The Green Bond

08 April 2020

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Thomas Thygesen
Editor
Head of Strategy, Head of Research, Climate & Sustainable Finance
thomas.thygesen@seb.dk

Kristoffer Nielsen
Advisor
Climate & Sustainable Finance
kristoffer.nielsen@seb.se

Elizabeth Mathiesen
Senior Strategist
Equity Strategy Research
elizabeth.mathiesen@seb.dk

Tine Vist
Quantitative Strategist
Equity Strategy Research
tine.vist@seb.dk

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A pandemic can affect two of the most significant aspects of the global society: the food systems and availability of medical equipment and medicine. We examine the financial measures that can be implemented in order to soften or eliminate negative impacts and how these measures can be funded in the labelled bond market.

IFC: COVID-19 response – page 20
The pandemic is causing extensive economic disruption in emerging markets and developing countries alike. The priority today is to support the inundated health sector and the millions of employees and enterprises being hit by the crisis. IFC's experience from past shocks, including the global financial crisis in 2008, has taught us that keeping companies solvent is crucial.

NIB: COVID-19 response – page 22
"We expect the Nordic Investment Bank to support sustainable businesses facing short term liquidity problems due to the crisis" - the Governors of the Nordic Investment Bank (NIB) stated in late March 2020. However, in extraordinary times it is also important to maintain integrity and to not dilute well-established concepts.

Nordic issuers release update to impact reporting guidance – page 24
Since 2016, a group of Nordic public sector green bond issuers have cooperated on harmonising and advancing green bond impact reporting practices across the Nordic region. The group recently published an update to its impact reporting guide, the Nordic Position Paper.

Letter to the reader

COVID-19 - a driver for collaboration

Firstly, I hope you all remain safe and well in these uncertain times when our foundations and faith are being challenged.

As you may have noticed, I normally twist my focus towards the Green area of the sustainable market - but obviously, the challenges we currently face will change that - at least for the short to medium term.

The challenge of securing medical equipment and infrastructure, assuring operations of essential infrastructures like food supply, water and power supply and addressing the risk of social collapse driven by unemployment - will be on the forefront of most strategic investments for the majority of 2020 - and funding earmarked for these issues will be prioritized by investors.

SEB has, over the past few weeks, been involved with IFC and NIB in raising cash in response to Covid19. We have seen that the "normal rules", of the Use of Proceeds for labelled funding, have been slightly relaxed due to the urgency and the uncertainty of the situation – still, the issuers have ensured transparency, so investors remain informed about what they have invested in. We see indications that the market for these types of issuance will grow in the coming weeks and we expect strong investor appetite - so long as there is a clear and well-founded dedication combined with transparency around the structure of the bond.

The Green Bond and Social Bond Principles have released guidelines on how to address funding in this context[1]. At SEB we will do everything possible to facilitate this kind of funding and to assist our clients, both issuers and investors, in navigating the definitions and expectations.

Looking a little ahead - beyond the immediate challenges - we will see the world focus on re-activation and re-employment. In that period we will need coordination and are likely to meet a number of political discussions on priorities and contributions. Discussions, which can potentially take a long time to overcome and, where delays will be costly for the overall health of our societies.

Consequently, it is essential to develop tools which enable collaboration. We believe one such tool involves the negotiations over the last years and the focus on a green transition, the European green deal, where many of these political battles found consensus and the outcomes are ready to be implemented – but, hopefully, additional tools will be developed.

We remain very positive for the labelled Bond market during 2020, since targeted efforts and clarity about the contribution will be expected from investors - both to do good, but also, to ensure that the economy recovers. At this stage it is still too early to predict whether these issuances will be called Green, Social or Sustainable.

[1] https://www.icmagroup.org/News/news-in-brief/green-and-social-bond-principles-with-icma-underline-relevance-of-social-bonds-in-addressing-covid-19-crisis-and-provide-additional-guidance/

We are privileged to have contributions from IFC and NIB on their COVID-19 issuances in this edition – and Kommuninvest on Impact reporting updates. I hope their texts can inspire you and that you will enjoy your reading.

All the best,

Christopher Flensborg

Head of Climate and Sustainable Finance

Thomas Thygesen
Editor
Head of Strategy, Head of Research,
Climate & Sustainable Finance
thomas.thygesen@seb.dk

Elizabeth Mathiesen
Senior Strategist
Equity Strategy Research
elizabeth.mathiesen@seb.dk

Transition update

Covid-19 crisis as transition catalyst

Energy transition has stalled
It's probably an understatement that 2020 did not get off to the start we had expected, and the energy transition space is no exception. Going into 2020, we were expecting massive green bond issuance and a sharp rebound for investment in renewables after an 'interim year' in 2019. However, the COVID-19 outbreak has forced us to rewrite the script.

In the very near term, this has resulted in a sharp curtailment of both investment and funding activities while economies have been locked down. Looking beyond the immediate crisis, we also think this will change the long-term outlook for the energy transition. There are both threats and opportunities in this shock from a climate crisis perspective, but on balance we think it will be a catalyst for a massive acceleration in the transition process.

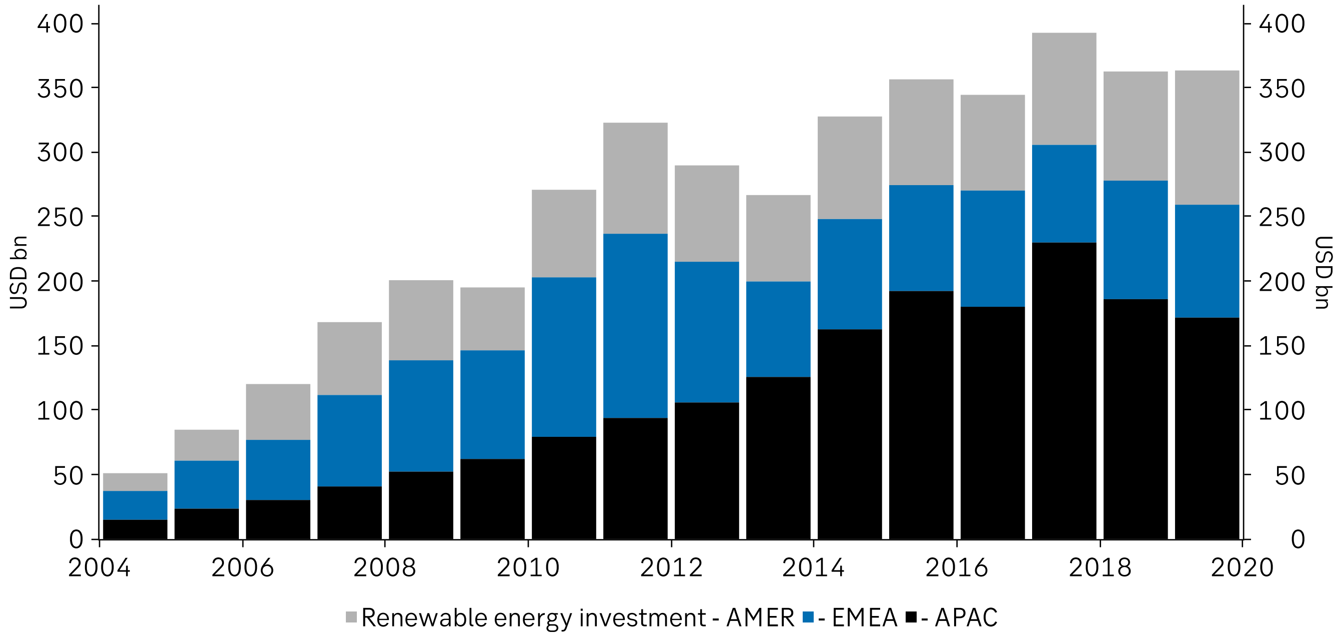
This would be most welcome as investment has stalled in the past five years after surging in the preceding decade. There has been a major disconnect between stated ambitions and actual spending. The output of renewable electricity is still accelerating due to technological progress driving the cost down, but the current pace is not going to take us where we need to go. Despite all the research suggesting we need to ramp up investment to meet the Paris objectives and the good intentions expressed by political leaders, total global investment was flat in 2018 and 2019 at a lower level than in 2017.

At the start of 2020, there were encouraging signs that investment in renewables was about to pick up, not least in China where the second half of 2019 saw clear signs of a return to growth after changes in subsidies had pushed renewable investment lower in 2018-19. The second half surge as well as a strong year for European investment in renewable energy managed to keep total investment for the full year flat, which is a clear improvement compared with the outcome if the first half of the year. Nonetheless, the trend in the past few years still looks like a missed opportunity.

COVID-19 will initially slow transition
With green bond issuance storming ahead in 2019, this year was shaping up to be a banner year for the energy transition. All that changed, at least for a while, with the onset of the global virus pandemic.

In terms of the energy transition, the crisis impact is at first clearly negative. Access to financing has been curtailed, and economies in lockdown can't build new infrastructure. In the near term, the result is likely to be a slowdown both in activity and financing of transition projects. This setback is likely to be partly reversed when economies reopen.

Figure 1: Renewable energy investments across three regions (USDbn)



Source: BNEF, SEB

More seriously, the collapse in the demand for energy and the price of oil, the first of which risks causing an oversupply in energy markets and the second makes it more difficult for renewables to compete on price. There may also be less capital around for major capex projects in the early stages of normalization and credit availability may also be curtailed for a while These are more fundamental problems that could keep renewable investment under pressure even after the lockdowns are lifted.

As a result, the first half of 2019 is likely to see a slowdown in the energy transition process along with all other types of investment, and it could linger on into the second half of the year if it turns out that the COVID-19 outbreak does not fade quickly.

This is due to forces that can't be controlled and not to lack of political resolve or profitable investment opportunities, so it does not mean that the long-term trend will weaken. But there are limits to how fast you can catch up after such a break and this means we will most likely waste another year falling behind the long-term objectives. Then the question is how this will impact longer-term decision-making.

The great catalyst

Looking further ahead, the crisis offers both threats and opportunities. The threat is that both governments and business may see the green transition as a luxury item that we can't afford after the virus shock. If we leave this crisis in the same way as the last one, this could be a real issue. There are already some voices suggesting that attempts to speed up decarbonization should be put on hold for now.

However, we think those arguments are misguided and we don't think the policy regime that will emerge after the crisis is likely to lead us in that direction. The COVID-19 shock has ironically served as an illustration of how we don't want the climate crisis to be resolved. CO2 emissions were reduced sharply in China as the economy went into lockdown, illustrating that the alternative to energy transition and new technologies in the fight to reduce emissions is likely to be a permanent economic crisis. As such, it should also serve as a wake-up call for our politicians that they must find another way.

The crisis has already ushered in a whole new level of fiscal activism, governments have assumed massive obligations without blinking and eventually, we think a new funding regime will be necessary to reflate the global economy once the bill for the crisis has been settled. And this means you must find outlets for the reflation effort that command bipartisan support and that have an immediate impact on growth but also raises the likely standard of living for the next generation. Energy transition may require capital, but it is not costly as such, because it really is a technology upgrade to something that is cheaper and more efficient. It is exactly the thing you should not cut back on in this situation.

Helicopter money for consumption are essentially gone once they have been spent, but if you invest it, the case for using this radical tool becomes a lot stronger. Politicians have known for years that at some point they would need to break their budget restrictions or forget about preventing an irreversible climate crisis. Now they finally have the perfect excuse as well as the tools to circumvent the budget restrictions, and while other areas like healthcare may also benefit from reflation, there is really nothing that unites both sides of the political spectrum and bridges generational gaps as well as the climate crisis.

In Europe, where the prospect of joint financing of fiscal stimulus remains highly divisive and the hardest-hit individual countries obviously can't lift the burden themselves, green reflation has the added advantage of allowing authorities to side-step the thorny issues. The EU Green Deal plan, which already is in place, provides the EIB with the role of mobilizing private capital for joint investment projects. It would just take a commitment from the ECB to purchase green bond issuance from the EIB to de facto create a platform for EU-wide reflation with common risk-sharing at the core.

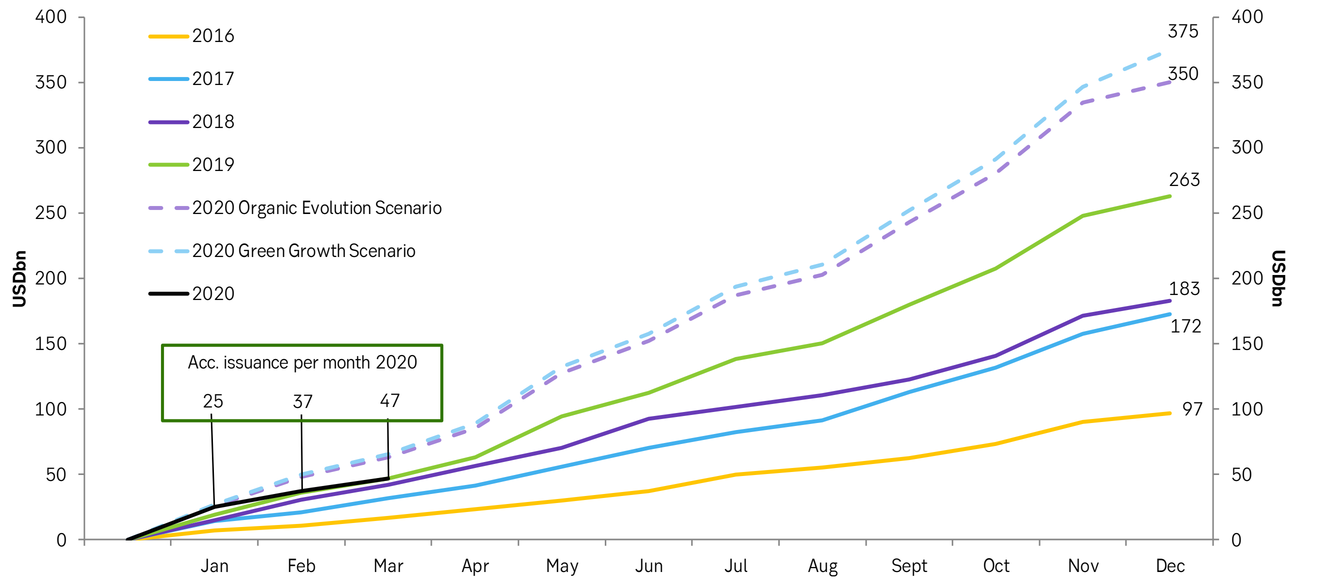
When the crisis eases, it is thus our hope and expectation that it will serve as a catalyst for renewed vigor in the pursuit of our long-term climate goals. There really is no excuse: it will lift employment and growth today, improve long-term competitiveness and reduce the risk that the planet will become uninhabitable within 1.2 generations. If the financing is made available, COVID-19 could be the catalyst for a more credible effort to avert a climate disaster.

Kristoffer Nielsen
Advisor
Climate & Sustainable Finance
kristoffer.nielsen@seb.se

Green Bond Market Update

The green bond market started well in January and February with a combined volume of 36.9bn, which was better than last year and in range of our 2020 scenarios. However, March had total issuances amounting to only 9.7bn, reflecting a slowdown in the whole bond market and a focus on short term liquidity, due to the impact of COVID-19. As a result, total issuance was 46.7bn in Q1 - still in line with last year, but USD 20bn behind our organic evolution scenario for 2020.

Figure 2: Slowdown in March after promising start to 2020



Source: SEB analysis based on Bloomberg and SEB data, as of 31 March 2020

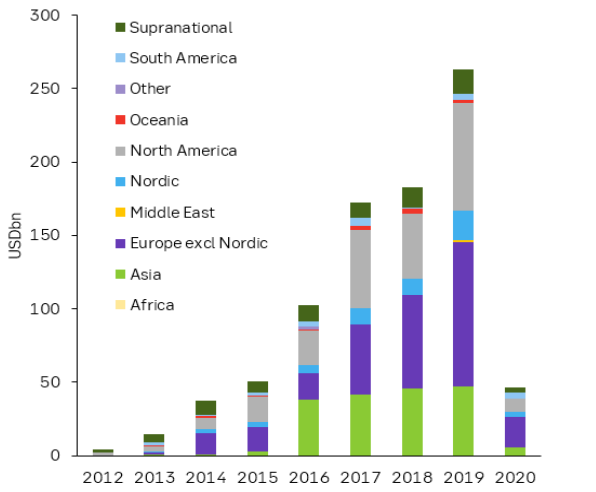
It should also be noted that total issuances of green bonds as a percentage of total bonds was 0.4%, which is lower than in Q1 2019 (1.4%) and for the full year of 2019 (1.0%). As will be explored later on in this update, this is partly because several companies have increased their issuance of social and sustainability bonds rather than only green bonds, which shows that the overall labelled bond market is funding new and interesting activities.

Regional update

Europe (excl. Nordics) has been the main region for green bonds so far in 2020 with total issuance of USD 20.6bn, representing 44% of the global market in Q1. The country with the highest volume in Europe was France with 11 issuances totaling USD 6.6bn, while The Netherlands, Germany and Spain had 3.6bn, 3.1bn and 2.9bn in, respectively in Q1. North America was the region with the second highest volume of issuances in Q1 with 8.8bn, while Asia had total issuances of 6.0bn in the same period.

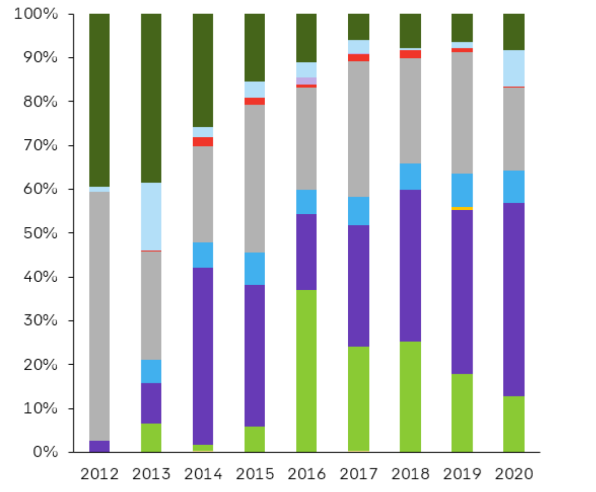
The Nordics have been unusually quiet so far in 2020 with total issuances of 3.5bn, primarily from the real estate sector. On the contrast South America is at record levels, although this is almost exclusively due to the government of Chile's green bond program accounting for more than 95% of the market. Supranationals have started 2020 with a total issuance of USD 3.8bn, although the 2019 trend has continued with the supranational labelled bond market moving towards social and sustainability bonds; total supranational issuances from social bonds and sustainability bonds totals USD 3.6bn and USD 5.6bn, respectively.

Figure 3: Green Bond market growth by region (USD bn)



Source: SEB analysis based on Bloomberg and SEB data, as of 31 March 2020

Figure 4: Regional evolution (% share of ann. issuance)



Source: SEB analysis based on Bloomberg and SEB data, as of 31 March 2020

Sector update

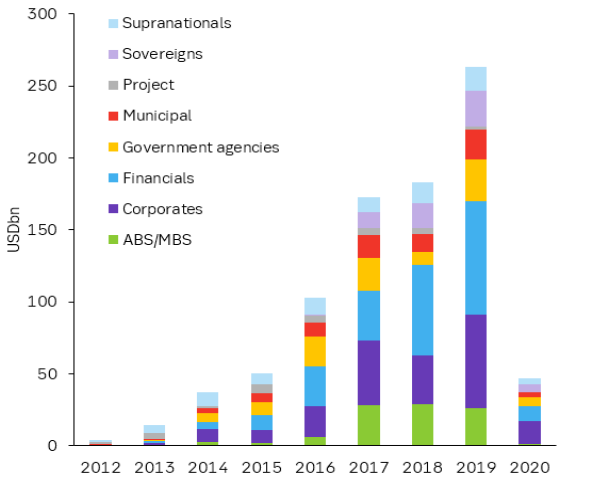
The corporate sector had total green bond issuances of 15.9bn in Q1, representing 34% of the total market. This was 5% below Q1 2019, although March had more than twice as many corporate issuances than last year, bucking the trend of a declining green bond market in the last four weeks.

The market has been dominated by European energy companies from France, Germany, Portugal and Spain, which are responsible for the four largest issuances.

French energy company Engie SA was the largest corporate issuer in Q1 with a dual-tranche 8/12 year EUR 1.5bn (USD 1.6bn) green bond that, in line with their green finance framework, will fund not only renewable energy production and related projects, but also CCS and CCUS, green buildings, clean transportation and environmentally sustainable management of living natural resources and land use. E.ON SE, a German energy company, was responsible for the second largest corporate issuance so far in 2020 with a 5-year EUR 1bn (USD 1.1bn) green bond with eligible projects of renewable energy, energy efficiency and clean transportation, according to their green bond framework. The third largest green bond issued in the period came from EDP, a Portuguese energy company, with a 60-year EUR 750m (USD 836m) green bond that will fund wind power plants and solar power plants. Red Electrica Financiaciones was the fourth largest corporate green bond issuer with their 8-year EUR 700m (USD 777m) that will be used for renewable energy projects and clean transportation.

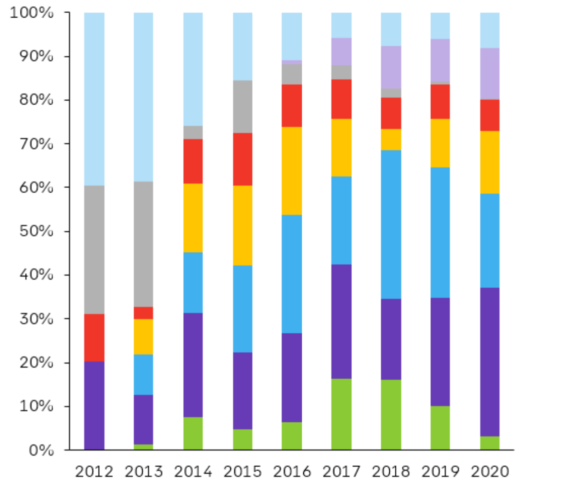
Combined, these four issuers account for 32% of the total corporate green bond market in Q1. Excluding this, and other energy companies from primarily Europe and Asia, corporate issuers in Q1 were primarily the telecom, including Telia with a 61-year EUR 500m green bond aimed at energy efficient networks and green digital solutions, and transportation companies.

Figure 5: Green Bond market growth by sector (USD bn)



Source: SEB analysis based on Bloomberg and SEB data, as of 31 March 2020

Figure 6: Sector evolution (% share of ann. issuance)



Source: SEB analysis based on Bloomberg and SEB data, as of 31 March 2020

The financial green bond sector totalled USD 9.7bn in Q1 2020, which was 21% of the total market. This was 22% lower than in Q1 2019 and the downturn was particularly severe in March with issuance totalling 1.8bn, compared to 6.8bn in March 2019. European issuers accounted for more than half of the financial sector market in Q1; issuances from France, Germany and the Netherlands totalled more than 4bn from a total of 15 individual issuances.

Societe Generale issued the largest financial sector green bond, proceeds will be used for green residential mortgages in accordance with their positive impact covered bond framework. The second largest issuer was Spanish financial institution Bankinter, with a EUR 750m (USD 825m) green bond targeting renewable energy and green buildings. The largest issuer from the United States came with a EUR 5000m green bond, from the industrial real estate group Prologis. The bond was issued by their subsidiary Prologis Euro Finance LLC, but under the parent group's framework with a focus on green buildings, energy efficiency and renewable energy projects. The Nordics had 28 issuances, primarily from the real estate sector, although they only amounted to USD 1.1bn in total, with most issuances in USD 20-100m range.

The government agencies sector had a total issuance of USD 10.4bn in Q1, representing 14% of the market. The sector had a notably strong start to the year with USD 9.9bn of issuance in the first two months but has been very quiet in March. USD 4.9bn was issued by European agencies in Q1, with the remainder issued by three Chinese and two Japanese institutions. The two largest government agency issuers in the period came from France; Societe Du Grand Paris EPIC issued a 60 year green bond of EUR 2.5bn (USD 2.7bn) aimed at low carbon transport, while AFD (Agence Francaise de Developpement) issued a 5 year EUR 1bn (USD 1.1bn) green bond. The largest non-French transaction in the market was Japan Finance Organization for Municipalities' 7-year EUR 500mm (USD 552m) issuance, with the purpose of providing loans to local municipalities.

The sovereign sector in Q1 2020 consists of issuances from the government of the Netherlands, Chile and Lithuania. Chile plans to raise USD 3.3bn of green bonds in 2020 and has already tapped USD 2.4bn of that in January.

The supranational sector green bond issuance totalled 3.8bn in Q1 2020, which was 29% ahead of last year. The EBRD (European Bank for Reconstruction & Development) issued a USD 925m green bond, the largest in the sector so far in 2020, and also issued three smaller green bonds (totalling USD 186m) during Q1 that were available in NOK and SEK.

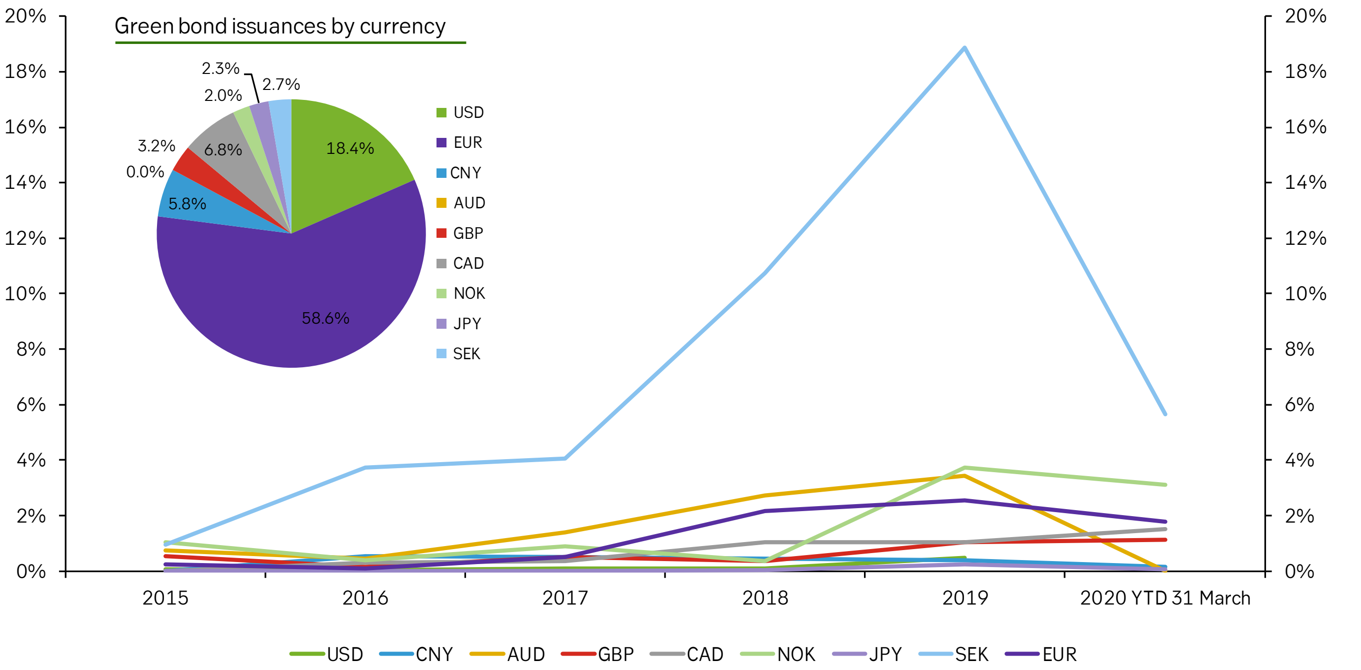
The municipal sector had a total issuance of USD 3.3bn in Q1 with issuances from the United States, Canada, Sweden and Australia. This was 13% lower than in Q1 2019. So far in 2020, 12 Municipalities in the United States have issued green bonds totalling USD 2.2bn, whilst Swedish municipalities have issued four green bonds totalling USD 220m - more than doubling the issuance from Q1 last year.

The ABS/MBS market is still dominated by Fannie Mae, although they have also been less active than in 2019, with total issuance of USD 1.4bn in January and February (March issuance has not been released at the time of this publication). This is USD 400k lower than January and February combined for 2019, and far below the level in the second half of 2019 when Fannie Mae issued green mortgage backed securities totalling 2-4bn each month.

Green Bond Currency Analysis

So far in 2020, green bond SEK issuance has accounted for just 5% of total green bond issuance, which is significantly down from the full year of 2019. However, this is again a result of supranationals focusing more on social and sustainability bonds than green bonds. In fact, the share of all labelled bonds (sustainability, social and green bonds) to total bonds issued in SEK is 14% so far this year. The major currencies have all remained at roughly the same level in terms of green bonds, with GBP and CAD starting to close the gap with the EUR - which holds 2-3% share of total green bond issuance.

Figure 7: Green bond issuance as a percentage of total bond issuance (USDbn)

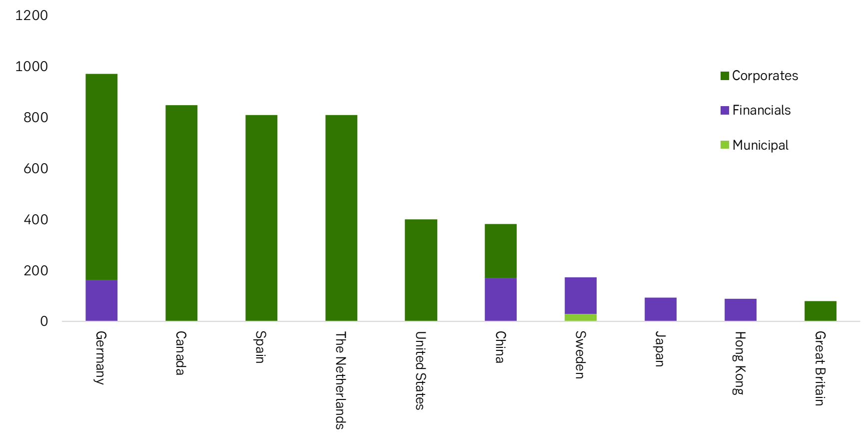


Source: SEB analysis based on Bloomberg and SEB data, as of 31 March 2020

Green Bond April update

The green bond market has started reasonably well in April with total issuances totaling USD 4.6bn by 6th April. Corporates has been the most active sector so far this month, with the Iberdrola from Spain, Royal Schiphol Group from the Netherlands and E.ON SE from Germany all issuing EUR 750m (USD 809m) green bonds. The largest issuer in the financial sector was Nanjing Financial City Construction & Development with a CNY 1.2bn (USD 169m) green bond while the City of Malmö issued a SEK 200m (USD 29.6m) green bond, the only so far from a municipality in April.

Figure 8: April issuances divided into sector (USDm)



Source: SEB analysis based on Bloomberg and SEB data, as of 31 March 2020

Social, Sustainability and Transition Bonds

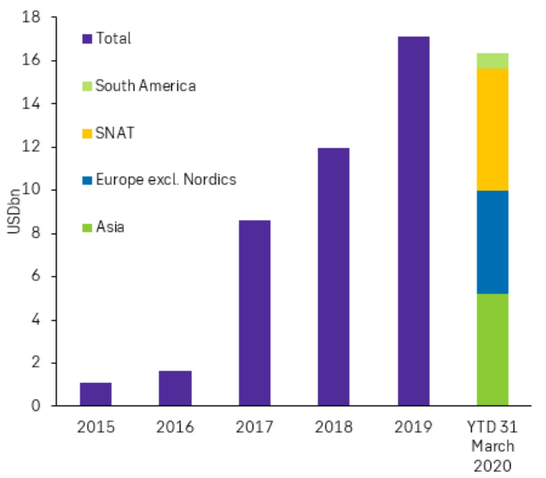
The social and sustainability bond market is very exciting at the moment with new types of labelled bonds being issued with innovative project categories and impact reporting methods. As a result of this development, the total market for social and sustainability bonds were USD 27bn so far in Q1 2020, which is more than half of the total issuances in 2019.

The most prominent new development in March has been the use of social and sustainability bonds to fund initiatives for combatting COVID-10. As written about more extensively in the COVID-19 article of this publication, several development banks have used new or existing frameworks to address the pandemic. This includes IFC with two social bonds specifically aimed at supporting the private sector in developing countries and ensuring the supply of vital equipment and resources, as well as the Bank of China who issued the first offshore social bond in order to finance their COVID-19 response. AfDB (African Development) issued the largest ever social bond in order to support companies affected by the virus, while NIB (Nordic Investment Bank) issued a response bond in order to alleviate social and economic consequences stemming from the outbreak. The aim of this funding has primarily been to support the economic fallout of the virus, but the pandemic could lead to new and innovative project categories that support critical supply chains.

<u>Social Bonds:</u> Social bonds issued in Q1 2020 totals USD 16.3bn, which is already close to the total amount issued in 2019. Supranationals have historically been a driver of the social bond market and continue to play a key role in 2020. A relevant example is the African Development Bank who issued a USD 3bn social bond in March, the largest social bond to date, with the aim of mitigating the negative effects of COVID-19. Asia has been the largest market for social bonds so far in 2020, which to a large extent is due to South Korean government agencies funding, through social bond programs, student aid programs and SME support. In Europe, the largest issuers are government agencies and municipalities. The largest sectors at a global level are still government agencies and supranationals accounting for 74% of the market

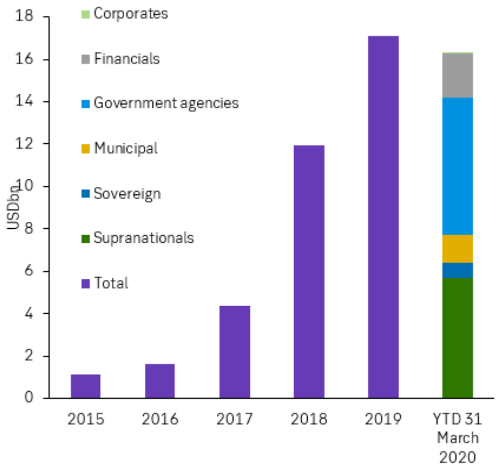
when combined, but the financial sector and municipalities are also starting to become more active.

Figure 9: Social bond market growth by region (USDbn)



Source: SEB analysis based on Bloomberg and SEB data, as of 31 March 2020

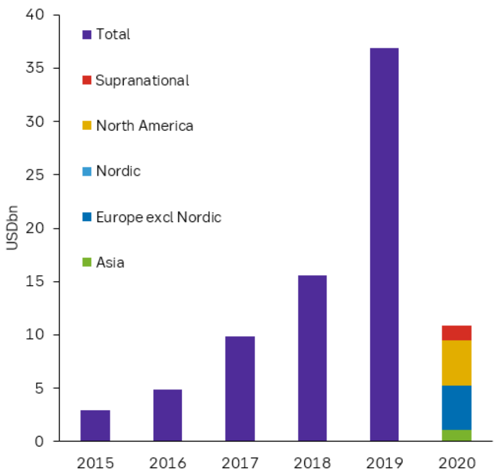
Figure 10: Social bond market growth by sector (USDbn)



Source: SEB analysis based on Bloomberg and SEB data, as of 31 March 2020

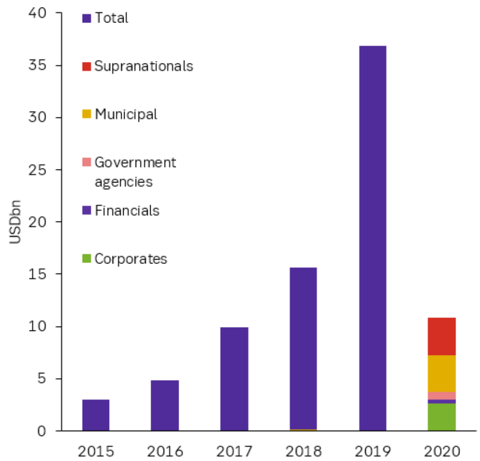
Sustainability Bonds: The total amount of funding raised from sustainability bonds, which include both green and social project categories in their frameworks, was USD 10.9bn in Q1 2020. This is in line with the quarterly run rate of 2019. The largest markets, Europe and North America, accounted for a total of 77% of total sustainability bond issuances in Q1. The private sector had a larger share of the sustainability bond market than the social bond market with corporates accounting for almost a quarter of total issuance so far this year. This included a USD 1.25bn bond from Pfizer Inc, of which part of the proceeds will go towards combating COVID-19, and a USD 500bn bond from Sysco Corp under a new sustainability framework that includes socioeconomic advancement and empowerment of suppliers and fair treatment of workers.

Figure 11: Sustainability bond mkt growth (region)



Source: SEB analysis based on Bloomberg and SEB data, as of 31 March 2020

Figure 12: Sustainability bond market growth (sector)



Source: SEB analysis based on Bloomberg and SEB data, as of 31 March 2020

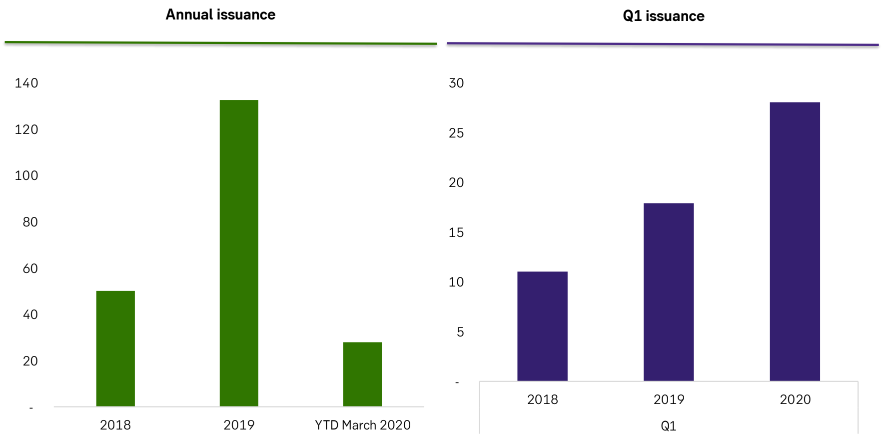
<u>Transition bonds:</u> The transition bond market entered the labelled bond market in force during the fall of 2019 and we expect this part of the market to be more prominent going forward. Transition bonds issued in the last six months include Marfrig, the Brazilian beef producer who issued a USD 500m Sustainable Transition Bond in Q4 2019, where proceeds will be used to purchase from farmers that comply with their environmental criteria. As well

as Credit Agricole, who issued a EUR 100m transition bond towards the end of 2019 that was aimed at carbon intensive sectors, including LNG-powered ships and industrial energy efficiency. In 2020 this has been followed by Cadent, a UK gas distribution network, who in April issued a EUR 500m that will be used to improve pipelines - in order reduce methane leakages and lay the ground for hydrogen distribution in the future.

Sustainability-linked loans: The sustainability-linked loan market, whereby the loan margin is typically linked to a set of targets or an ESG score, is a private market with limited access to information. We use the loans listed in Bloomberg's Global Sustainability-linked Loans League Table, which we think provides a good reflection of the overall market.

Sustainability-linked loans became a significant part of the sustainable finance market in 2019 with loans totaling USD 132.8bn by the year-end. However, it should be noted that sustainability-linked loans typically come in the form of revolving credit facilities and are thus not directly comparable to bond issuances volumes. The strong trend of 2019 has continued with new loans in Q1 2020 totaling 28bn, an increase of more than USD 10bn from Q1 last year. So far, most sustainability-linked loans have been provided in the form of revolving credit facilities to European and American corporations and it will be interesting to see if this product type will continue to evolve to and reach new sector and markets.

Figure 13: Sustainability-linked loan market growth (USD bn)



Source: SEB analysis based on Bloomberg and SEB data, as of 31 March 202

Publicly Announced Green, Social & Sustainability Bond Pipeline[2]

- EDP (Energias de Portugal) 7-year EUR 500m green bond (Settlement date: 15 April)
- SNCF 10-year green bond (Settlement date: 17 April)
- KfW (Kreditanstalt fuer Wiederaufbau) still aiming to issue a total of EUR 8bn in 2020 (USD 550m issued in Q1)

[2] As of 7th April 2020

Sustainable Finance in the time of COVID-19

Lina Apsheva
Junior Analyst
Climate & Sustainable Finance
lina.apsheva@seb.se

Thérèse Gardtman
Advisor
Structured Real Estate Finance
therese.gardtman@seb.se

Gustav Runeberg Schultz
Advisor
Climate & Sustainable Finance
gustav.runebergschultz@seb.se

Kristoffer Nielsen
Advisor
Climate & Sustainable Finance
kristoffer.nielsen@seb.se

The global food system and medical supply

It has now been several months since the world first heard of COVID-19 – a disease that in a matter of a few weeks affected almost all areas of human life on a global scale. We are beginning to see the extent of the impact that the pandemic has and may, unless taken under control, continue to have on the systems of the world as we know it.

In such a severe pandemic, all sectors of the economy — agriculture, manufacturing, essential services — face disruptions, potentially leading to shortages, rapid price increases for staple goods, and economic stress for households, private firms, and governments. The public health sector has seen measures being implemented already on the early stages of the outbreak. These measures included tracing of individuals who could have been in contact with the virus, quarantines and isolation of confirmed cases. Such measures are expensive, and the expenditures will continue to grow as the outbreak becomes more widespread and governments implement more measures to identify, trace, manage, and treat cases.

If the pandemic is not controlled, possible disruptions in the global food system, public restrictions, changing human behavior and increased disease and mortality rates will continue to have a significant impact on the financial market and threaten the stability of the global economy.

In this text we review the ways in which a pandemic can affect two of the most significant aspects of the global society, which are central to the health of the human population during pandemic outbreaks: the food systems and availability of medical equipment and medicine. We further examine the financial measures that can be implemented in order to soften or eliminate negative impacts and how these measures can be funded in the labelled bond market.

Overview of the global food system

The global food system is a complex multi-actor process which is constructed of various levels and comprised of a number of sub-systems. The process is commonly broken up into the following stages: production, processing, distribution, consumption and waste. In the course of the 20th century, the rapid development of processing technologies and transport infrastructure along with the rise of the world-wide trend for urbanization brought food demand and distribution to a truly global scale.

Today, the World Bank estimates that the value of the global food system is roughly USD 8 trillion, or 10% of the USD 80 trillion global economy. Moreover, according to IPCC, the global food system employs about 1 billion people. In the EU, the food sector contributes to the economy with 46 million jobs and exports worth EUR 151 billion[3].

[3] According to URBACT and the European Commission

Pandemic-related disruptions to the food system

Pandemic outbreaks create problems on all levels of the global food system: beginning with production, moving on to transportation, storage, distribution and, finally, consumption and disposal or recycling. Pandemic-related disruptions in the food supply chain can be expected already in April and May of 2020[4]. Pandemic-caused disruptions are most likely to fall into one of the three following categories.

1. Labor shortages: A spike in disease and pandemic-related restrictive measures are likely to result in labor shortages in all parts of the food system. Especially strong impact can be expected in the pre-consumption stages, such as production, storage and distribution, where a shortage in workers can lead to waste of products before they ever reach consumers. One example of this is the agriculture industry, which relies to a large extent on migratory workers, who can be affected by pandemic-related travel restrictions.

2. Transport and distribution disruptions: Restrictions imposed on the movement of goods and people can result in major disturbances in food system logistics, in particular at the stages of transport, storage and distribution. Suddenly imposed restrictions may lead to congestion in warehouses or at distribution points, such as ports and airports. This in turn may have a negative effect on retailers. Under such circumstances, small and local businesses with no or limited liquidity reserves can be exposed to higher levels of risk. Furthermore, restrictions in movements of people may have a serious negative impact on the parts of the food distribution system that rely heavily on tourism, such as the hotel and restaurant industries.

3. Changes in consumer behavior: Along with travel restrictions, social limitations imposed as part of anti-pandemic measures will inevitably result in changes in consumer demand. These changes can range from hoarding behavior to drastic decrease in some forms of consumption, such as café and restaurant attendance. In order to survive, businesses will have to adjust their strategies to changing demand. These adjustments may include changes in production volumes and product ranges.

With the different stages of the food system being closely intertwined, it is worth noting that problems in some sectors are likely to be connected to or result in problems in other sectors.

Overview of the supply and role of medical equipment

The COVID-19 pandemic has had a serious negative impact on the health systems of many countries. A number of societies around the world have voluntarily come to a standstill in order to prevent further spread of the disease. In the midst of this, one of the most critical areas of the healthcare system, which is essential to ensure the safety of both medical professionals and their patients, is the supply of medical equipment. Current supply chains have shown to be un-resilient to a certain extent. The supply chain to healthcare systems have adhered to what has been considered economically sensible: a leaner "make to order process" of supply. Hence, very few healthcare systems are prepared with enough disaster stocks of supply or access to alternative means of production when critical providers fail to deliver.

[4] Food and Agriculture Organization

Personal protective equipment & ventilators: Shortages can affect a range of types of equipment, from personal protective equipment (PPE) to more advanced technological equipment such as ventilators and testing kits. PPE are items used by frontline healthcare workers. They include surgical face masks, N95 respirators, gowns, coveralls, gloves, and hand sanitizers. The shortage of these items caused by the outbreak of COVID-19 led to price surges, some with six-fold increase, as stocks are sold to the highest bidder. Face masks have met the largest supply constrains increasing lead-times for delivery by up to four to six months, as demand for some PPE products specifically used in response to COVID-19 has seen a significant increase.

According to WHO estimates, in order to meet the rising demand for critical medical equipment, the industry will have to increase manufacturing by 40 percent. According to these estimates, 89 million medical masks, 76 million examination gloves and 1.6 million goggles will have to be produces on a daily basis.[5] Healthcare workers in the United States alone will need up to 3.5 billion medical masks if the pandemic lasts a year while their current stockpile is set to hold approximately 12 million merely one percent of what is needed. The US national stockpile is dropping fast and is nearly empty, leaving states to cater for themselves.[6] Another critical resource currently in short supply is ventilators. About 10% of all COVID-19 patients worldwide were in need of ventilators. Recent estimates show 960 thousand people will need to be put on ventilators and 880 thousand more ventilators are needed to cope with the outbreak[7]. The ventilators also require knowledgeable trained nurses available to operate them.

About half of the world's imports of PPE come from China. Since the start of the outbreak the country has seen a 15% decline in the export of these goods to other countries, partly due to the increase in its own import of medical equipment. The largest manufacturers of ventilators are located in the US and Europe. However, bottlenecks at the component level create challenges for large-scale production. Some of the largest producers are Becton Dickinson, Philips, Hamilton Medical, Fisher & Paykel Healthcare, Draeger, Medtronic and GE Healthcare.[8]

Lack of equipment means that a smaller number of doctors and nurses will be able to participate in the fight against the pandemic, as some of them will become infected with the virus and will have to be quarantined or hospitalized. In Italy, 8% of the total number of COVID-19 cases are healthcare workers[9]. Therefore, the safety of medical professionals surged as one of the most pressing issues of these times. It is essential to find ways to provide medical workers with the necessary equipment and enable them to do their job of treating patients and preventing loss of lives without risking their own health and safety.

Test kits: Another shortage is experienced in the ability to map out the sick and the recovered, which is necessary to reduce the blind spot in the pandemic

[5] According to WHO
[6] Department of Health and Human Services, US.
[7] Ranney, Megan L., Valerie Griffeth, and Ashish K. Jha. "Critical Supply Shortages—The Need for Ventilators and Personal Protective Equipment during the Covid-19 Pandemic." New England Journal of Medicine (2020).
[8] PIIE, Peterson Institute for International Economics
[9] According to Médecins Sans Frontières (MSF)

statistics. Such knowledge can play a vital role in supporting a society in a lockdown, as it helps understand which individuals should act cautiously and reduce contact with others and which ones can go back to work or support critical societal functions. Until a system allowing these kinds of checks is in place, decision-makers must make large sweeping calls at times when it is very difficult to distinguish between those that are infected by the virus and can contaminate others from those that are not.

Shortage of swabs and reagents are in part what hinders large scale testing. Recent data on testing shows in the Unites States about 3,8 thousand per million of individuals are tested for the virus, whereas Italy, South Korea and Germany are closer to 10 thousand[10]. Hospitals and biotech companies are set to develop better techniques and produce more test kits. Several new testing methods have been filed for emergency use approvals with WHO and the FDA. The medical community is hopeful that these tests can provide answers within a period as short as a few hours. Today the time it takes for tests to generate results ranges between several hours and several days. Some of the most promising tests currently in trial use a simpler technique called loop-mediated isothermal amplification (LAMP)[11], which is even faster, takes approximately half an hour, and does not require advanced equipment to be used. Meanwhile, the FDA has now approved first antibody test from a biotech company called Cellex, which instead of looking for the virus discovers if a person has built antibodies against it.

Vaccine: Calls for a vaccine have been expressed early into this crisis. However, current estimates propose that a vaccine will be ready at the earliest in 2021[12], which would be a record in terms of product to market. This further emphasizes the need for a swift response to the shortages of equipment, as it is unclear when we will be able to rely on a vaccine in order to reduce the number of cases. Once a vaccine is ready for market, there will be another threshold which will have to be overcome – distribution between large numbers of people. Distribution can pose a major challenge, especially in countries with weak supporting infrastructure. Innovation and solutions for distribution can become a critical element when the vaccine is ready.[13]

How market actors can help

The shortage of medical equipment and potential disruptions in the global food system have by now ignited a response in the already turbulent market. For example, actors such as Scania, Apple, Absolut vodka, Pfizer, Bauer and even Formula 1 teams have rearranged their productions to produce some of the critical equipment needed such as medicines, hand sanitizers, face masks, goggles and face shields. Civil society, universities and organizations donate and produce what they can to reduce the critical shortage of equipment. Trump recently invoked the defense production act, normally used during wartime, to engage automotive producers such as GM, Tesla and Ford in producing ventilators in collaboration with existing producers such as GE Health Care and Medtronic to ramp up production.

Moreover, the financial industry can play a significant role in maintaining the proper functionality of the global food system. Financial support should be aimed at addressing the previously outlined challenges: labor shortages,

[10] Ourworldindata.org/covid-testing
[11] https://www.finddx.org/covid-19/pipeline/ and Karolinska Institutet (KI)
[12] National Institute of Allergy and Infectious Diseases, US.
[13] Harvard Business Review; hbr.org/2020/04/a-covid-19-vaccine-will-need-equitable-global-distribution

transport and distribution disruptions and changes in consumer behavior. One of the ways in which financial actors can address these challenges is by providing support to vulnerable populations. Previous outbreaks have shown that measures to protect vulnerable populations can serve to eliminate or reduce the negative impacts of labor shortages. Financial measures supporting smooth logistical operations and international trade, as well as development of new solutions for personal food delivery, can further assist in ensuring ample food supply, in particular to individuals in risk groups whose movements are restricted due to the pandemic.

Furthermore, extreme changes in consumer behavior, such as panic and hoarding tendencies or a rapid decline in consumption due to lockdowns, can be avoided by expansion of market transparency through financial assistance. Production and assurance of supply can be boosted by financial support to small and medium size businesses, which contribute to food distribution and consumption. As of end of March, 45 countries have already implemented or expanded safety measures in relation to the pandemic[14]. These measures should and often do include financial assistance for vulnerable individuals and businesses. For example, the Italian government implemented a number of measures aimed at supporting the fishing and agriculture sector.

The role of labelled bonds

In addition to the shortage of medical equipment and food supplies, many countries are experiencing severe economic downturns leading to liquidity squeeze, mass bankruptcies and rising unemployment. Both governments and private institutions across the world have put into effect initiatives to support the economy, and the labelled bond market is well positioned to play a role in this effort. In fact, social and sustainability bonds have already been used as instruments to raise financing for combating COVID-19.

IFC has issued two social bonds for this purpose; A 3-year USD 1bn social bond that is specifically aimed at reducing the economic impact and job loss in the private sector of developing countries. And a 3-year SEK 3bn (USD 299m) social bond, of which Alecta invested SEK 2bn, that in addition to helping the private sector of developing countries will provide direct support to strategic sectors, including medical equipment and pharmaceuticals. These initiatives are part of the USD 14bn package developed by IFC and the World Bank, of which USD 8bn will be financed by IFC.

The Nordic Investment Bank (NIB) raised a 3-year EUR 1bn Response Bond that will alleviate the social and economic consequences of COVID-19 in their Nordic and Baltic member countries. This will be achieved through loans to the public sector, including the financing of temporary and permanent healthcare measures and social security expenditures, and to the private sector with the aim of supporting small and medium sized enterprises, mitigating the risk of supply chain disruptions and helping large companies in the medical equipment and healthcare sector.

The response in Europe will also be supported by The European Investment Bank (EIB), which issued a 3-year SEK 3bn (USD 299m) Sustainability Awareness bond under its existing framework. This is part of a EUR 40bn support package that will help both the private sector in general and the health sector in particular. In addition, European Central Bank Chief Christine Lagarde encouraged European finance ministers to create one-off “corona bonds”, the

[14] Food and Agriculture Organization, US; http://www.fao.org/3/ca8388en/CA8388EN.pdf

proceeds of which would be allocated to combating the outbreak. Therefore, we might see further development on a country level in the coming weeks.

The response in China has been partly funded by the Bank of China's dual-tranche HKD/MOP social bond (USD 640m) aimed at combating COVID-19. This is the first offshore social bond issued from a Chinese institution and it will help SMEs manage the outbreak and encourage growth when the economy stabilizes. The African Development Bank has issued a 3-year USD 3bn social bond whereby the proceeds will used be for the Bank's Social Bond program with the specific aim of supporting countries and businesses that are negatively affected by the pandemic of COVID-19. This is the largest social bond ever issued to date. The IADB (Inter-American Development Bank) has committed USD 12bn to combat the outbreak of the new disease, which will be partly funded by a 5- year USD 2bn Sustainability bond under their existing framework.

Pfizer is the only company from the corporate sector so far that has issued a labelled bond in response to COVID-19. Their 10 year USD 1.25bn sustainability bond will include investment in manufacturing and development of medicines and vaccines for COVID-19, as well as financing of health systems in low and middle income countries.

The examples above show that development banks across the globe have in a short time span used their existing sustainability and social bond programs to fund initiatives against the COVID-19 pandemic. In the near future, it is likely that we will see more frameworks that are specifically tailored to mitigate the negative effects of the ongoing pandemic and prevent or prepare for new outbreaks in the future. This could, as outlined in this article, be focused on securing the production and supply chain of medical equipment and food systems and provides opportunity for addressing these challenges in a transparent and well-structured manner.

Preparedness for the future

Pandemics have occurred throughout history and appear to become more frequent, particularly due to the increasing emergence of viral diseases originating from animals in combination with a more integrated world, which enables diseases to spread more rapidly across the globe. Therefore, a preparedness must be established on a global, national and local level to better handle such crisis in the future. Response efforts will have to be flexible as pandemics vary widely in the scale of their potential health, economic, and sociopolitical impact, as well as the resources, capacities, and strategies required for mitigation. As this article suggests, transparent and well-structured financial solutions can play a significant role in addressing the disruptions to the vital functions of the global food system and the supply of medical equipment.

As a concluding point, we would like to highlight that any crisis, even the one we are facing today, can be followed by good and constructive initiatives that can contribute to improvement of the overall system. Consolidations, new industries and new structures arise, and companies develop new solutions and eventually adapt to new market conditions. This way a new sense of preparedness for the future is developed. Let us therefore conclude this article with a saying that can undoubtedly bring a glimmer of hope in a dire situation: "Never let a crisis go to waste".

John Gandolfo
Vice President and Treasurer
IFC
jgandolfo@ifc.org

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IFC: COVID-19 response

The crisis incited by the novel COVID-19 is unprecedented. The spread of the transportation, and even parts of countries have been closed in an effort to combat the virus. The pandemic is causing extensive economic disruption in emerging markets and developing countries alike. The priority today is to support the inundated health sector and the millions of employees and enterprises being hit by the crisis. IFC's experience from past shocks, including the global financial crisis in 2008, has taught us that keeping companies solvent is crucial to saving jobs and limiting the economic damage. We have also learned that speed is of the essence at such times. During the West African Ebola crisis, more than 11,000 people lost their lives and the economic impact amounted to about a third of the combined GDPs in the three most-affected countries. IFC responded to Ebola with at least $450 million in commercial financing to support trade, investment, and employment. The initiative included funds for rapid response projects, and for longer-term investments tied to post-epidemic economic recovery.

Supporting the private sector is critical to restoring economic stability and preserving jobs. Applying lessons learned from the previous crises in response to the global coronavirus pandemic, IFC is providing fast-track financial support to private companies to sustain economies and protect jobs during this period of significant global uncertainty. We have now approved $8 billion in fast-track financing to help companies affected by the outbreak. This forms part of the larger World Bank Group's commitment of $14-billion fast-track financing package.

As we consider the impact across the globe through supply-chain disruptions, decreased demand and overall market anxiety, IFC aims to support its clients to cushion the economic blow through financing that will help them continue to operate. The financing package will provide direct lending to companies affected by the outbreak, as well as support to financial institutions so they can continue lending to businesses. If the situation endures, companies may have no option but to downsize their operations, resulting in lay-offs of employees. The stress is especially great on micro, small and medium-sized enterprises, which are extremely susceptible to global shocks. Our response is to help companies continue to operate, and employees continue to receive wages, during this challenging time for economies around the world. IFC's response to the COVID-19 crisis has four components:

1. $2 billion from the Real Sector Crisis Response Facility, which will support existing clients in the infrastructure, manufacturing, agriculture and services industries vulnerable to the pandemic. IFC will offer loans to companies in need, and if necessary, make equity investments. This instrument will also help companies in the healthcare sector that are seeing an increase in demand.

2. $2 billion from the existing Global Trade Finance Program, which will cover the payment risks of financial institutions so they can provide trade financing to companies that import and export goods. IFC expects this will support small and medium-sized enterprises involved in global supply chains.

3. $2 billion from the Working Capital Solutions program, which will provide funding to emerging-market banks to extend credit to help businesses

shore up their working capital, the pool of funds that firms use to pay their bills and employees' salaries.

4. $2 billion from the Global Trade Liquidity Program, and the Critical Commodities Finance Program, both of which offer funding and risk-sharing support to local banks so they can continue to finance companies in emerging markets.

While rapid action is required, IFC will maintain its high standards of accountability. IFC management will approve projects based on credit, environmental and social governance and compliance criteria, as applied in past crisis responses.

Our loans to clients are funded primarily through our market borrowings which comprise established sustainable bond programs: IFC's Social Bond Program and IFC's Green Bond Program. IFC's funding program for this fiscal year ending June 30, 2020 remains at $14 billion in size, with $10 billion already issued. The current pandemic has given rise to the demand for social bonds. Following our announcement of the financing package for COVID-19, we issued our largest ever social bond a $1 billion (no-grow) 3-year Global SEC Exempt transaction. The deal gathered exceptional investor interest of over $3.4 billion despite the volatility in the market and following the worst day in the financial markets since the 2008 crisis, which saw equities and oil tumble and US treasury yields trade significantly lower across the curve. This is a testament to the fact that investors are keenly interested in supporting the alleviation of social issues for underserved communities in developing countries. We have been active in the Swedish Kronor market with our largest ever SEK trade which was underwritten by SEB – a SEK 3 billion 5-year now upsized by SEK 450 million due to continued investor demand. In our capacity as a chair of the Social Bond Working Group, we also have drafted illustrated case studies for potential corporate issuers who may be considering the social bond market. The severity and duration of the outbreak remains uncertain. We need to combat the effects of the virus through fast action, while continuing to maintain high standards of integrity and transparency.

Lars Eibeholm
Head of Treasury
NIB
lars.eibeholm@nib.int

Luca De Lorenzo
Head of Sustainability and Mandate
NIB
Luca.DeLorenzo@nib.int

Jens Hellerup
Head of Funding & Investor Relations
NIB
jens.hellerup@nib.int

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NIB: COVID-19 response

'Extraordinary times call for extraordinary measures'

Goes the saying, and it summarises perfectly the rationale behind NIB's Response Bond.

"We expect the Nordic Investment Bank to support sustainable businesses facing short term liquidity problems due to the crisis" - the Governors of the Nordic Investment Bank (NIB) stated in late March 2020. The statement continued, "It is also of utmost importance that the Bank seeks out businesses under strain and assists them in bridging the effects of the current crisis. The Bank should support member states' businesses to the widest extent possible to overcome the crisis".

However, in extraordinary times it is also important to maintain integrity and to not dilute well-established concepts, such as the "use of proceeds" bonds. Despite its important role for society's response to the social and economic shocks, the NIB Response Bond framework should not be considered 100% compliant with the Social Bond Principles (SBP). Under these circumstances, it is important to maintain transparency and keep the long-term objectives in sight.

Since its inception in 1976, NIB has had the ultimate mandate to support the economic and societal well-being of its member countries through providing long-term financing to sustainable projects. Over the past decade, this has meant focussing NIB's financing towards building a sustainable economy across the Nordic/Baltic countries, an economy that considers productivity growth in careful respect of social impact and the environment.

The recent COVID-19 pandemic does not change NIB's mission, yet it does require a sharper and more immediate focus on the task at hand. We need a special, short-term focus to resolve the current crisis and allow our economies to remain on track for the much-needed, long-term shift towards sustainability.

NIB's Response Bond is a way to directly channel investments towards alleviating the social and economic consequences of the pandemic. The Response Bond also supports NIB in providing transparency, and communicating a clear strategy, to investors and stakeholders. The "response loans" associated with the bond will be tracked separately from NIB's regular long-term lending towards projects that support productivity and protecting the environment.

The Framework follows the spirit of the four main components from the SBP and is built on the strong governance of the NIB Environmental Bond but has not obtained a Second Party Opinion. Some of the proceeds may be used to tackle short term liquidity needs, which are potentially not aligned with the long-term social and environmental targets.

So as not to jeopardise the integrity of the SBP, nor that of its own long-term objectives, NIB has decided to use the label "Response Bond" as opposed to a social bond.

As with NIB's Environmental Bonds and Blue Bonds, NIB's Sustainability & Mandate unit (SUM) will ensure that loans eligible for funding by the NIB Response Bonds are used according to the criteria set out in the NIB Response Bond framework. Effectively, the project evaluation and selection will be conducted with a focus on COVID-19 mitigation drivers.

The Use of Proceeds will be allocated to the following three categories:

1. **Lending to public sector**
    a. Financing of temporary and permanent measures to increase capacity in healthcare services
    b. Financing of temporary increase in social security expenditures, including, but not limited to, unemployment, sickness, child- and elderly care benefits
    c. Financing of government or government-related institutions' expenditures aimed at supporting member country companies in temporary need of subsidisation due to supply or demand side disruptions in their operations in order to protect viable companies

2. **Lending to financial sector**
    a. Financing of financial institutions' extraordinary measures to provide funding forsmall and medium-sizes enterprises and mid-cap corporates that are negatively affected by the pandemic

3. **Lending to real economy sector**
    a. Financing of large companies in the medical equipment and healthcare sector facing an increasing demand for equipment or services related to the pandemic
    b. Financing of companies in the infrastructure sector that are in need of funding due to supply or demand side disruptions in their operations

For a detailed description of the Use of Proceed, please see the NIB Response Bond Framework.

In addition to the eligible categories listed above, the following general criteria for loan identification and selection apply:

- That the proceeds are used to finance projects in NIB's member countries
- That the loan is not used for activities on NIB's Exclusion List
- That NIB has access to reliable data for reporting on allocation of proceeds and impact to the extent possible

Eligible projects will contribute to the UN Sustainable Development Goals: 3 - Good Health and Well-being; 8 - Decent work and Economic Growth; 9 - Infrastructure; and 10 - Reduced Inequalities.

Upon the completion of financed projects and activities, NIB commits to follow up on the allocation of funds across eligible categories and assess the results of COVID-19 mitigation efforts. On an annual basis, reporting will be made publicly available on the NIB website. NIB uses qualitative and quantitative performance indicators, whenever feasible, and discloses the key underlying methodology used.

On March 30 and on April 2, NIB issued a 1BEUR and a 4BSEK NIB Response Bond respectively.

Björn Bergstrand
Head of Sustainability
Kommuninvest
Bjorn.Bergstrand@kommuninvest.se

Torunn Bråå
Head of Green Finance
KBN Norway
tob@kommunalbanken.no

The Paper is available for download from the signatories' web pages such as munifin.fi, kbn.com, kommuninvest.se and also from the ICMA Resource Centre for Green, Social and Sustainability Bonds, icmagroup.org.

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Nordic issuers release update to impact reporting guidance

Since 2016, a group of Nordic public sector green bond issuers[15] have cooperated on harmonising and advancing green bond impact reporting practices across the Nordic region.

The group recently published an update to its impact reporting guide, the Nordic Position Paper, with the following major revisions:

- Recommendations have been added to reflect the EU Green Bond Standard (EU GBS) and the Taxonomy of environmentally sustainable activities, including to provide both allocation and impact reporting, to distinguish between financing and refinancing, and to consider reporting contributions to the EU Environmental Objectives.

- The baseline emission factor for electricity has been revised downward, from 380 g CO_2e/kWh to 315 g CO_2e/kWh, to echo updated grid factors from the International Energy Agency (IEA) and the International Financial Institutions (IFIs), and to reflect a more ambitious expected decarbonisation of the European energy grids.

Developed as a practical user guide and "first-point-of-entry" for issuers engaged in impact reporting, the Nordic Position Paper primarily targets the Nordic market, but the signatories hope it will be used also by issuers from the private sector and other countries as well as by the investor community. The recommendations build on and reference the reporting approaches suggested by the Green Bond Principles and the IFIs, including the European Investment Bank (EIB) and the Nordic Investment Bank (NIB).

Deciding on a joint approach for estimating the impact of electricity used, reduced or produced has been one of the important tasks of this group, since the emission factor for electricity is a key assumption when calculating the environmental impact of the projects financed.

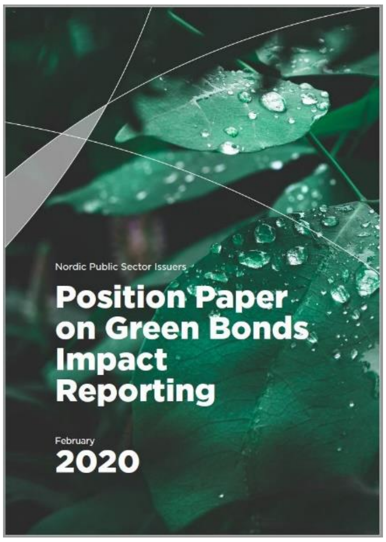
Now, for the first time, the emission factor has been updated to reflect mainly a more ambitious expected decarbonisation of the European energy grids.

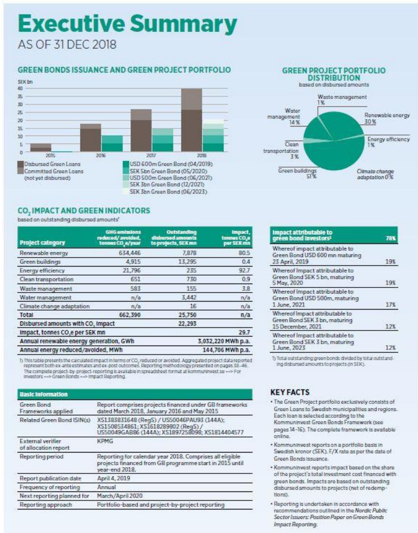
We believe that the revision of the grid factor to result in less reported CO_2 impact is good news, since this means the development of our energy systems is going in the right direction. The revision will lower the positive impact of energy efficiency projects and renewable energy production, whilst reducing the negative impact of an increased use of electricity, be it for electrical bus fleets or the operation of a project.

[15] The group include the local government funding agencies Kommunalbanken (Norway), Kommuninvest (Sweden) and MuniFin (Finland); the Swedish Export Credit Corporation (SEK); and seven Swedish municipal or regional issuers including City of Gothenburg, the municipalities of Lund, Norrköping, Västerås and Örebro, Region Skåne and Region Stockholm. Crédit Agricole CIB, the Nordic Investment Bank and SEB has advised the group. The paper has also benefited from input from CICERO Center for International Climate Research as well as several institutional investors.

The 2020 edition of the Nordic Position Paper also emphasizes the need for issuers to maximize transparency and usability of impact reports, to assist investors and other stakeholders in their search for (aggregated) impact data.

We therefore encourage issuers to consider both ease of access and ease of use when they make their impact reporting data available to stakeholders. To this end, the Paper includes an executive summary reporting template, to provide a clear and concise summary of green bond and green investment activities.





On behalf of the Nordic Public Sector Issuers

This report was published on 08 April 2020. Cut-off date for calculations was 31 March 2020, unless otherwise stated.
Subscribe / unsubscribe to The Green Bond by sending an e-mail to:
greenbonds@seb.se

Christopher Flensborg
Head of Climate & Sustainable Finance
Phone: +46850623138
christopher.flensborg@seb.se
Assistant: lina.apsheva@seb.se

Gunilla Svennson
LC&FI Marketing & Communications
gunilla.Svensson@seb.se

Mats Olausson
Senior Advisor
Climate & Sustainable Finance
mats.olausson@seb.se

Gabriella Eriksson
Advisor, Specialist Green Library
Climate & Sustainable Finance
gabriella.eriksson@seb.se

Kristoffer Nielsen
Advisor
Climate & Sustainable Finance
kristoffer.nielsen@seb.se

Olle Billinger
Advisor
Climate & Sustainable Finance
olle.billinger@seb.se

Theo Kinnersley
Junior Analyst
Climate & Sustainable Finance
theodore.kinnersley@seb.se

Lina Apsheva
Junior Analyst
Climate & Sustainable Finance
lina.apsheva@seb.se

Carol Au-Yeung
Climate & Sustainable Finance Asia
carol.au.yeung@seb.se

Anna Svensson, CFA
Head of International Credit Sales
anna.x.svensson@seb.se

Urban Josefsson
Head of International Financial Institutions Coverage
urban.josefsson@seb.se

Thomas Thygesen
Editor
Head of Strategy, Head of Research, Climate & Sustainable Finance thomas.thygesen@seb.dk

Elizabeth Mathiesen
Senior Strategist
Equity Strategy Research
elizabeth.mathiesen@seb.dk

Tine Vist
Quantitative Strategist
Equity Strategy Research
tine.vist@seb.dk

Steven Brooker
Head of Financial Strategy Denmark
steven.brooker@seb.dk

Caroline Lehmann Christiansen
Analyst
Financial Strategy
caroline.christiansen@seb.dk

Charlotte Asgermyr
Chief Covered Bond and FI Market Strategist
Macro & FICC Research
charlotte.asgermyr@seb.se

Lars Dybwad
Head, Macro Sales, Norway
lars.dybwad@seb.no

Miikka Riihimäki
Head, Macro Sales, Singapore
miikka.riihimaki@seb.fi

Martin Bergqvist
Head, Markets, Hong Kong
martin.Bergkvist@seb.se

Sascha Köhler
Head of Institutional Sales DACH
sascha.koehler@seb.de

Sir Roger Gifford
Senior Banker, Large Corporates & Financial Institutions, London
roger.gifford@seb.co.uk

Bo Madsen
FI Sales, Denmark
bo.madsen@seb.dk

Paul Bergel
Macro & Credit Sales New York
paul.bergel@sebny.com

Anders Wickman
London UK Sales, Fixed Income
anders.wickman@seb.co.uk

Vincent Vennberg
FI Sales
vincent.vennberg@seb.se

Fredrik von Platen
Debt Capital Markets
fredrik.vonplaten@seb.se

Frank Teuber
Debt Capital Markets
frank.teuber@seb.de

Marcus Jansson
Debt Capital Markets
marcus.jansson@seb.se

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