Credit Views

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Market Analysis
Credit

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Green bonds: powering towards a greener future – 1H16 review

- Six months on from the successful conclusion of the COP21 in Paris, green bonds as an asset class continue their inexorable expansion in 2016. Global green bond issuance stands at c.USD27bn YtD, a 56% increase compared to the same period last year. We affirm our USD50bn global green bond issuance forecast for FY16, but are mindful that there is significant room for upside to this number should the issuance pattern for green bonds match that of the previous two years, when the majority of issuances occurred in the last two quarters of the year.
- In our eyes, one of the biggest stories of 2016 has been the rise of Chinese-based issuance. Chinese green bond issuance has picked up rapidly, guided and encouraged by a set of documents released by the Chinese government, such as the People's Bank of China's guidelines on how a financial institution can structure a green bond, as well as a 'Green Project Catalogue', a document that outlines the type of projects that the committee finds conducive to the 'green' moniker. This has led to a significant increase in issuances by Chinese financial institutions in 1H16, and we expect the same to happen with Chinese corporates when China's National Association of Financial Market Institutional Investors (NAFMII) releases equivalent guidelines for corporate green bonds.
- The green bond market is not only developing rapidly in terms of geographic spread and issuer depth, but also in terms of new products. 1H16 saw the first-ever green RMBS from the Dutch issuer Obvion (wholly owned by Rabobank (A+/Aa2/AA-), which is backed by mortgages on certain types of energy-efficient properties, and the continued rise of a kind of renewable financing backed by tax law in the US; the Property Assessed Clean Energy (PACE) programme.
- Not only is the supply side showing significant growth in terms of green bonds, but interest in responsible investment is increasing swiftly, especially amongst the millennial generation. According to a recent survey, 48% of investors are interested in making responsible investments, including investing in green bonds, in the next 12 months, with a 69% vs. 43% split of millennial/non-millennial, respectively. We see this trend continuing, supported by increasing interest from institutional bond funds, with Blackrock noting interest from a plethora of different clients, ranging from large institutional investors and family-office clients to retail investors, although there are complaints related to the lack of green bond products.
- Following the successful conclusion of the COP21 in December 2015, the environmental finance market has been abuzz with initiatives designed to foster the increased use of green finance in the transition of the world economy to a low-carbon one, directly supporting green bonds. These range from the high-level G-20 task force looking at the barriers to facilitating more finance for green projects, to increased investor disclosure and interest in their own operations' carbon footprint and even new green bond accreditation schemes from Moody's.

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2016 shaping up to be another record-breaking year for green bond issuance

As an asset class, green bond issuance has increased 56% compared to the same period last year

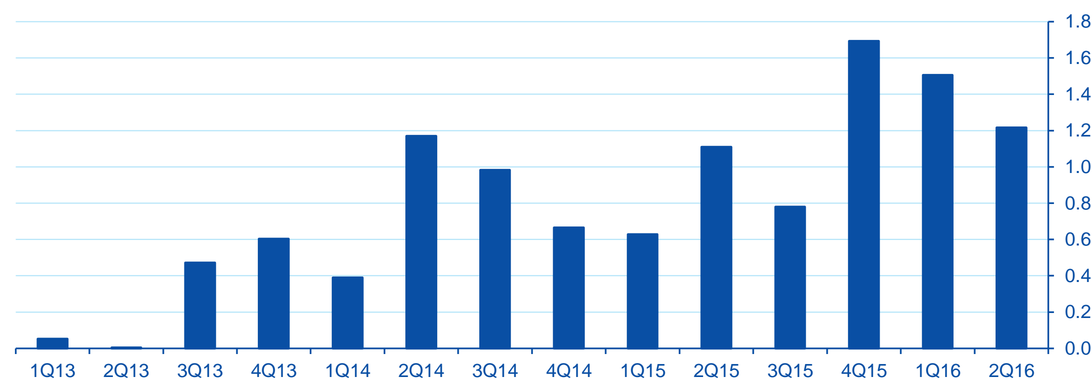
Six months on from the successful conclusion of the COP21 in Paris, green bonds as an asset class continue to grow in both size and market perception. At the time of writing, green bond issuance globally stands at c.USD27bn YtD, a 56% increase compared to the same period in 2015, itself a record-breaking year in terms of green bond issuance.

We maintain our USD50bn global green bond issuance forecast with surprise to the upside for FY16 a distinct possibility

We affirm our global green bond issuance forecast for 2016 of USD50bn, made at the start of this year, noting that the market is ramping up as expected, with surprises to the upside a distinct possibility by the year-end. Looking at the market's previous issuance patterns as a guide, we note that green bonds tend to be issued in greater volumes in the last two quarters, with the last two years showing c.60-70% of the total annual issued volume of green bonds in this period. Mindful of this, should 2016 follow a similar issuance pattern, then USD60bn green bond issuance will be the base case given the issuance to date.

In our view, the issuance pattern of green bonds can best be explained by the increasing prevalence of non-SSA (Sovereign, Supranational and Agencies) issuers in the market. This is because green bonds tend to have a longer preparation time from a corporate treasury perspective given the need to source eligible projects and, if necessary, develop specific green bond programmatic architecture, meaning that quicker to market funding channels, i.e. non-green issuances, tend to be issued at the start of the financial year. We would note also that growth spurts in this relatively young asset class can be related to non-market events, including the development of the Green Bond Principles (2014), the run-up to and successful conclusion of the COP21 (2015) as well as regulatory-driven changes (China in 2016).

Figure 1
Global issuance of green bonds (USD bn)



Source: BBVA GMR, Bloomberg

Taking a look at issuer composition in 2016 YtD, we see a repetition of 2015's pattern, albeit with a notably smaller footprint of SSAs and corporates. We would expect the latter to issue more material volumes in the second half of the year, as discussed above, and believe that the smaller footprint is more related to the time of the year.

One of the biggest green bond stories for 2016 has been the notable rise of Chinese issuance

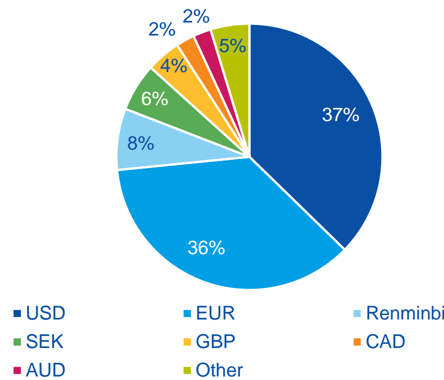
In our eyes, one of the biggest stories of 2016 has not been in relation to issuer type but rather geography; namely the rise of Chinese issuance. Chinese green bond issuance has picked up rapidly, guided and encouraged by a set of documents released by the Chinese government. In late December 2015, the 'Green Project Catalogue' was published by China's Green Finance Committee, outlining the type of projects that the committee finds conducive to the 'green' moniker. Shortly afterwards, the People's Bank of China (PBoC) released a set of green bond guidelines establishing how financial institutions should structure and issue onshore green bonds, referring to the former's 'Green Project Catalogue'.

Chinese issuance has been fostered by government related entity guidance, with Chinese corporates likely to make a strong showing in the market in 2H16

With these guidelines in place, green bond issuances particularly from Chinese financial institutions have increased markedly, to the extent that Chinese issuers have been the largest issuers of 2016 (32% of total green bond issuance has come from Chinese issuers in 2016), with the Chinese renminbi being second only to the US dollar (31% vs. 43%) in terms of issuing currency. Given that in the coming months we expect China's NAFMII (National Association of Financial Market Institutional Investors) to release equivalent guidelines for corporate issuances, the rise of China to prominence in the green bond market looks set to continue into 2016 and likely beyond.

Figure 2

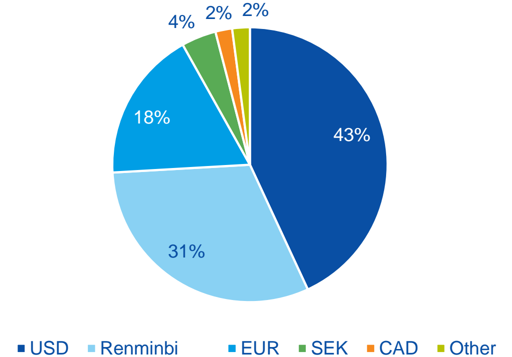
Green bonds outstanding: FX distribution



Source: BBVA GMR, Bloomberg

Figure 3

Green bond 2016 issuance: FX distribution



Source: BBVA GMR, Bloomberg

The impressive growth of green bonds as an asset class is not only evident in issued volumes but also in the increasing diversity of issue types, with 2016 being no exception. While the 'use of proceeds' green bond remains by far the most prevalent type in the market today, green ABS have remained (like the wider asset class) more of a niche offering and, until June, unheard of in Europe.

In a sign of ever-increasing maturity in the green bond sector, new asset classes have been introduced including the first-ever green RMBS

The Dutch lender Obvion (wholly owned by Rabobank) issued the first-ever green RMBS, which was launched and priced on 8 June 2016. The investor-placed tranche (class A) was expanded from EURR279mn to EUR500mn given the demand from investor accounts and was ultimately 1.6x oversubscribed at issuance. It priced at E3M+30bp on a priced maturity (weighted average life) of 5Y, slightly tighter than pricing indications in the secondary market and at the lower end of the +35bp guidance. The green bond is backed by a portfolio of mortgages on a mix of energy-efficient homes[1], as well as houses that have been refurbished to improve energy performance by a certain number of ratings. According to Obvion, the issuance expressly targeted green bond investors only and, based on CICERO's grading of investors according to 'shades of green' categories, allocations were made to dark green, medium green and light green investors.

[1] Three-quarters of the mortgage collateral is homes that have an energy performance certificate (EPC) rating of A, the highest rating possible on the EPC scale

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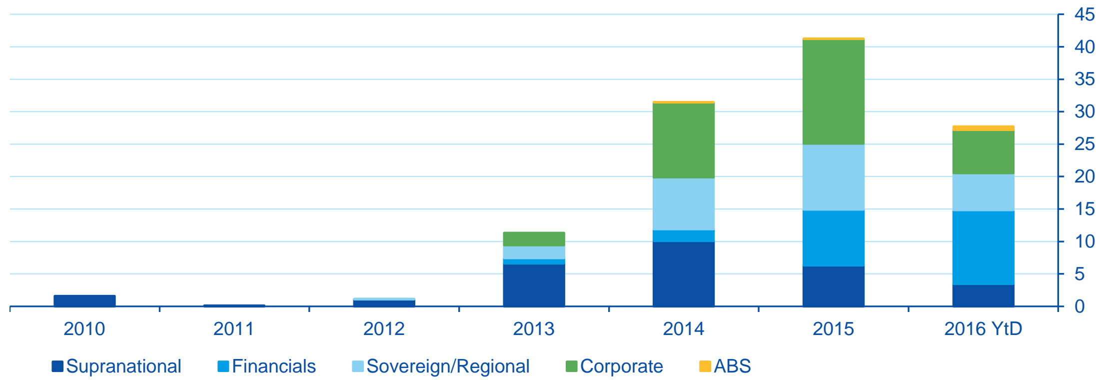
Figure 4
Green bond issuances by issuer type (USD bn)



Source: BBVA GMR, Bloomberg

While we do not expect 'green ABS' to become a significant portion of the green bond market, we note that as the asset class continues to mature, the diversity of bonds available in the marketplace, both by geography and type of issuer, will expand and deepen. Nevertheless, according to Eurostat, 12% of all CO_2 emissions in the EU relate to housing and the European Mortgage Federation has pushed for financing of retrofitted buildings to improve their energy efficiency to be made a priority; something that would produce eligible projects for green bonds regardless of their form.

Keeping the 'PACE' up

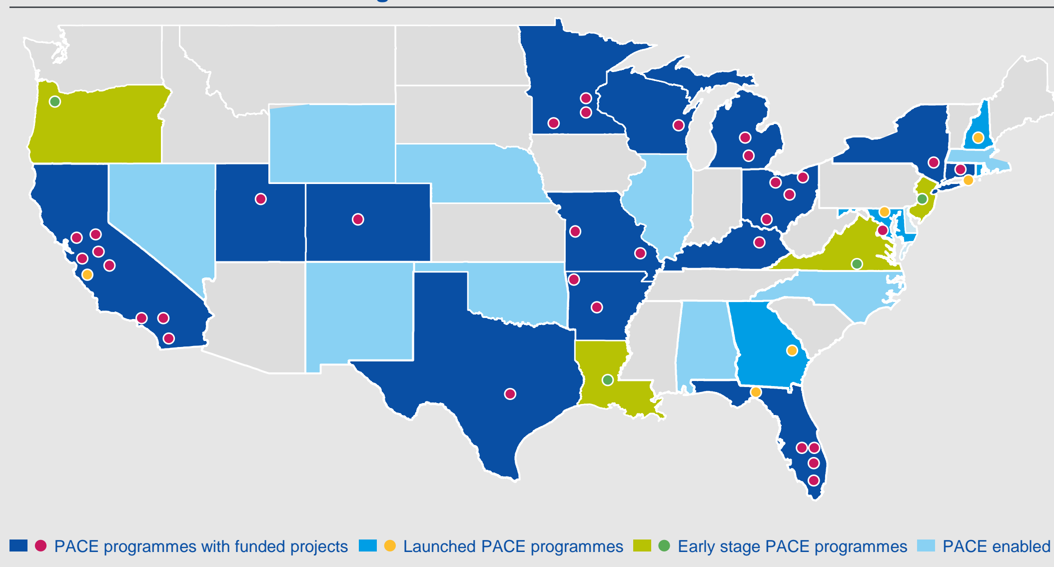
The US PACE programme which focuses on directing finance to environmentally friendly building retrofits remains in a clear upward trajectory in the US green market

A special type of environmental retrofit programme has been in existence in the US since 2007 and is an increasing source of green ABS for the markets to digest. The programme, named PACE (Property Assessed Clean Energy), has led to a multitude of debt financing, with one of the largest providers of such finance, Renovate America, using its capital market securitisation programmes to raise funding via seven securitisations to date, the latest of which and the largest PACE bond to date, was on 6 June 2016 for USD305.3mn. These PACE bonds are considered to be 'pure-play' green bonds in that they are used for general corporate purposes related to the PACE programme, which by definition is related to energy sustainability.

While we do not expect an equivalent of PACE to be created anytime soon outside of the US, the depth of the US capital markets spurs innovation towards esoteric asset classes such as PACE-linked bonds, with natural cross-over appeal to other large pockets of cross-border capital such as in Europe. Indeed, there has been a notable contingent of European investors in the PACE bonds issued thus far. Furthermore, the potential size of the energy retrofit market for US housing stock that would be eligible under PACE programmes implies that, at least in theory and subject to the continuation of the demand we have seen for this product, there could be a veritable deluge of PACE bond issues in the medium term.

The PACE model is an innovative mechanism for financing energy efficiency and renewable energy improvements on private property. PACE programmes enable US-based municipal and state governments, or other inter-jurisdictional authorities, when authorised by state law[2], to fund the upfront cost of energy improvements on commercial and residential properties, which are paid back over time by the property owners. The key credit risks in the PACE programmes are the possibility of property taxes not being paid owing to vacancy and the non-traceability of the last owner and servicing risk related to the local municipality.

Figure 5
US States with PACE-enabled legislation



Source: US Office of Energy Efficiency & Renewable Energy

PACE financing for clean energy projects, subject to state-specific criteria, is generally based on an existing structure known as a 'land-secured financing district', often referred to as an assessment district (the 'A' in PACE). A PACE assessment is a debt related to a specified property, as opposed to the property owner, meaning that the repayment obligation transfers with property ownership, albeit dependent upon state legislation. The idea here is that it eliminates a key disincentive to investing in retrofit improvements given that many property owners are hesitant to make improvements if they think they may not stay in the property long enough for the resulting savings to exceed or match the upfront costs. Legally, the payment obligation works as a property tax lien under its own line item in a not too dissimilar process to Spanish and Portuguese electricity tariff deficit receivables; thus PACE liens are legally super-senior to mortgage liens, which has led to the reticence of the large US mortgage agencies (Fannie May/Freddie Mac) to guarantee. The debt attached to the property to pay for the upfront cost of eligible PACE projects can be bundled into a portfolio and financed via bond issuances.

The biggest impediment to the PACE financing market has been the reluctance of US mortgage agencies to accept super-priority PACE liens

[2] 32 US states plus Washington D.C. have PACE-enabling legislation, encompassing over 80% of the US population

Figure 6
PACE loans: the process

Source: US Office of Energy Efficiency & Renewable Energy

Investor demand remains unsatiated despite increased green bond volume

2016 looks set to be another record year in green bond issuance, with notable increases in institutional capital interest and deployment

Whilst the supply of green bonds looks set to make 2016 another record-breaking year for the asset, investor demand and the buy-and-hold investment style have led to common complaints that there are not enough green bonds to meet investor demand. Blackrock is developing green bond funds in an area where Allianz SE and Axa SA, Europe's largest insurers, alongside State Street Corp, already reside, having set up equivalent funds in 2015 to tap to such demand.

It is worth mentioning that green investment demand is not matched by supply and many of the offerings from jurisdictions such as China do not offer cross-jurisdiction appeal

According to Blackrock, they are seeing significant interest in green bond products from a plethora of different clients, from large institutional investors and family-office clients down to retail investors. This is despite Pimco, as reported by Bloomberg, still claiming that a fully-fledged green bond fund offering is still not justified from their perspective, given the limited supply of green bonds which could lead to 'demand without supply' and thus severe technical fluctuations. We would also point out that 2016 has been marked to date, and will likely continue to be so, by the much larger push from Chinese issuance, a great deal of which is 'onshore' and sold to domestic investors. Furthermore, differences in standards between what various jurisdictions consider 'green' are likely to limit the cross-over appeal of green bonds from say, China to Europe and vice versa. By way of example, in the Chinese 'Green Project Catalogue', clean coal power stations qualify for green-bond status whereas environmental investors in other jurisdictions generally shun anything linked to fossil fuels.

Millennial investors show a much higher interest in 'responsible investing' indicating a long-term demographic trend towards this market

This shift towards environmental investing is evident at the underlying retail level in a recent survey by TIAA Global Asset Management, which shows that although only one-third of wealth investment is in some sort of responsible investment, 48% of investors said they were interested in investing in the asset class in the next 12 months. Broken down demographically, there is a clear millennial/non-millennial divide, with 69% vs. 43%, respectively, expressing interest in participating in responsible investments. Consequently, interest in environmental finance investments will likely only grow stronger as the millennial generation ages and moves more firmly into the wealth accumulation phase of their life cycle. The need for comparability of green investments, however, was highlighted in the survey, with over 30% of the investment advisors polled in the same survey stating that they do not know how to 'accurately value' responsible investments.

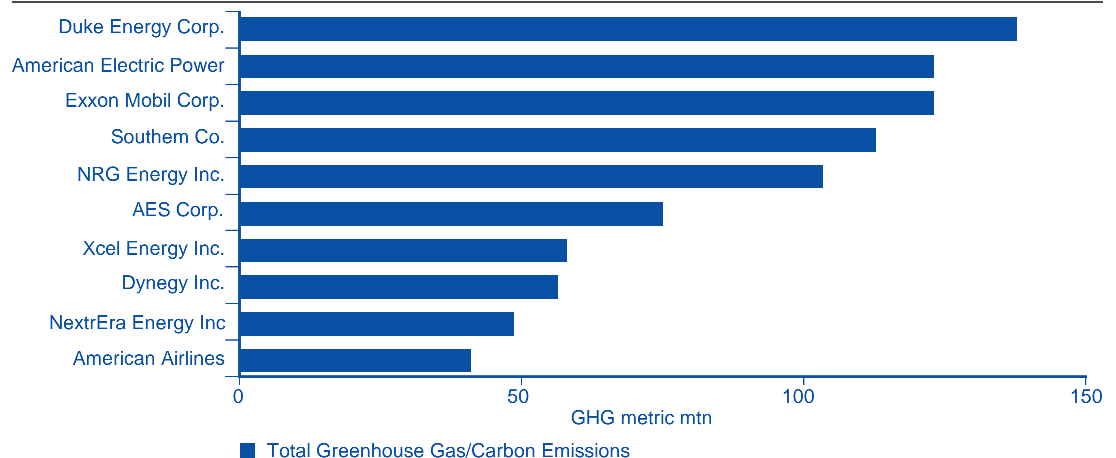
Figure 7
Millenials vs. non-millenials on responsible investing

Source: Teachers Insurance and Annuity Association

Institutional investors are increasingly looking to account for the carbon footprint of their investment portfolios with a second-order impact on the demand for 'green' investments

Institutional investors are also taking a closer look at their carbon footprint, and in certain cases not only disclosing this information but actively using it to redeploy investment capital to areas so as to shrink their footprint. Following on from the investor-led 'Montreal Carbon Pledge', which was signed in 2014, 120 institutional investors who collectively have USD10trn in assets have committed to measuring and disclosing their carbon footprint. This is already having a notable impact, with the USD293bn CalPERS (California Public Employees' Retirement System) indicating at a recent responsible investment conference that they are focusing on how to mitigate emissions from the 80 companies out of 11k that produce 50% of their carbon footprint.

Figure 8
Top emitters in CalPERS' US portfolio **(millions)**



Source: Bloomberg ESG Data, based on CalPERS U.S. holdings as of 31/12/2015

While the majority of investor carbon disclosures are voluntary, there is a movement towards more 'mandatory' reporting as led by the French government

Whilst the 'Montreal Carbon Pledge' has signatories with a global footprint, the measurement and disclosure of investors' carbon footprints remains voluntary in practice. France has taken a different approach, actually legislating on climate and ESG (environmental, social and governance) disclosures from institutional investors. This was implemented via the final decree on the implementation of Article 173 of the French Energy Transition for Green Growth Law. The law was announced in 2016 in advance of the COP21 in Paris, with its provisions coming into force as of 1 January 2016. It applies to all insurance companies, pension and social security funds, asset management companies, the Caisse des Dépôts et Consignations, institutions providing supplementary pension schemes (public and private) and pension funds for local government officials that are subject to the French Monetary and Financial Code.

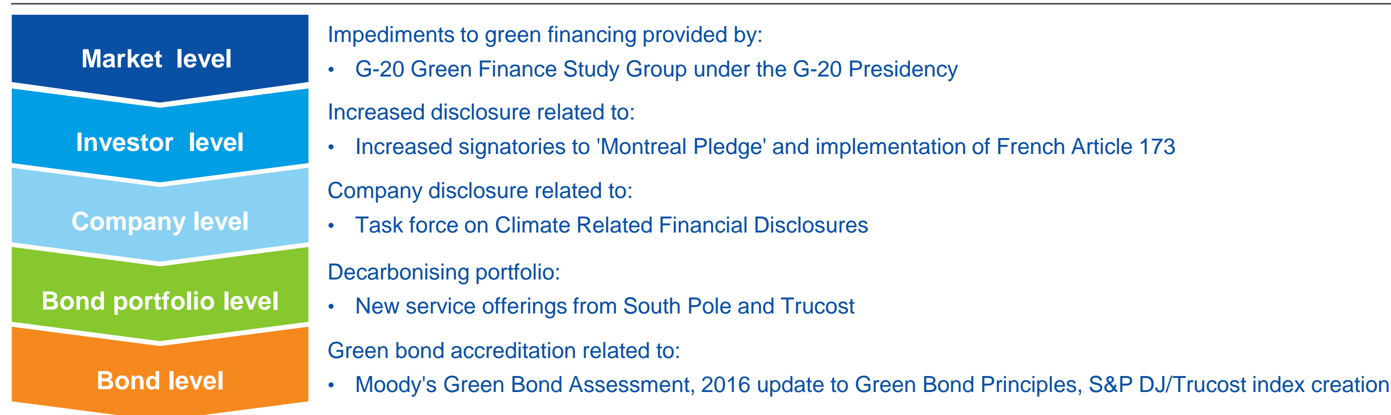
While interest in environmental disclosure will likely increase in the near-term, we do not expect to see comparable market-standards for several years

Given these developments, investor demand not just for environmental disclosures but also for environmental investments is likely to grow in importance and visibility throughout the investor landscape. As such, we expect this to continue raising interest in green bonds as a by-product, although in the next few years we expect more robust measures to ensure the comparability of the environmental benefits beyond the standard bond architecture represented by the Green Bond Principles.

Green bond-related initiatives have accelerated since the successful conclusion of COP21

Since the successful conclusion of the COP21 in December 2015[3], the environmental finance market has been abuzz with initiatives designed to foster the increased use of green finance in the transition of the world economy to a low-carbon one, directly supporting green bonds. We have divided these initiatives into five broad strata according to the market segment in which they are designed to promote environmental issues via financial markets, either directly in terms of green bond issuance or more generally through environmental finance.

Figure 9
Environmental related initiatives have accelerated in the lead-up to, and following, COP21



Source: BBVA GMR

[3] The 'Paris Agreement', leading to 195 countries adopting the first-ever universal, legally binding global climate deal

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Market level

G-20 Green Finance Study Group

The G-20 has created a 'Green Finance Study Group' in order to identify and mitigate issuers, preventing the wider adoption and utilisation of green finance

There has been a multitude of discussions among private, sovereign and supra-sovereign entities in relation to investigating the potential for financial markets to be harnessed to finance the global transition to a lower-carbon world. These discussions have stepped up since the successful completion of the COP21 talks in Paris with China, the current holder of the G-20 presidency, launching a 'G-20 Green Finance Study Group'. The first meeting was held in Beijing on 25-26 January 2016.

The study group aims to identify market and market-related impediments to the wider adoption and utilisation of green finance. Furthermore, it seeks to enhance the ability of the financial system to mobilise green investment, including:

- Setting standardised terms, i.e. definitions of what is considered green and bond architectures not too dissimilar to ICMA's Green Bond Principles
- Voluntary certificates to show that green bonds deliver on their promise to curb emissions, i.e. the actual impact as opposed to the hypothetical impact of the financed projects
- Better integration of environmental risks into credit ratings

We remain sceptical of certain aims of the study group, especially related to environmental risk considerations in credit ratings

The study group is co-chaired by China and the UK with support from the United Nations Environment Programme. It comes as no surprise to us that China is taking the lead on this given its top-down interventions in its own market in relation to what qualifies as a green bond and eligible projects ('Green Project Catalogue') as opposed to the bottom-up market initiatives seen in the US and Europe. Nonetheless, we do not see anything ground-breaking in the initiatives: setting standardised terms and certificates and assessing actual impact are simply a continuation of best practice, which we are increasingly seeing adopted in green bond issuances. However, there are still global inconsistencies so this attempt at global harmonisation could provide the greatest benefit. We remain doubtful, nevertheless, about how, in the absence of quotas and/or taxes related to environmental penalties, environmental risks can be integrated into credit ratings, beyond offering transparent information, given that credit ratings are explicitly not related to environmental considerations but are opinions on the creditworthiness of an entity, i.e. its ability to repay its obligations.

Investor level

Institutional investors are increasingly getting on the 'environmental disclosure' bandwagon, whether with respect to budgeting a carbon footprint or creating an investment framework around ESG factors. This takes the shape of certain investors such as CalPERS disclosing that they are auditing their investment portfolio's 'environmental budget' and also more publically through increased signatories to the 'Montreal Carbon Pledge', even after the signatories were publically announced during COP21. We would expect this to increase as growing awareness of climate change is kept on the news agenda as the world attempts to mitigate the change via various high-profile international agreements, not least the Paris Agreement.

Article 173 of the French Energy Transition for Green Growth Law will likely lead to a form of 'best practices' for institutional investor climate-related disclosures

Whilst the 'Montreal Carbon Pledge' remains voluntary in nature, the Paris Agreement is a legal agreement relating to the measurement of country-level emissions (with an implicit assumption that these will be reduced), although this is not the only binding agreement on climate change-related disclosures. In August 2015 France became the first country to introduce mandatory climate change-related reporting by institutional investors. These reporting obligations are set out in Article 173 of the French Energy Transition for Green Growth Law, which came into force on 1 January 2016 and requires that the institutional investors within its remit report on how ESG factors are integrated into their investment approach, including those related to climate change risk. It is our understanding that while the law is now in force, there will be no type of 'enforcement actions' and until 2018 investors are likely only to be required to share their experience related to climate change related disclosures before targets are formalised and fixed.

Company level

The Financial Stability Board (FSB), an arm of the BIS, established a task force ('Task Force on Climate-Related Financial Disclosures') in December 2015 in response to a request from the G-20, asking the FSB to investigate climate change risks and what might be done to combat them. The idea is to form an industry-led discussion group to make recommendations for improving principles and practices for voluntary corporate disclosure.

The work-flow is split into two distinct phases:

1. **Phase I:** Focused on the scope and objective of the financial disclosures required
2. **Phase II:** Guidelines for corporates providing voluntary disclosure and identifying best practices to improve the consistency, clarity and usefulness of climate-related financial reporting

Phase I of the FSB's investigation into climate change risks has been completed noting that climate change disclosures are fragmented to the point that they are not usable to inform financing decisions

Phase I has already been completed with the report published on 1 April. The principal finding of the report mentioned that "the absence of a standardised framework for disclosing climate-related risks makes it difficult for preparers to determine what information should be included in their financial filings and how it should be presented. The resulting fragmentation in their reporting practices has prevented investors, creditors and underwriters from accessing information that can inform their decisions".

Phase II is expected to result in a full set of guidelines and a framework for climate impact disclosures in December 2016.

Bond portfolio

Given the increased number of signatories to the 'Montreal Carbon Pledge' as well as certain local legislation like Article 173 in France, the need to measure and disclose an investment portfolio's carbon portfolio is gathering pace. While there are a multitude of organisations seeking to estimate the carbon footprint of individual investments, South Pole and Trucost, two environmentally-related consulting organisations, are rolling out services looking at carbon costs in investment portfolios.

Increasing evolution in environmental consequences of investments going from a single bond analysis to a more inclusive portfolio approach

South Pole estimates the emission reduction of a bond, achieved versus a baseline, and attempts to estimate the net emission reduction achieved. It also establishes where the carbon reductions are taking place given that energy-efficient investments in jurisdictions that are already environmentally friendly have a less marginal impact on climate change than those in less environmentally friendly energy footprints.

Bond level

Several initiatives are underway that aim to evaluate the 'greenness' of particular green bond issues. These are:

1. Update of Green Bond Principles, 2016 edition
2. Moody's own Green Bond Assessment methodology
3. S&P Dow Jones/Trucost ranking of green bonds

Update of Green Bond Principles ('GBP')

The GBP, first agreed upon and released in 2014, marked the first attempt in the fixed income market to define what a green bond should look like, aiming to enhance comparability for market participants. Since then, non-SSA issuances have rocketed alongside the general green bond market, with the GBP tightening further in a 2015 update. We expect a new update of the GBP in 2016, probably coinciding with the GBP AGM in July 2016, which in our view is likely to become more prescriptive on the projects eligible for GBP. Disclosure is therefore likely to go beyond simply the actual bond architecture, and will likely include an annex on non-green related bonds, namely what constitutes a 'social' bond.

Updates of the GBP are important in that the principles remain the bedrock of market-driven consensus of what constitutes a green bond and they are increasingly used to label a bond 'green' as opposed to 'environmentally aligned' but unlabelled green bonds.

Moody's Green Bond Assessment Methodology ('GBA')

Moody's GBA is a new 'second opinion' provider integrated to their own standard

First put out for comment in January 2016, and finalised in March 2016, Moody's GBA represents the latest accreditation of green bonds according to a third-party definition. At first glance, the GBA looks and feels a little like the existing GBP, and thus Moody's acts as a second opinion provider in that sense, although Moody's criteria are rather more elaborate than those of the GBP. Investors that we have spoken to in relation to the GBA have mentioned that the fact that the GBA does not exactly conform to the GBP could be counterproductive in a relatively immature market, where a depth of bonds according to one definition is better than shallower pockets of bonds labelled green by different accreditation authorities.

Unlike other 'Green Bond Standards', the GBA gives a 'shades of green' approach which is distinct from other approaches in the market which are more binary

The GBA assesses the 'degree of greenness' via a scorecard with five separate weighted factors that places a green bond issuance on its 'GB scale' ranking from 1 (best) to 5 (worst). We note that the GBA may prove attractive to issuers (not least the ease of using a one-stop shop for credit and green ratings) and the buy side in the US in view of the market reputation of Moody's and, more generally, the universe of US bonds rated by the agency; this is especially the case given that many of the GBP second opinion providers are little known (amongst the US investment fraternity) European firms such as Oekom and CICERO, which could be a reason why the US market remains largely unlabelled.

It is still too early to assess the level of adoption of the GBA at this stage, but their reputation in the US market could prove to be pivotal given competitor pure-play opinion providers are less well-known

The key distinguishing feature of the GBA is its assessment of the 'degree' of greenness as opposed to criteria that state whether a bond is green or not. While this provides a more nuanced assessment, it marks a significant departure from where the green bond market has been trending. Furthermore, Moody's is prepared to rank and judge all bonds, whether or not they are considered green according to the GBA, in contrast to the market standard GBP, which are predominantly related to bonds labelled green. Only time will tell whether the market is ready to adopt this difference in trend, especially given its still limited maturity, and whether we will see the GBA taken up more widely across the green bond market.

Figure 10
Moody's Green Bond Assessment

Assessment factor	Weight	Green bond X	Green bond Y
Org. struture & decisions	15%	1	3
Use of proceeds	40%	1	5
Disclosure on use of proceeds	15%	2	4
Management of proceeds	10%	3	5
Ongoing reporting/ discl.	20%	1	4
Average w eighted socre		1.4	6
Grade		GB1	GB5
Definiton		Excellent	Poor

Assessment scale and definitions

Grade	Definitions
GB1	Green bond issuer has adopted an excellent approach to manage, administer and allocate proceeds derived from green bond offerings. Prospects for achieving stated environmental objectives are excellent
GB2	Green bond issuer has adopted a very good approach to manage, administer, allocate proceeds to and report on environmental projects financed w ith proceeds derived from green bond offerings. Prospects for achieving stated environmental objectives are very good
GB3	Green bond issuer has adopted a good approach to manage, administer, allocate proceeds to and report on environmental projects financed w ith proceeds derived from green bond offering. Prospects for achieving stated environmental objectives are good
GB4	Green bond issuer has adopted a fair approach to manage, administer, allocate proceeds to and report on environmental projects financed w ith proceeds derived from green bond offering. Prospects for achieving stated environmental objectives are fair
GB5	Green bond issuer has adopted a poor approach to manage, administer, allocate proceeds to and report on environmental projects financed w ith proceeds derived from green bond offerings. Prospects for achieving stated environmental objectives are poor

Source: Moody's

S&P Dow Jones/Trucost

In order to understand the performance of bond indices, the index company S&P Dow Jones has teamed up with the environmental data consultant Trucost to create a ranking of bonds according to their greenness. Their methodology looks at:

1. The bond's use of proceeds
2. Level of green impact disclosure

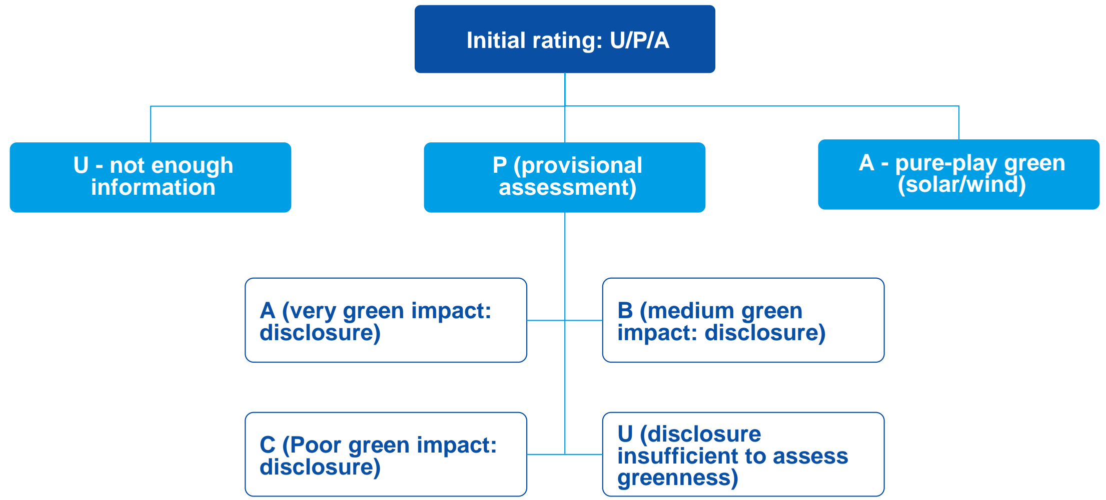
Trucost's green bond methodology assumes wind and solar energy projects are de-facto 'green'

The initial ratings are 'P',' A' and 'U'. Should a green bond issuer declare that 100% of its use of proceeds are green, the bonds are rated 'P' (or provisional), unless they are solar or wind, in which case they are rated 'A'. If an issuer does not provide use of proceeds information, then the bond is rated 'U'. After a year, bonds classified as 'P' would then be rated 'A', 'B' or 'C' according to the level of green impact disclosure provided; if no information is furnished, they continue to be rated 'P'. After two years, if an issuer has still not provided green impact disclosures, it would cease to be rated 'P' and would be rated 'U'. When Trucost applied this methodology to the universe of green bonds outstanding in FY15, 36% of the bonds were rated 'A', of which 77% due to green impact disclosure, the remainder being wind or solar projects.

This methodology is the only one which seeks to check a bond's impact and related disclosure post-issuance

This ranking, to our mind, is an interesting addition to the cottage industry that is springing up to compare green bonds in terms of their environmental impact. It is the first actual methodology to our knowledge to develop a framework for assessing the environmental impact of funded green bond projects and, more importantly, it actually follows up on the impact as opposed to current practice, which estimates the impact. This focus on actual impact will likely grow in importance as investors seek to do deeper environmental due diligence on their investments, although this methodology assumes that all wind/solar projects are de facto 'green' and as such do not require due diligence for an 'A' ranking. Based on the conversations we have had with investors, we are not sure that this assumption is necessarily backed by all investors in this space.

Figure 11
Trucost's Green Bond Rating Assessment



Source: BBVA GMR

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