



Sustainable Finance Bulletin

06

DZ BANK Spotlight:

New records in the Green Bond segment

September 2020 set a new record in the Green Bond segment. At USD 35.7bn, the monthly new issuance volume was the highest since the market was launched in 2007. Non-financial corporates in particular contributed to this development with a record monthly new issuance volume of more than USD 11bn.

In Germany, there was also brisk issuing activity in the green segment across all issuer classes (sovereigns, Supranational, Sub-sovereigns, Agencies, financial corporates, non-financial corporates). Issuers such as the Federal Republic of Germany, Daimler, Landwirtschaftliche Rentenbank, MunichRe and Volkswagen penetrated the market.

Green Bonds of German issuers						
Issue date	Issuer	Coupon (%)	Currency	Volume (m)	Maturity (years)	Type
29-Sep-20	KfW (Tap)	0,000	EUR	1.000	7,9	Green
28-Sep-20	LBBW	1,125	GBP	250	5,2	Green
16-Sep-20	Commerzbank	0,750	EUR	500	5,5	Green
16-Sep-20	Volkswagen	0,875	EUR	1.250	8,0	Green
16-Sep-20	Volkswagen	1,250	EUR	750	12,0	Green
15-Sep-20	Rentenbank	0,000	EUR	1.750	7,0	Green
15-Sep-20	Munich Re	1,250	EUR	1.250	20,7	Green
3-Sep-20	Daimler	0,750	EUR	1.000	10,0	Green
2-Sep-20	Deutschland	0,000	EUR	6.500	9,9	Green

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M. Pratsch

D.M. Pereira

J. Trautwein

Dear Reader,

We are pleased to present the latest edition of our Sustainable Finance Bulletin.

The Green Bond segment achieved new records in September 2020 with USD 35.7bn, the highest new issuance volume since the market was launched in 2007. At the beginning of the COVID-19 pandemic, the Green Bond market took a considerable breather. At USD 5.3bn in March, it recorded the lowest new issuance volume since December 2015. However, an initial recovery set in as early as April and continued steadily in the months that followed. This development reflects the fact that the sustainable recovery of our economy can only work if we take all four dimensions of sustainability into account. The race continues on the capital market for the trillions needed for ecological transformation.

Enjoy reading! Stay healthy!

Marcus Pratsch

Head of Sustainable Bonds & Finance

David Marques Pereira

ESG Originator

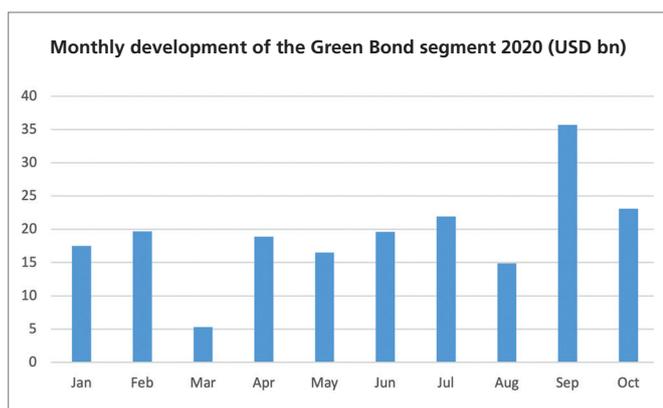
Johannes Trautwein

ESG Originator

Green Bonds are thus back on track for success after a breather. The Green Bond segment had cooled off significantly, especially at the start of the COVID-19 pandemic. In March, the market took a considerable breather with a new issuance volume of USD 5.3bn. This corresponded to a decline of around 68% compared to the same period of the previous year (USD 16.5bn) and represented the lowest monthly new issuance volume since December 2015.

The market started to recover noticeably as early as April with a new issuance volume of USD 18.9bn, and this recovery has continued steadily up to the present day. Month after month, the volume of new issues stabilised at a (absolute) double-digit level.

Compared to the same period of the previous year, the global new issuance volume decreased by approximately 23% in the first half of 2020 and amounted to approximately USD 97.5bn (H1/2019: USD 126bn).



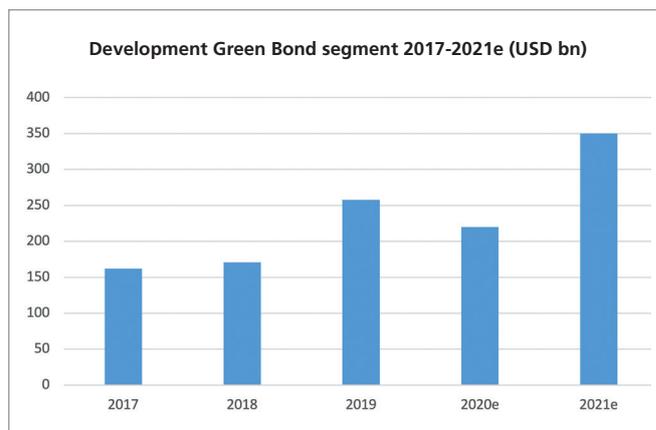
Source: DZ BANK

The new record volumes show that the Green Bond segment is absolutely intact and that the COVID-19 crisis should be seen as an opportunity to allocate the investments required for the recovery in a sustainable manner. In addition to economic and social projects, climate and environmental protection must also be included. The race will continue on the capital market for the trillions needed for the ecological transformation.

The cumulative issuance volume since the launch of the market was more than USD 950bn at the end of September, and is therefore steadily approaching the USD 1 trillion milestone.

Following the strong recovery of the segment, we forecast a new issuance volume of around USD 220bn for 2020 as a whole, representing a decline of 15% compared to the previous year (USD 257.7bn).

Further new records are expected in the Green Bond segment in 2021 and subsequent years. The cumulative issue volume is expected to exceed the USD 2 trillion mark by the end of 2023 at the latest.



Source: DZ BANK

The market receives tailwind from various sides.

The EU Taxonomy developed as part of the EU Action Plan increases transparency and creates uniform classification criteria for Green Bonds – even far beyond the borders of the European Union. The associated EU Green Bond Standard (EU GBS) should therefore develop into a global standard and facilitate the issuance of Green Bonds. In addition, the EU plans to raise around 30 percent of the funds earmarked for the EUR 750bn investment programme „Next Generation EU“ through Green Bonds.

In the USA, the Green Bond market is increasingly driven by the issuing activities of non-financial corporations, which increasingly want to show that they are pursuing a more responsible and sustainable corporate policy - an attitude that was further strengthened as a consequence of the COVID-19 crisis. The election of Joe Biden as 46th US President will also create a „friendlier regulatory environment“ for sustainable funding in the USA, including the resumption of the Paris Climate Accord and focusing on the transition from fossil fuels to renewable energy.

China’s ambitions to become carbon neutral by 2060 should also give a further boost to the issuance of green bonds in Asia. In addition, China recently mentioned that it wants to adapt its own Green Bond standards to bring them more in line with international standards.

DZ BANK Spotlight:

The EU – A new star in the Sustainable Bond market

2020 – a year that will fundamentally turn the world we know upside down. The scale of the COVID-19 pandemic requires unprecedented countermeasures: worldwide travel restrictions, lockdown measures and the closure of all non-essential facilities. We also saw an unthinkable scenario within the European Union: an almost complete closure of national borders, lasting weeks. The resulting social and economic effects manifested themselves, among other things, in overburdened health care systems, first insolvencies and deep recessions. Billions of additional funding are needed, and this is where European solidarity comes in: The European Union will raise the necessary liquidity on the capital market through community bonds. But what about the topic of sustainability in all its facets?

The EU SURE Programme

On 2 April 2020, the EU Commission proposed a support instrument in the amount of EUR 100bn. The programme, called SURE (Support to mitigate Unemployment Risks in an Emergency), allows European Union member states to raise liquidity to get through the disruptions caused by the pandemic. With the approval of EUR 504m for Hungary on 26 October, EUR 87.9bn of the EUR 100bn have already been allocated to some EU member states.



For a long time, the question of financing was on the agenda. On 6 October 2020, the European Commission announced that the SURE programme would be financed by Social Bonds. All bonds are placed in the form of syndicated transactions under the Luxembourg DIP. The minimum volumes per transaction range from EUR 3bn-5bn, with a maximum amount of EUR 10bn outstanding per maturity year. Maturities range from 3 to 30 years (with an average of 15 years), thus reflecting the maturities on the lending side. The Social Bonds will be issued exclusively in EUR and may include dual tranches and taps. Financing of the SURE programme should be completed by the end of 2021.

The EU SURE Social Bond Framework is the framework for the issuer's Social Bonds. The net proceeds of the transactions are

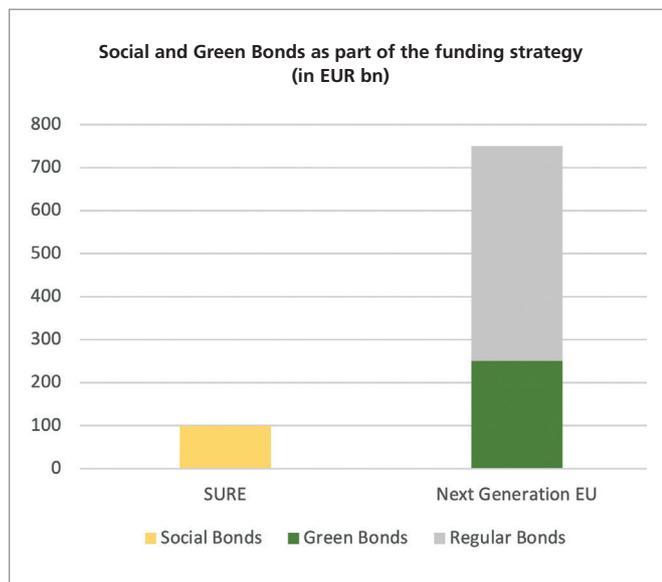
used to (re)finance the subsidised loans disbursed under the SURE programme. This requires that the loans can be assigned to the „Eligible Social Expenditures“ defined in the Framework. These social expenditures are aimed at providing financial support to member states that have experienced a sharp increase in public expenditure on job security programmes since 1 February 2020, caused by COVID-19. In concrete terms, this includes:

- Expenditure by member states to (re-)finance short-time working schemes to bridge the economic recessions caused by the pandemic.
- In addition, expenditure on (re)financing measures to maintain and improve the health situation, particularly in the workplace.

These Eligible Expenditure Categories correspond to the most recent ICMA Social Bond Principles (June 2020 edition) and the categories listed therein „Employment generation, and programmes designed to prevent and/or alleviate unemployment stemming from socioeconomic crises“ and „Access to essential services, e.g. health“. These categories contribute to the UN Sustainable Development Goals 3 (Good Health and Well-Being) and 8 (Decent Work and Economic Growth). To ensure the greatest possible transparency, the EU Commission will report on the allocation of the proceeds (Allocation Reporting) and on the social impact of the (re-)financed expenditure (Impact Reporting) six months after the issuance (and then every six months). This frequency exceeds the requirements of the Social Bond Principles (minimum frequency of one year) and underlines the transparency of this Social Bond Programme.

The alignment of the Framework with the four core components of the ICMA Social Bond Principles as well as a positive social contribution of the Programme are confirmed by the Second Party Opinion of Sustainalytics. The only restriction Sustainalytics sees is the fact that the proceeds (and the associated short-time work programmes in the individual member states) can also flow to companies whose economic activities can have negative environmental or social impacts.

To sum up: The SURE Programme explicitly aims at socio-economic sustainability. In times of this pandemic, the preservation and creation of jobs is essential to counteract a further deterioration of the economic situation. Given this instrument and its social nature, one question arises: What about the environmental dimension of sustainability?



Source: DZ BANK

Next Generation EU

The pandemic affected (and continues to affect) the European Union in various forms. While countries such as Spain, Italy and France had to implement strict lockdown measures very early on, other countries such as Sweden maintained a relatively liberal course. This is due in particular to the horrendous development of infection figures in those first three countries. Early on, the EU opted for the path of a sustainable, balanced, inclusive and fair recovery for all member states. On 23 May 2020, the European Commission proposed the Next Generation EU as an instrument for reconstructing the EU. On 21 July 2020, the heads of state and government agreed on a common reconstruction plan for Europe, under which EUR 750bn will be allocated to the Next Generation EU programme. It is based on three pillars:

- Instruments to support member states' reconstruction and crisis management efforts to emerge stronger from the crisis (EUR 655bn)
- Measures to promote private investment and support ailing companies (EUR 56.3bn)
- Consequences of the crisis: Reinforcement of key EU programmes to strengthen and stabilise the internal market and accelerate the twin green and digital transitions (EUR 38.7bn)

The individual pillars are in turn made up of loans, grants and guarantees (or provisioning for guarantees). An immense rescue package, caused by an unprecedented pandemic that has shaken Europe and the world to its foundations. Here too, the question of financing arises.

For a long time it was speculated that the financing of the reconstruction plan would be done partially through the issue of Sustainable Bonds. On 17 September 2020 the President of the EU Commission Ursula von der Leyen announced the plan to (re-)finance around 30% of Next Generation EU by issuing Green Bonds. This announcement to allocate around EUR 225bn exclusively to environmentally sustainable projects underlines the EU's ambition to meet the Paris Agreement. At the same time, the EU is likely to become the world's largest issuer of Green Bonds during the six-year issuance programme (2021-2026). Assuming regular issue volumes, we expect annual amounts of some EUR 37.5bn. As a comparison: According to the Climate Bonds Initiative (CBI), the three largest Green Bond issuers in the world (Fannie Mae, KfW and Dutch State Treasury) issued a total volume of around EUR 35bn in 2019.

Against the background of these facts, one thing can be said: The funding programmes of SURE and Next Generation EU will bring a tremendous acceleration to the Sustainable Bonds market. The additional offer will give a further boost to an already growing market. Whereas Sustainable Bonds worth around USD 383bn were issued in 2019, SURE and Next Generation EU can help to exceed USD 500bn next year. Furthermore, it remains to be seen to what extent the Green Bonds issued by the EU Commission correspond to the developing EU Taxonomy or the EU Green Bond Standard. Should this be the case, these transactions can also serve as a blueprint for other issuers of Sustainable (and especially Green) Bonds. The race for the trillions goes into the next round.

Guest Commentary:

NRW.BANK – Pioneer in the Green Bond Market



Frank Richter,
Head of Investor Relations,
NRW.BANK

With its first Green Bond in 2013, NRW.BANK was the first regional European development agency to take advantage of the emerging opportunities for bonds to finance environmentally friendly projects. Since then, the Green Bond market has developed dynamically. Market standards were created and laid down in the ICMA Green Bond Principles. Today it is common practice for reputable issuers to provide investors with a meaningful

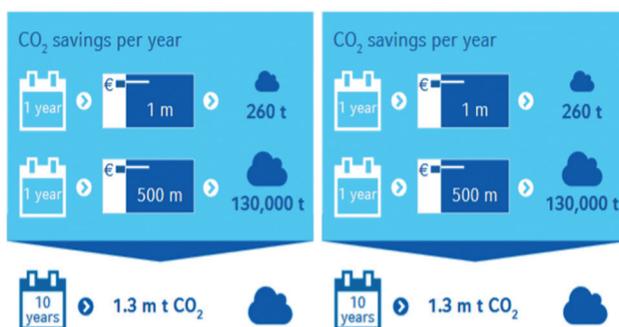
Second Party Opinion (SPO) and an impact analysis. NRW.BANK had and has a vested interest in broadening and deepening the Green Bond market. Consequently, an SPO has been part of every Green Bond issued by the agency for six years. Here ISS ESG (formerly oekom research) confirms the environmental added value of the projects and the UN Sustainable Development Goals addressed by them against the background of a ‘Do No Significant Harm’ approach. In addition, the sustainability profile of NRW.BANK is also assessed – the results are consistently positive.

The impact analysis is largely shaped by the renowned Wuppertal Institute. The non-profit think tank, founded by Ernst Ulrich von Weizsäcker in 1991 and specialised in the topics of climate, environment and energy, has been determining the CO₂-savings associated with the projects behind the bonds since 2016. Of course, the impact analysis is based on the MDB Harmonized Framework for Impact Reporting. Currently, seven Green Bonds are outstanding in the capital market. Impact analyses are available for six of these. In total, these bonds save almost 1.6 million tonnes of CO₂-equivalents each year. Translated to real economic activities in Germany, this corresponds to the CO₂-footprint left by almost 150,000 people every year. The drivers behind these savings are renewable energies. In contrast, energy-efficiency measures in the building and transport sector deliver significantly lower savings. However, due to the large inventory, these investments are nevertheless important to contribute to CO₂-neutrality in 2050.

Alongside the focus on mitigation, projects in the field of adaptation are also refinanced via Green Bonds. Here, the Emscher-Genossenschaft (EGLV), as project sponsor, is evaluating the renaturation of the Emscher and its tributaries. KPIs are, for example, avoided

Executive Summary – NRW.BANK Green Bond Reporting

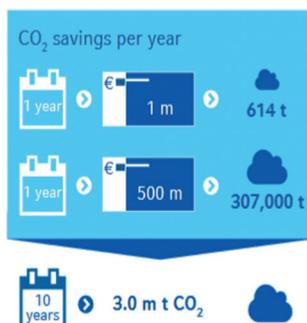
NRW.BANK.Green Bond #1-2019 NRW.BANK.Green Bond #2-2019



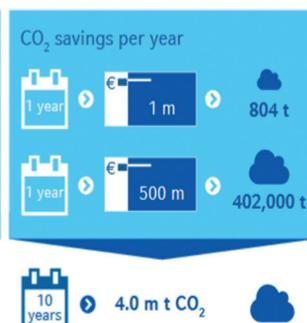
Field “Climate Adaptation” – Rebuilding the River Emscher

- Single largest water management project in the EU to implement the European Water Framework Directive
- Project period: almost three decades to the “Blue Emscher” in 2020
- Conversion of the river and its affluents into semi-natural waters with a positive impact on biodiversity and other eco-system services
- Creation of a modern sewage system: 132 pump stations, five sewage treatment plants as well as one central sewage sludge plant and 87 rainwater treatment plants
- Direct participation of citizens
- Significant increase in biodiversity

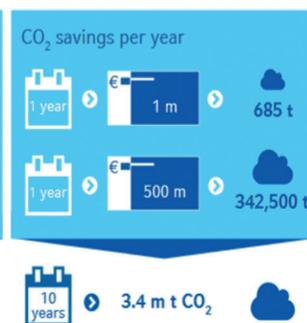
NRW.BANK.Green Bond 2018



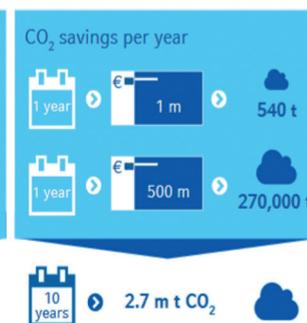
NRW.BANK.Green Bond 2017



NRW.BANK.Green Bond 2016



NRW.BANK.Green Bond 2015



flood damage, (recurring) elements of fluvial and terrestrial biodiversity and the extent of infiltration, water surfaces and floodplains.

Green Bond Framework ties in with EU GBS

NRW.BANK codified its Green Bond Programme 2019 in a Green Bond Framework. The fact that this framework was already updated in November 2020 shows how dynamic the trend is. The latest version continues the impetus from the EU Action Plan on Sustainable Finance of the Juncker Commission and the Green Deal of the von der Leyen Commission. The declared aim is to bring green (new) transactions as close as possible to the EU Green Bond Standard (GBS). NRW.BANK will issue its Green Bonds in future on the basis of the updated framework published on its website.

The Brussels' impulses are also reflected in the lending business. Based on the proposals of the Technical Expert Group, projects that meet the criteria of the Taxonomy have access to particularly subsidised financing conditions.

2020 – Inaugural Social Bond

In addition to the market for Green Bonds, other markets for Sustainable Bonds have developed. In particular, the market for the financing of social projects experiences an enormous upswing in 2020. The COVID-19 pandemic was and is of course the driving force behind this dynamic. Enormous financial efforts are required to compensate for the damage caused by this. The Social Bond Principles provide the market with a firmly established framework. Following intensive preparations, NRW.BANK also decided to issue its first Social Bond in summer 2020. The issue is based on a Social Bond Framework. The SPO was delivered by ISS ESG. The impact analysis is currently being developed in cooperation with the Wuppertal Institute. Social Bond projects help to improve the labour market prospects of school dropouts and reduce under-employment. In addition, the acquisition of residential property for families with low and middle incomes is promoted, and economically disadvantaged municipalities are supported in fulfilling their public mandate.

While Green Bonds are denominated in EUR and have an issue size of 500m, EUR-denominated issues in the social segment reach a size of 1bn; transactions in other currencies (e.g. in AUD or the Nordic currencies) are also possible.

What do investors appreciate about Sustainable Bonds and how are they performing in the market? Transparency is the buzzword here. Investors have a specific mandate and want to ensure that the funds they provide are used in the desired direction. More importantly, they want information on the added value achieved with their funds. NRW.BANK makes both sets of information available to its investors. This transparency is appreciated and regularly leads to broadly diversified and oversubscribed order books. Owing to defensive pricing, bonds perform very well in the secondary market. The average price of the Social Bond rose by 4.5 basis points in the first 4 weeks.

Outlook 2021

What investors can expect from NRW.BANK is **continuity and reliability**. With regard to Green and Social Bonds, this means: regular and large-volume transactions that meet the highest market standards.

DZ BANK Spotlight:

O Greenium, where art thou?

Discussions in the Green Bond market about potential price advantages of Green Bonds over comparable traditional non-green transactions, often referred to as the „greenium“, are almost as old as the Green Bond market itself. There have been repeated studies on this issue, with results sometimes for and sometimes against a „greenium“.

However, a number of these studies involve the risk of comparing apples with oranges. Many factors play a role in the pricing of a bond issue, ranging from the risk profile of the issuer, the market environment, maturity preferences and the risk appetite of investors at the time of issue, and the marketing and pricing strategy of the bank syndicate, to name just a few. Many Green Bond transactions, especially the inaugural transactions, are extensively and intensively marketed in advance through road shows and an investor presentation. Non-green transactions, on the other hand, are often announced and priced within one day.

On a regular basis, the Climate Bonds Initiative (CBI) publishes a report on „Green Bond Pricing in Primary Market“. In its latest report, the CBI examined 46 Green Bonds from 41 issuers. Green Bond transactions were compared with non-Green Bonds issued at other times. The CBI found, inter alia, that the order books of Green Bonds were on average larger than those of non-Green Bonds and that 11 out of 21 Green Bonds were priced on or within the secondary market curve of the relevant issuers.

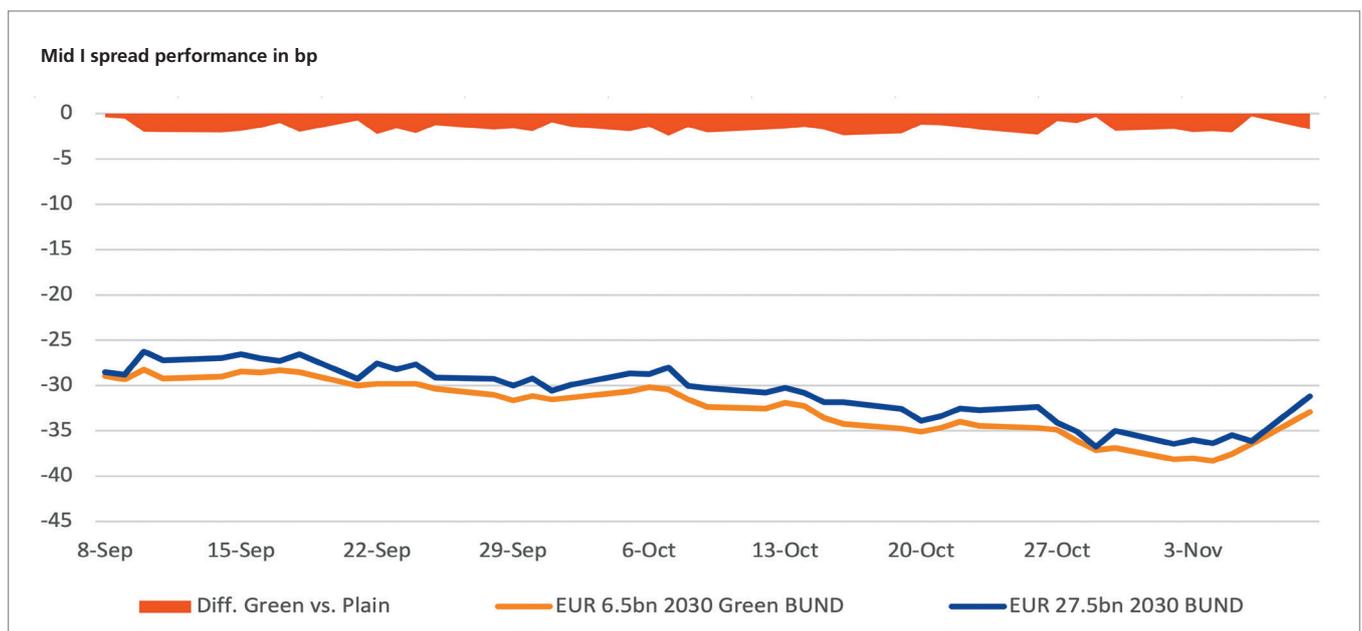
In the following we will briefly examine the spread difference between the two twin bonds of the Federal Republic of Germany and more recent multi-tranche transactions in which at least one Green Bond was issued.

The twin bond placed in September by the Federal Republic of Germany with its Green Bond, which can be exchanged for an identical non-Green Bond at the request of the investor, is the first opportunity in the market to closely observe the „greenium“, at least for the Federal Republic of Germany. Even if here again the restriction must be made that the green bond has a significantly lower outstanding volume than the non-green twin bond and the exchange is only possible from the green to the non-green bond and not vice versa.

As the following chart shows though, since the Green Bond was issued, it has consistently traded 1 to 2bp tighter than its non-green twin bond.

The corporate and financial bond market also includes Green Bonds issued as part of a multi-tranche transaction. As there are only a few examples of these transactions on the market, the relevance of this analysis is of course somehow limited.

Nevertheless, a uniform risk profile, market environment and bank syndicate are ensured when considering these transactions. This allows a further look at price effects in the market, which may be useful in the context of other investigations.



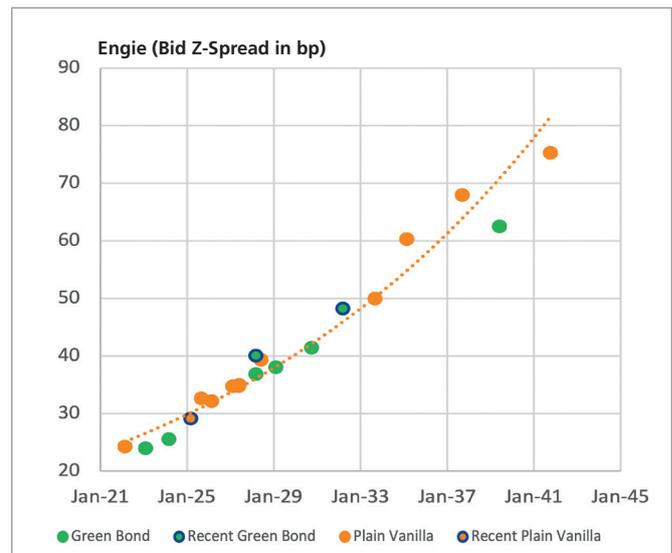
Four transactions of this kind were observed this year:

Pricing Date	Issuer	Coupon (%)	Amount Issued (EUR m)	Tenor (yrs)	Launch Spread	NIP	Δ IPTs to Launch Level	Order-book Oversubs cr.	Curr. Z-Spread Bid	Δ Launch to curr. Level
20-Mar-20	Engie	2,125	750	12,0	MS + 210bp	45	-25	5,5x	48	-162bp
20-Mar-20	Engie	1,750	750	8,0	MS + 180bp	50	-20	3,9x	40	-140bp
20-Mar-20	Engie	1,375	1.000	5,0	MS + 160bp	50	-20	3,0x	29	-131bp
13-May-20	E.ON	0,875	500	11,3	MS + 110bp	10	-35	2,2x	51	-59bp
13-May-20	E.ON	0,750	500	7,8	MS + 110bp	20	-20	1,6x	44	-66bp
13-May-20	E.ON	0,375	1.000	2,9	MS + 80bp	15	-25	1,7x	32	-48bp
28-May-20	BASF	0,250	1.000	7,0	MS + 50bp	-5	-40	4,2x	36	-14bp
28-May-20	BASF	0,101	1.000	3,0	MS + 40bp	-5	-35	3,0x	38	-2bp
1-Oct-20	Mizuho	0,693	1.000	10,0	MS + 93bp	3	-22	2,4x	83	-10bp
1-Oct-20	Mizuho	0,214	500	5,0	MS + 65bp	-3	-20	5,8x	52	-13bp

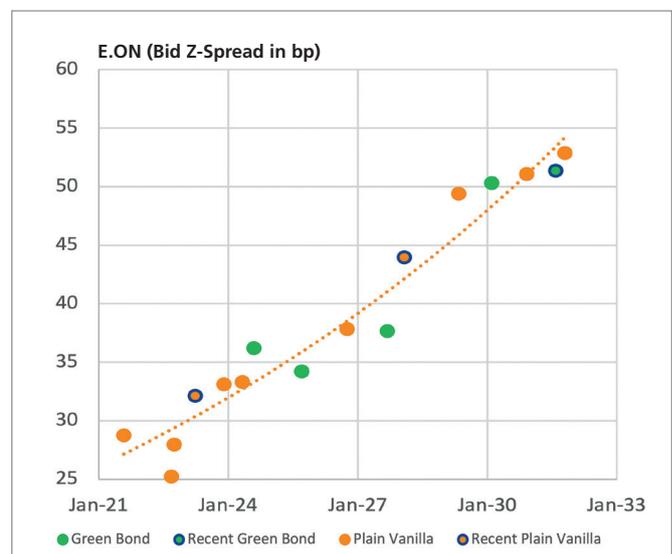
Quelle: Bloomberg, DZ BANK

Green Bonds are shown in green in this table, non-Green Bonds in white. The following key observations can be made:

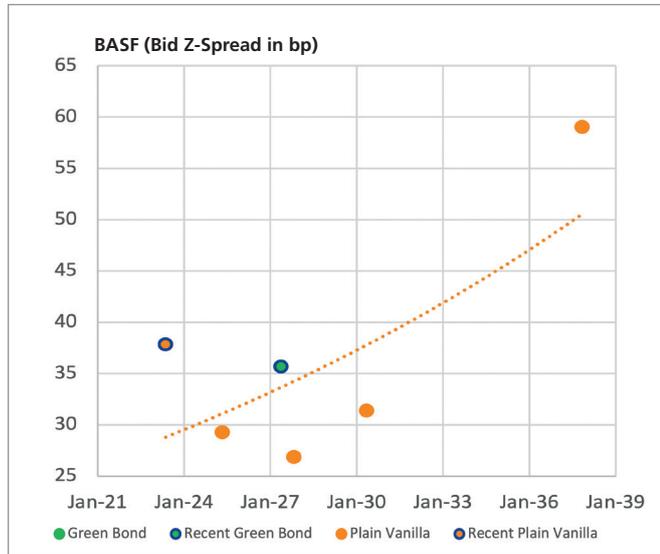
- New issue premium (NIP): The new issue premiums demanded by investors are not higher for Green Bonds than for non-Green Bonds in any of the examples, and in three of the four transactions they are even lower. This even though the majority of Green Bonds have a longer maturity than the non-Green Bonds of the same multi-tranche transaction. This effect could also be observed in a period in March of this year, when we saw strong distortions with high volatility in the market.
- Order books: The oversubscription of the order books for Green Bonds was consistently higher than for non-Green Bonds issued in parallel. This was also observed in the BASF dual tranche transaction, where the issue volume of the Green Bond was identical to that of the non-Green Bond.
- Secondary market performance: Despite the largely lower new issue premiums for Green Bonds compared to non-Green Bonds, Green Bonds have on average performed better since issue than non-Green Bonds.



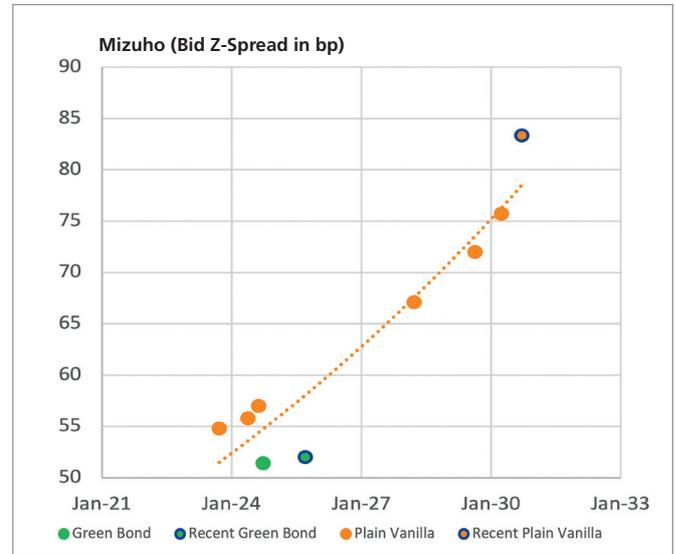
Source: Bloomberg



Source: Bloomberg



Source: Bloomberg



Source: Bloomberg

A look at the current secondary market curves of the various issuers shows that the outstanding Green Bonds are again trading more or less in line with non-Green Bonds.

The more bonds the issuers have outstanding, the smaller the deviations of Green Bonds from the credit curve.

LEGAL REFERENCES

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