable issuance from 2017 by type of issuer and the role of Multilateral Development Banks

#### Notable Public Sector Issuance:

Public Sector Issuance represented the majority of green bonds for 2017, with issuance from the Mexican Government, 3 National Development Banks and 2 Provinces in Argentina.

The Mexican Government completion of the US\$6 billion green bond program issued across 2016 and 2017 to finance the development and construction of the new Mexico City Airport, expected to become the largest hub in Latin America, is the most notable issuance. The bonds, the largest green bond program so far in LAC, have been rated at the lower level of investment grade (Baa1 / BBB+), and are backed by a collateral structure based on a securitization of passenger charges to be collected by the Mexican government from airlines operating at the existing airport and the new airport. The bond program received excellent green rating scores by both S&P (E1) and Moody's (GA1) thanks to a strong commitment to sustainable construction of the airport based on a program of certified green buildings, renewable energy (mainly photovoltaic solar), and water treatment investments.

Three National Development Banks issued a total of US\$ 1.292 billion, with one large issuance in US Dollars (BNDES), and two issuance in local currency for the domestic markets market (Banobras in Mexico and Bancoldex in Colombia). Worth mentioning that the bond from Banobras, combines a green dimension (Sustainable transport; Renewable energy; Energy efficiency; Water efficiency and wastewater management; Pollution prevention and control,

Disaster recovery) with a social dimension (Affordable basic infrastructure to vulnerable segments of the population; Public services infrastructure) signaling the beginning of a strong interest in the region for a wider offering of instruments for sustainable investments that would encompass concerns around climate change and social development.

#### Notable Private Sector Issuance

In Brazil, it is worth noting that all private issuers have been corporates from the pulp and paper (Klabin, Suzano and Fibria), food (BRF) and energy industries (Omega and Rio) ([Green Bond Database, 2017](#)). The sharp increase in bonds labelled “green” observed in Brazil in 2017 is partly due to the development and release of [green bond guidelines](#) in 2016 by the Brazilian Business Council on Sustainable Development (CEBDS) and the Brazilian Bank Federation (FEBRABAN).

In Colombia, it is worth highlighting the 433 billion peso deal issued by Davivienda, which the Bogotá-based bank said was the largest green bond issued by a private financial institution in Latin America. Davivienda’s issuance follows the one of Bancolombia, who with a US\$ 116 million (350 billion peso) green bond was the first to set foot in the market in December 2016.

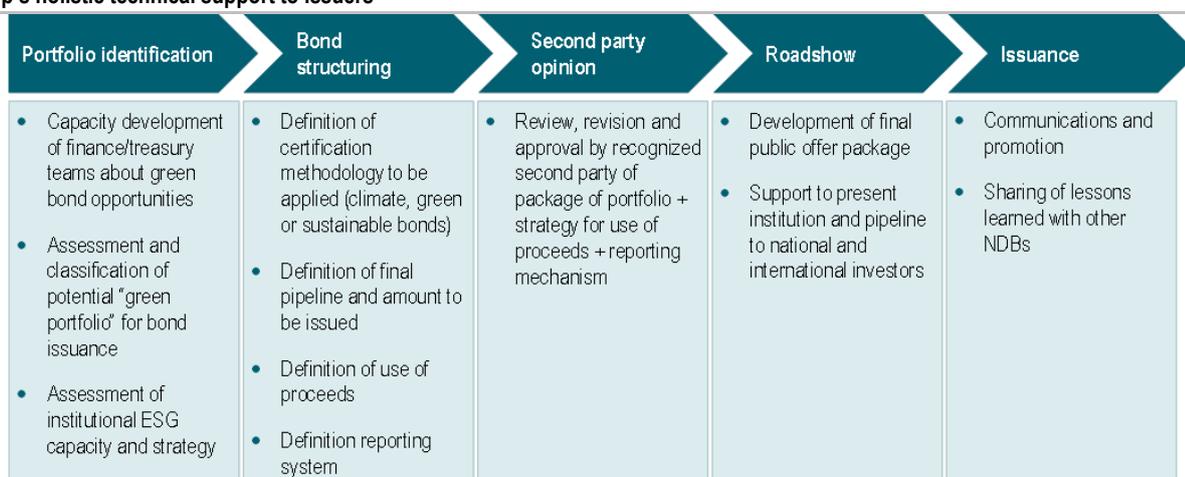
#### ***The role of Multilateral Development Banks in promoting a green bond market in LAC***

Multilateral Development Banks are encouraging and supporting the issuance of green bonds in the region through financial and non-financial products as well as dialogue with relevant government-related entities and authorities.

The Inter-American Development Bank Group (IDB) – a Multilateral Development Bank operating in LAC – for instance, has been promoting the development of the market by working with both public and private sector entities. The public sector arm of the Group, IDB, in 2016 launched a technical cooperation program to support nine NDBs in their efforts to raise private funds at adequate maturities in both local and international capital markets, through the issuance of green bonds or sustainable bonds.<sup>17</sup> By offering credit enhancement instruments to some of these NDBs, IDB can help attract national and international institutional and impact investors and, hence, support the ability of these issuers to diversify sources of funding while promoting investments with high positive social and climate impacts.

As shown in the figure below, the IDB’s support provides for institutional capacity building at all preparatory stages for issuance.

#### **IDB Group’s holistic technical support to issuers**



Bancoldex was the first beneficiary of the program to complete the assessment by issuing green bonds in August 2017 for COL 200 billion. The issuance was the first one made through

<sup>17</sup> The program is financed by the Switzerland’s State Secretariat for Economic Affairs (SECO) for Colombia, Peru and Ecuador – and of the International Climate Initiative (IKI) of the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) via the LGI program for other countries in the region (Mexico, Brazil and potentially Argentina for instance).

local stock markets in Colombia (other 2 previous issuances made by private banks were made through private placements), and had an oversubscription of 2.5 times.

BDMG, Findeter and Fira are in advanced stages of support. In many cases, with the common objective to promote transparency and standardization in green bonds markets globally, the IDB is working closely with the Climate Bond Initiative in supporting its clients to develop detailed reporting methodologies of positive environmental impacts for sectors that are not yet covered by the existing green bond metrics and standards, or to work as pilot projects for new standards – i.e. potential small hydro power (for Findeter) and GHG emissions reductions from greenhouses (for FIRA).

IDB Invest – the private sector arm of the IDB Group – has so far supported issuance in Mexico and Uruguay, and is seeking to expand its efforts across the region. In Mexico, IDB Invest with the support of donors' resources is structuring the first small scale "green" asset aggregation and securitization platform to unlock funds from institutional investors for small scale energy efficiency projects developed by Energy Service Companies (ESCOs).<sup>18</sup>

In Uruguay, IDB Invest has closed two landmark green bond certified private placement transactions namely,

- Campo Palomas, a 19.5-year amortizing B-bond for US\$ 135.8 million used to finance the operation of a 70 MW wind farm. This was the first green-certified bond issued in Uruguay. U.S. and Canadian institutional investors invested in the bond, many of them invested in Uruguay for the first time as a result of this innovative structure.
- La Jacinta, a 65 million B-bond issuance for a US\$81 million 50 MW solar power project. At a 24.5-year tenor, it is the longest non-sovereign bond issued in Uruguay.

#### ***New Instruments: Intermediate Access, Bonds bundling and Credit Enhancement***

"Bundling" of pipelines is a strategy that can be pursued to attract international investors. This is because few issuers in LAC have the necessary portfolio and/or capacity to go for international public bond (international investment banks usually recommend a USD300 million minimum threshold for an international issuance). Those international issuances seem accessible only to a NDBs with large mono sector portfolios such as big renewable energy portfolios (BNDES, Nafin) or for larger infrastructure projects with either large public sponsors (as in the case of Mexico City Airport) or private ones (as for Genneia SA in Argentina). In most of the cases, the potential issuers in LAC, mainly financial institutions, need to work on less 'low hanging fruit' type of green bond issuance projects with smaller and multi-sector portfolios.

BNDES' Fundo de Energia Sustentavel was launched in March 2017 and aims to support infrastructure projects, primarily in assets supporting the transition a low carbon economy. The target size of the sustainable energy fund is BR\$500 million (US\$ 162.9 million /EUR 150.9 million).<sup>19,20</sup> The aim was to create an innovative financing vehicle that meets the needs of Brazilian investors, as Brazilian pension funds need a vehicle that provides diversification in infrastructure investments, but also the expertise on infrastructure projects. The structure of the sustainable energy fund is based on the Infrastructure bonds law 12,431 and CVM instruction 476. Managed by a 3<sup>rd</sup> party fund manager – Vinci - the new fund will have 15 years tenor, guarantee from BNDES, and will be tradeable and so will help foster a secondary market (which is currently very limited). The Fund will allow diversification to investors and provide project developers access to long term financing.

Multilateral Development Banks are also developing new instruments and strategies to improve the credit profile of the bond to meet institutional investors' risk appetite. IDB Invest, for instance, can provide a construction guarantee product to help partially mitigate construction risk for institutional investors and to improve ratings for the underlying transactions.

IDB Invest B-Bond structure provides political risk coverage for institutional investors looking to invest in new countries in Latin America. Under this structure, institutional investors purchase

<sup>18</sup> For more information, please see IDB Invest web site [here](#).

<sup>19</sup> <http://www.bndes.gov.br/wps/portal/site/home/imprensa/noticias/conteudo/bndes-seleciona-vinci-como-gestor-do-fundo-de-energia-sustent-vel/> | <https://renewablesnow.com/news/vinci-partners-to-manage-sustainable-energy-fund-in-brazil-562355/>

<sup>20</sup> <http://www.madronalaw.com.br/english/artigo/energy-securitization-fund/>

notes from a special purpose vehicle that purchases a participation in the IDB Invest loan. The structure allows investors to benefit from IDB Invest's privileges and immunities in its member countries and its in-depth knowledge of the Latin American market. In the Brazilian market, IDB Invest has developed a Real-denominated Total Credit Guarantee to de-risk long-dated infrastructure debentures for renewable energy projects. The structure is designed to increase the participation of risk-averse investors in the local market and to extend the tenors available to green projects.

For international and local investors, IDB Invest also provides a partial credit guarantee structure whereby IDB Invest would guarantee the timely payment of principal and interest to investors. The product can be used to provide a ratings uplift to enable non-investment grade products to achieve an investment grade rating.

Liquidity Credit Line – Prompted by the aversion towards construction risks in capital markets, this liquidity credit line (or *stand-by letter of credit*) would provide financial support if there is a shortfall in construction financing or debt servicing due to timing mismatch of cash flows. This could be used for infrastructure primarily, but could prove key in mitigating the highest risk perceived with more innovative technologies (e.g. renewable energy) or with traditional infrastructure constructed in a more sustainable manner (e.g. including climate resilient components).

### **Green Bond Market Development**

Investors' enthusiasm is expected to grow further in LAC. This is highlighted by for instance, by the interest signaled by domestic institutional investors in supporting the growth of the market. This is in particular demonstrated by the 'Green Bonds Statement' signed in 2016 by Brazilian investors with over US\$ 575 billion (BRL 1.80 trillion) of assets under management and, in 2017, the signature of a similar statement by 57 Mexican investors with US\$ 225 billion (MXN4 trillion) under management.

Overall, the pipeline of infrastructure investments expected for the region in the next decade is significant and estimated by IFC at around US\$2.6bl (IFC, 2016), as several countries in the region are launching large scale investment plans in renewable energy, transport and urban infrastructure (eg Brazil's multisector Projeto Crescer, Argentina's renewable energy program RENOVAR, and Mexico's large scale renewable energy auction program).

Further, with the recent upgrades to Argentina and several recent successful climate-related issuances for the Province of La Rioja and Jujuy, there may be opportunities in the near future for more green bonds as investors look to re-finance projects developed under the Renovar program, that so far has awarded 59 projects for a total of 2.4GW of power and US\$4bl of investment value (Latin Finance, 2017).

Following on the success of the Mexico City Airport's green bond issuance, Mexico's energy reforms are expected to open up green bond issuances for renewables and energy efficiency projects as the first wave of investments under the new reforms reach project completion and are re-financed.

Many governments in the region are starting to think about the role they should play in the development of domestic green bonds markets. In Colombia for example, after the Bancoldex issue, the Bolsa de Valores de Bogota is starting a strategic project to look at the potential of a Colombian green bond market and the regulation framework that could foster its success.

In November 2017, the Mexican Stock Exchange (BVM) and the Exchange of Buenos Aires (BCBA) signed a joint agreement to support the development of green bonds and sustainable financing in the two countries, relaunching the efforts of the Sustainable Finance Division of the BCBA in a partnership with Mexico2, the green market platform of BMV, for a coordinated development and dissemination of best practices in green financing and green bonds.<sup>21</sup>

The IDB Group is working with different players such as Government Agencies, Financial Sector regulatory bodies or domestic Stock and Bond Exchanges to support the design of national strategies to incentivize domestic green and sustainable bonds markets. Pilot projects are currently being developed in Brazil, Mexico and Ecuador. In particular, in Brazil, an innovation finance laboratory was recently launched together with the local capital market

<sup>21</sup> <http://www.mexico2.com.mx/noticia-ma-contenido.php?id=172>

regulator (CVM) and ABDE. The Laboratory has a working group bringing together regulatory bodies (CVM, Central Bank, insurance regulator), development banks (Caixa, BNDES, Banco do Brasil), lines ministries (planning, finance), investor associations and stock markets to discuss and identify specific solutions to promote the local green bond markets, in particular, with regards to:

- Potential regulatory incentives for green bonds (fiscal, pension funds regulations, asset management regulations, etc.)
- Potential for green sovereign bond issuance
- Mechanisms to stimulate securitization and insurance participation in markets
- Mechanisms to stimulate market transparency and participation

Finally, the IDB Group has launched in 2017 a series of investor meetings (the “LAC Sustainable Infrastructure Investment Network”) to be held during 2017/18 with the objective of bringing together investors active in the region, project developers, lenders and regulators, as well as line ministries and public-private partnerships agencies in charge of developing pipeline of projects, to facilitate discussions on the barriers and solutions to mobilize domestic capital markets towards sustainable infrastructure investment in LAC, and to capture and disseminate success stories and lessons learned. During 2018, the IDB Group is planning to host further four events in partnership with local institutions (such as stock exchanges and market regulators) to continue the development of this Sustainable Infrastructure Investment Network.

#### Details on LATAM green bonds

Country	Name	Amount (M)	Issue Date	Term	Rating	Market	Sector	Type of issuer
Brazil	Fibra	USD 700	Jan-17	10	Ba1/BBB-/BBB-	International	Agriculture & Forestry	Corporate
Argentina	Genneia S.A.	USD 350	Jan-17	5	B3/B+	International	Energy (wind)	Corporate
Argentina	Province of La Rioja	USD 200	Feb-17	8	B/B-	International	Energy (wind)	Sub-sovereign (Municipal)
Chile	Inversiones CMPC	USD 500	Mar-17	10	Baa3	International	Multi-sector	Corporate
Colombia	Davivienda	COP 433,000	Apr-17	10	AAA	Local	Multi-sector	Commercial Bank
Brazil	BNDES	USD 1,000	May-17	7	Ba2/BB	International	Energy (wind & solar)	Development bank
Brazil	Itarema Geração de Energia S.A.	BRL 112	May-17	11	AA	Local	Energy (wind)	Corporate
Brazil	Potami Energia S.A. (Omega Geração)	BRL 42	May-17	9	AA	Local	Energy (wind)	Corporate
Mexico	Grupo Rotoplas SAB	MXN 1,400	Jun-17	10	AA-/AA	Local	Water and sanitation	Corporate
Mexico	Grupo Rotoplas SAB	MXN 600	Jun-17	3	AA-/AA	Local	Water and sanitation	Corporate
Uruguay	IIC (Invenergy Wind)-Campo Palomas Finance Ltda.	USD 136	Aug-17	19	Baa3	B-bond	Energy (wind)	Dev. bank/debt issuing vehicle
Colombia	Bancóldex	COP 200,000	Aug-17	5	AAA/AAA	Local	Multi-sector	Development bank
Mexico	Banobras	MXN 4,000	Aug-17	7	AAA/AAA	Local	Multi-sector	Development bank
Brazil	Suzano Papel e Celulose	USD 200 <sup>1</sup>	Sep-17	30		International	Multi-sector	Corporate
Brazil	Suzano Papel e Celulose	USD 200 <sup>1</sup>	Sep-17	9		International	Multi-sector	Corporate
Mexico	Mexico City Airport	USD 3000	Sep-17	30	Baa1/BBB+/BBB+	International	Transport	State-owned/debt issuing vehicle
Mexico	Mexico City Airport	USD 1000	Sep-17	11	Baa1/BBB+/BBB+	International	Transport	State-owned/debt issuing vehicle
Argentina	Province of Jujuy	USD 210	Sep-17	5	B/B-	International	Energy (wind)	Sub-sovereign (Municipal)

Source: Cepal (2017), Climate Bonds Initiative (2017)

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## 6. Prospects for international participation in China's green bond market: The potential for international integration

When discussing green bonds in China in the past, the question was *why* this was important. Today, the question is *how* green bonds can be scaled up. While becoming the world's largest bond market, based largely on domestic organizations issuing and investing, China is gradually opening up to foreign investors. China has a clear interest in promoting this process, as the country needs an estimated minimum of RMB 3-4 trillion each year in green investments from 2015 to 2020, of which at least 85% needs to come from the private sector<sup>22</sup>. To meet this financing need, it is further estimated that 20% of all financing in China must be within green categories. Today, foreign investment in China's green bond market has a great scope for expansion since foreign holding today only constitutes a meagre 2% of the general bond market.

Simultaneously, international investors have shown clear signs of interest in green assets. Surveys show that more than 50% of European investors are interested in sustainable investing. Another survey by the Official Monetary and Financial Institutions Forum shows that 38% Chief Investment Officers in public sector institutions are interested in buying more green bonds<sup>23</sup>. Scaling up foreign investment in Chinese green bonds therefore has both of the underlying prerequisite circumstances, namely Chinese interest in attracting capital and foreign interest in investing. These mutual interests can be realized either by foreign investors buying bonds on the Chinese on-shore market, or Chinese bonds being listed off-shore on international markets.

### **Current status of foreign investment and international issuance**

China has recently launched a number of initiatives to increase access to Chinese financial markets for international investors. These include the Bond Connect Program, allowing international investors to invest into the Chinese bond market, within a daily limit, through Hong Kong based trustees. This initiative simplifies the process and allows for investors of smaller scale to get involved. Furthermore, the China Interbank Bond Market Direct, as launched by the PBoC in February 2016, facilitates access for a wide range of investors. Rules are relaxed for banks, securities companies, fund management companies, insurance, pensions, and other long-term investors to enter the Chinese bond market, which had previously been largely restricted to central banks, sovereign wealth funds, and few other approved financial institutions. These initiatives allow for increased access by foreign investors compared with the existing QFII/RQFII schemes, and provide a sense of the strategic direction of improving access in the future.

Alternatively, Chinese green bond issuers can reach international investors by issuing off-shore. Recent examples include the Bank of China on the Euronext Exchange, ICBC on the Luxembourg Exchange, and China Three Gorges Corporation on the Irish Stock Exchange. Most offshore issuance are in both RMB, Euro and USD. Another way is for foreign investors to invest in Chinese green bonds through indexes listed on international exchanges. An example of this is the CUF-CNI Green Bond Index Series launched on the Luxembourg Green Exchange, allowing investments in a wide range of Chinese green bonds. The purpose of such an index is to provide greater transparency and facilitate access to green securities for investors in Europe.

### **Overcoming challenges on both sides to scale up integration**

Realizing greater foreign participation in the Chinese green bond market faces a number of fundamental perception and practical challenges. On one side of the equation, the Chinese green bond market has to continue to grow. Therefore, a challenge is to make issuers understand the numerous real advantages of green bonds. This includes a green premium in the primary market. Despite the limited size and history of the green bond market, the evidence suggests that a green premium does indeed exist, according the Bank of International Settlements<sup>24</sup>, HSBC<sup>25</sup>, and Natixis<sup>26</sup>. It further entails the advantage of being on included on

<sup>22</sup> Ma, J. (2017). *Establishing China's Green Financial System*. GFC, Green Finance Series

<sup>23</sup> Reuters (2017). *Public sector investors favor real estate, renewables – survey*. Retrieved from: <https://www.reuters.com/article/us-global-cenbank-assets/public-sector-investors-favor-real-estate-renewables-survey-idUSKBN1930CU>

<sup>24</sup> Ehlers, T. & Packer, T. (2017). *Green Bond Finance & Certification*. *BIS Quarterly Review*, September 2017

<sup>25</sup> HSBC (2017). *Global Green Bonds*. HSBC Research: Global Fixed Income

green indexes and top 100 lists, as often used in China. In China, having a green profile also allows companies in some areas to access cheaper financing from banks through subsidized interest rates, guarantees, and transaction costs compensation. Issuing green bonds also provides a positive reputation and market signal in the eyes of many investors, while banks have the opportunity to refinance green credit extended previously through new green bonds with a longer maturity. This process is directly encouraged by the China Banking Regulatory Commission. Lastly, not all bonds that meet the criteria of green bonds, are necessarily labelled and issued as green. The ChinaBond-China Green Bond Index includes 759 bonds at a total value of RMB 2.45 trillion<sup>27</sup>, compared to labelled green bonds approaching RMB 1 trillion. It is further estimate that before green bonds were introduced, about 30% of corporate bond issuance would have qualified as green<sup>28</sup>. As issuers become increasingly aware of the advantages of green bonds, labelling bonds as green will increase.

As another challenge, international investors also have to comprehend the arguments for investing in green bonds, in China and in general. Compared to conventional bonds, green bonds have a higher degree of transparency and information disclosure, allowing investors to make better informed decisions. Furthermore, green bonds have a lower volatility than conventional bonds and trade slightly higher in the secondary market. While liquidity is lower for green bonds, the level remains adequate for most investors. Lastly, investing in green bonds provides a positive reputational and market signal.

In addition to these overarching issues, foreign investment in Chinese green bonds faces specific challenges when it comes to on-shore and off-shore bonds respectively. For investments into China, foreign investors lack understanding of the Chinese green bond market. This includes aspects such as green bond categories, management of proceeds regulations, pre-issue verification and audits, as well as understanding how to find information on these areas. Another issue is that a two-part verification by a Chinese and an international organization, while dealing with some of the above issuance, increases the transaction costs. In regards to green bond categories, the Chinese standards of the Green Finance Committee and the NDRC will be revised and harmonized in 2018. Moreover, the Green Finance Committee is working with the European Investment Bank on harmonizing green bond standards between Europe and China. The first step of this work-stream has been completed as of November 2017, providing a framework for compatibility between the standards, allowing investors to make a direct comparison<sup>29</sup>. Lastly, as mentioned above, China is opening and expanding a number of methods allowing for large and small scale international investors to enter the Chinese mainland green bond market.

Chinese green bonds outside of China have been well received by international investors, suggesting a large potential for further issuance. The challenge is to incite further issuance by Chinese organizations abroad. This is carried out by improving the knowledge of issuers on the possibility and procedures for foreign issuance. As the process is different than for domestic issuance and as only 10 cases exist today, the practice is yet to be institutionalized in the financial industry. For example, foreign issuance has to undergo a different approval procedure by the NDRC based on quotas. In addition to the above-mentioned general advantages of green bond issuances, doing so in international markets allow Chinese organizations to use both USD and Euro. To meet the great potential of foreign issuance, the success stories of the 10 existing cases is expected to incite a substantial increase looking forward.

Ultimately, the rapid expansion of green bonds in China shows the pace at which Chinese capital markets can develop toward strategic political priorities. As the domestic market continues its expansion, the next step is to internationalize the market. This internationalization process has the potential to developed as rapidly as the domestic process. Yet, it depends on overcoming a number of issues in regards to Chinese regulations, Chinese issuers, and foreign investors. As serious efforts are underway on each of these, we can expect the internationalization of Chinese green bonds to expand substantially in 2018.

<sup>26</sup> Natixis (2017). *Is the EIB paving the way for a "Green Premium"?*

<sup>27</sup> China Central Depository and Clearing Co., Ltd (2017). *ChinaBond China Green Bond Index, ChinaBond China Green Bond Select Index, Factsheet*

<sup>28</sup> China Green Finance Committee (2015). *China's Green Bond market is promising*. Retrieved from: <http://greenfinance.org.cn/displaynews.php?id=462>

<sup>29</sup> China Green Finance Committee & the European Investment Bank (2017). *The Need for a Common Language in Green Finance*

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## 7. The Canadian Green Bond Market

Over the past three years, Ontario's economy has outpaced all G-7 countries. For 2017, the most recent private-sector real GDP forecast is about 3.0% for Ontario and roughly the same for Canada. Canadian interest rates and oil prices are expected to rise over the next three years which should provide support for the Canadian dollar.

The Canadian dollar green bond market made substantial progress in 2017. Activity picked up in the market in terms of both the volume of issuance and the breadth of borrowers. This was a very positive development as the market welcomed a number of new entrants.

The Province of Ontario issued its third Canadian dollar green bond in January of 2017. This 6-year issue further demonstrated Ontario's commitment to the green bond market and was notable for its size of C\$800 million. As a re-opening of its previous green bond it increased the overall issue size to C\$1.55 billion and provided even greater secondary market liquidity. Ontario is the largest borrower in the Canadian green bond market and is planning its fourth Canadian dollar green bond issue in early 2018.

The Province of Quebec entered the green bond market with an inaugural 5-year C\$500 million offering in February which by all accounts was a very successful issue and more than met the borrower's expectations. Quebec is the second Canadian province to move into the Canadian green bond market and, like Ontario, expects to be a frequent issuer in this market in future.

In August, Export Development Canada, Canada's export credit agency which is wholly owned by the Government of Canada, did its first Canadian dollar green bond (C\$500 million 5-year issue), which was a departure from its U.S. dollar green bond program. Again, it was a very successful issue which was substantially oversubscribed with broad investor and geographic distribution.

In early November, the City of Ottawa did an inaugural green bond issue which was also the first green bond from a Canadian municipality. Although a somewhat smaller transaction of C\$102 million, it was a 30-year issue and was also heavily oversubscribed.

By the end of the year, overall issuance in the Canadian dollar green bond market increased from C\$1.25 billion in 2016 to C\$1.902 billion in 2017. Demand for green bonds in 2017 has more than kept up with increased supply and new investors, both domestic and international, continue to come into the market. In general, Canadian green bonds have been anchored by Canadian investors, with domestic investors accounting for in excess of 60% of total distribution. Issues have been oversubscribed and have traded in line with non-green bonds.

Building on the momentum established in 2017, the outlook for the Canadian dollar green bond market in terms of total issuance looks positive for 2018. Canadian provinces are expected to continue to access the market and there may be more opportunities for Canadian government borrowers and municipalities. As the market becomes more established it also becomes easier for other borrowers to enter the market which may lead to even greater credit diversification in 2018.

## 8. Reflections following SEB's inaugural Green Bond

As you may know, SEB has been one of the pioneers in developing the Green Bond market. The development has been exponential, just like growth experienced in technology sectors, with the global market increasing to USD 156 billion of issuance in 2017. The main focus of green bonds has been to raise awareness around the transition towards a more sustainable world, including the financing part of the value chain.

Over the last year we at SEB have cross-fertilized all our experiences from this journey to our internal processes. SEB aspires to be a role model in sustainability within the financial industry and this work has honed SEB's own sustainability strategy to also include increased awareness and a toolbox to transforming our own balance sheet. SEB's Green Bond Framework received the Dark Green shading according to CICERO's Shade of Green methodology.

In February 2017, SEB successfully issued its inaugural [EUR 500 million 5 year Green Bond](#). The order book was in excess of EUR 2.1 billion and included a very granular and broad participation across Europe. Our underlying green bond portfolio was worth SEK 11.8 billion at the time. One important feature of this transaction was that we as an issuer could broaden and diversify the investor base at the same time as we could deepen the relationships with existing investors. The dialogue around climate intelligence has really encouraged all of us to identify related financial risk and return issues.

Issuing a green bond definitely contributes to an increased awareness within the company and narrows the gap between capital and sustainability. The framework we have used is based on a five step process: Define, select, verify, monitor and report.

Following the inaugural transaction, discussions within our bank have really taken off. We are convinced that the most important step to get traction towards a more sustainable world is to go from an undefined balance sheet to a defined balance sheet. This might sound like common sense to many of you, but it is in this process you will increase awareness and competence within an organization. For us this has opened up many new discussions around both our existing assets, processes as well as the underwriting criteria for new assets.

Banks are by default facilitators for private individuals, companies and institutions to access funding either directly from the bank itself or through the bank's network in the capital market. The apparent risk with this from a sustainability perspective is that the largest and most sustainable assets will never touch the bank's balance sheet, since it will be distributed directly to the capital market. It is therefore of utmost importance that the sustainable financing products and services within a bank will open up avenues for smaller enterprises and private individuals to access sustainable investment money. This can be done through multiple ways, and increased awareness in the banking sector is a key first step.

At SEB, this awareness has been created across the organization and now also developed into tangible actions. The natural first step is to ensure a process on how to define the existing assets on the balance sheet and then engage in a dialogue with the respective customers on how to increase the awareness at their end and vis-à-vis their stakeholders. Simultaneously, the product development departments need to embrace the sustainable financing alternatives and find simple and transparent new products. This journey is not something that we as a single bank can do on our own. Therefore we continue encouraging more banks to open up the dialogue around this, and we also see a need to develop and agree on common standards for how to for example conduct impact reporting and define the asset base.

Ecosystems may be a new buzzword, however in this context; I really find it as a fair description of a key ingredient in the success for developing the sustainable financing market further.

In 2018, we aim for higher than what we have achieved in 2017. This is both in terms of origination of other issuers, and to increase the number of different solutions we can advise our clients and partners to use in their own transformational journey towards a more sustainable world. Our own issuance plan is a function of both the customer demand and the deposit base, but we have an ambition to be a frequent issuer in the market so we will do our utmost to be back in the Green Bond market with a second transaction during 2018.

If you also join us to raise your own ambition and add more activity, we will all benefit both in the short and long term.

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## 9. On the importance of green bonds to investors

Two years ago, the Ceres president Mindy Lubber spoke here about green bonds. This year, the conference organisers asked me to offer a short follow up on why green bonds are important to the members of our Ceres investor network, which now numbers over 140 investors, split pretty evenly between asset owners and asset managers.

Generalizations aren't terribly helpful, so in the past few weeks I've spoken to as many investors as I could about why green bonds are important to their day jobs. Not surprisingly, I heard a lot about transparency and impact, and, as one investor put it, how green bonds provide additional benefits without additional financial risk. What did surprise me a bit was how often I heard the word "transformative" – how green bonds are a bellwether indicator of a change that's underway.

### Peter Ellsworth

Director of the Ceres Investor Network

*In a transcript of his speech at Green Bonds Americas, Ceres' Peter Ellsworth explains why investors value green bonds and explains what different actors can do grow the market*

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1. For starters, many green bond investors are having conversations with issuers that most fixed income investors have not traditionally had: What's my money being used for and how do you intend to verify that for me?
2. And, green-labeled bonds help differentiate investments. For some it's a signaling device that management may be paying attention to longer term risks and opportunities; for some it's a value-add that gets incorporated into their own internal credit evaluation and decision-making; and for others, it provides an easy choice for choosing between otherwise credit-comparable securities: green is a better choice than not-green.
3. Impact came up in the way you'd expect, but also in the bigger context, that **all** investments have impact – every use of proceeds, every project, has an impact. For issuers and investors alike, the choice is between:
  - a. allocating capital that imposes costs throughout the economy – including environmental degradation, water quality deterioration, and exacerbating climate change to name a few – or
  - b. putting investment capital to work in a way that supports positive additionality
4. What I didn't expect was how many people I talked to mentioned the personal satisfaction they got from working in this area and being a part of the solution.

These are all part of how green bonds are contributing to change. It is transformative when investors not only consider new approaches to investing but begin to ask fresh questions about what they're investing in.

The topic the conference organisers gave me does invite a laundry list of sorts – so here's a short list that generalises from specific conversations I had:

- One I heard was how green bonds introduce a different kind of ownership stake in the outcome – in the quality and impact of the investment. I heard this from both asset owners and investment managers – and the managers are hearing it from their clients.
- The asset owners frequently mentioned how the underlying premise of green bonds, which contribute to building a low carbon economy, aligns with their long term investment horizons:
  - They're a signal that management is serious about sustainability and the mega trends that companies and investors need to consider and manage
  - And – of critical importance to investors: green bonds also provide competitive institutional investment return.

The perfect green bond – if such a thing exists – finances the reduction of greenhouse gas emissions over the short, medium and long term, but I heard water mentioned frequently as an area investors consider important and are interested in investing in as an element of sustainable infrastructure.

Also interesting to hear was how green bonds can open up or extend a sector like energy, whose mainstream companies may be otherwise excluded from consideration by some client mandates.

And I heard from a few investors that have allocations to emerging and frontier markets that green bond issues can offer additional confidence because of the independent review most projects receive, and, of course, they offer the impact related to providing renewable energy, clean water, sustainable agriculture and other key resources these areas and populations need.

These are some of the comments that help capture why green bonds are important. To be sure, however, the green label is less important to some investors than others, and probably for many in the room here, the green label is just a starting point for your due diligence. It's also less important to some because we're seeing climate-aligned bonds with no green label nevertheless being clear about the intended use of proceeds.

It does raise a question, especially for a green bonds gathering like this: Is the goal the product or the outcome?

The low-carbon economy will not happen spontaneously. Big parts of it will need to be financed. In the meantime, we need to deal with this unresolved interplay – some might call it tension – between green labelled bonds and the larger topic of green finance – or environmental finance – in the spirit of our conference host today.

The simplistic spectrum has Repsol on one side and Tesla on the other. Repsol puts a green label on a bond the market largely ignores, and Tesla chooses to finance clean vehicle operations without any label at all.

Going back for a moment to the idea of the perfect green bond: it rarely came up. It seems to matter more to issuers, especially to their bond counsels and auditors, who seem to think there's more for their clients to lose than gain by issuing a green bond.

Which leads me to a point raised by many in the Ceres investor network – we need more supply across credits, maturities and sectors. Here in the US, which represents more than a third of the global bond market, we've had a handful of high-profile green bond issuers – but US companies have largely been bystanders, despite heroic efforts by Susanne Buchta, Marilyn Ceci, Stephanie Sfakianos, and many others.

To build a broader, more diversified base of investment grade credits and maturities, we need more corporate issuers of green bonds. Everyone in this room can contribute to this:

- If you're an investor, use the road shows to let issuers know you care about bonds that finance environmental and climate benefits. If you know a company plans to change its energy mix toward more renewables or better manage its dependence on clean water, ask if they'll be using the debt markets to finance those initiatives, and if so, why not consider green bonds. Help start the conversation.
- If you're an investment consultant, put the lie to misconceptions that buying green means sacrificing investment return. All else being equal, the principal pricing driver is still credit. If pricing for a green bond does become rich – as sometimes happens – no investor is forced to buy it.
- If you're an NGO, you probably have most of your conversations with the sustainability staff at companies; help that sustainability staff build a bridge to their Treasury and debt management staff; often they have different vocabularies but they usually share their company's culture of sustainability.
- If you're a bond counsel or auditor, throw away the 'no' button you got from Staples. Be a leader. The sky will not fall if your client issues a green bond; you may even attract new business by looking forward rather than backwards.
- If you work for a corporation, make the case that the capital markets is an appropriate next place to take the company's culture of sustainability – and how green bonds can enhance brand, even if it doesn't lead to cheaper financing. Brand, after all, also has value – as does growing the base of investors that buy your bonds.

For everyone, this may someday turn into a cost of capital story – and occasionally does already because of demand / supply imbalance and some investor willingness to pay up for green – but most investors are not yet willing to chase offers to buy a green labelled security.

At least for now, issuers need to see there is more to this than simply cost of capital. A couple of years ago I convened a working group on green bonds that several of you participated in. It led to a Statement of Investor Expectations for the Green Bond Market, many of whose recommendations have since been incorporated into the Green Bond Principles. If it makes sense to bring together a group to address how we get more momentum in the U.S. market, particularly how we can get more companies issuing green bonds, let me know. If there's enough interest, we'll put a new informal group together.

## 10. EU High Level Expert Group on Sustainable Finance Final Report

The European Commission welcomes the final report by its High-Level Expert Group on Sustainable Finance (HLEG), which sets out strategic recommendations for a financial system that supports sustainable investments.

The Commission will now move to finalise its strategy on sustainable finance on the basis of these recommendations. Delivering an EU strategy on sustainable finance is a priority action of the Commission's [Capital Markets Union \(CMU\) Action Plan](#), as well as one of the key steps towards implementing the historic [Paris Agreement](#) and the [EU's Agenda for sustainable development](#). To achieve the EU's 2030 targets agreed in Paris, including a 40% cut in greenhouse gas emissions, we need around €180 billion of additional investments a year. The financial sector has a key role to play in reaching those goals, as large amounts of private capital could be mobilised towards such sustainable investments. The Commission is determined to lead the global work in this area and help sustainability-conscious investors to choose suitable projects and companies.

Valdis **Dombrovskis**, Vice-President responsible for Financial Stability, Financial Services and Capital Markets Union said: *"The signature of the Paris agreement in 2015 marked a milestone for the world and for the global economy. We are now moving towards a low-carbon society, where renewable energy and smart technologies improve our quality of life, spurring job creation and growth, without damaging our planet. Finance has a big role to play in funding a sustainable future. I welcome the outstanding work of the HLEG which is excellent input for our upcoming strategy."*

Jyrki **Katainen**, Vice-President responsible for Jobs, Growth, Investment and Competitiveness said: *"The EU is already at the forefront of investing in resource efficiency and social infrastructure, not least through the European Fund for Strategic Investments and its reinforced focus on climate action. At the same time, creating an enabling framework for private investors is crucial to achieving the transition to a cleaner, more resource-efficient, circular economy. The HLEG's final report provides us with a roadmap to do just that and we welcome their invaluable contribution to this very important issue."*

[Today's final report](#) by the High-Level Expert Group maps out the challenges and opportunities that the EU faces in developing a sustainable finance policy. It identifies ways in which the financial sector can re-connect with the real economy to support the transition to a more resource-efficient and more circular economy. The group argues that reorienting investment flows into long-term, sustainable projects will also improve the stability of the financial system.

The report proposes:

- a classification system, or 'taxonomy', to provide market clarity on what is 'sustainable'
- clarifying the duties of investors' when it comes to achieving a more sustainable financial system
- improving disclosure by financial institutions and companies on how sustainability is factored into their decision-making
- an EU-wide label for green investment funds
- making sustainability part of the mandates of the European Supervisory Authorities (ESAs)
- a European standard for green bonds.

The group's report will form the basis of the Commission's comprehensive Action Plan on sustainable finance that it will put forward in the coming weeks. Both the findings of

### European Commission - Press release

#### **Sustainable Finance: High-Level Expert Group delivers roadmap for greener and cleaner economy**

Brussels, 31 January 2018

*Note that this text is provided by the contributing party and constitutes the opinion of the party and not necessarily that of SEB. SEB plays a role in enabling its stakeholders to benefit from a broad overview of initiatives by allowing key market participants to contribute through The Green Bond.*

the report and the Commission's Action Plan will be discussed at a high-level conference on 22 March 2018 in Brussels.

## Background

The European Union has taken the lead in efforts to build a financial system that supports sustainable growth. In 2015, landmark international agreements were established with the adoption of the UN 2030 Agenda and Sustainable Development Goals and the Paris Climate Agreement. The EU has set itself ambitious climate, environmental and sustainability targets, through its [2030 Energy and Climate framework](#), the [Energy Union](#) and its [Circular Economy](#) Action Plan.

These commitments, and the growing awareness of the urgency to address environmental challenges and sustainability risks, call for an effective EU strategy on sustainable finance. The Commission established the independent High-Level Expert Group in December 2016. It is made of 20 senior experts from civil society, the finance sector, academia and observers from European and international institutions. It is chaired by [Christian Thimann](#).

The work on a number of the report's key recommendations is already well underway, as they were discussed in the group's [interim report of 13 July 2017](#). The Commission has proposed the inclusion of environmental, social and governance (ESG factors) in the [mandates of the European Supervisory Authorities](#). The Commission has also conducted between 13 November 2017 and 22 January 2018 a [public consultation on institutional investors' and asset managers' duties regarding sustainability](#).

The HLEG has taken into account relevant work on climate, environmental and sustainable finance. This includes: the [Guidelines on non-financial reporting](#) adopted by the European Commission on 26 June 2017; and the [final recommendations report](#) published by the industry-led Task Force on Climate-related Financial Disclosures (TCFD) on 29 June 2017. The group has also conducted a public consultation to gather views from relevant stakeholders and inform their final recommendations.



## SEB Climate & Sustainable Financial Solutions

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This report was published on 31 January 2018. Cut-off date for calculations was 26 January 2018, unless otherwise stated.

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