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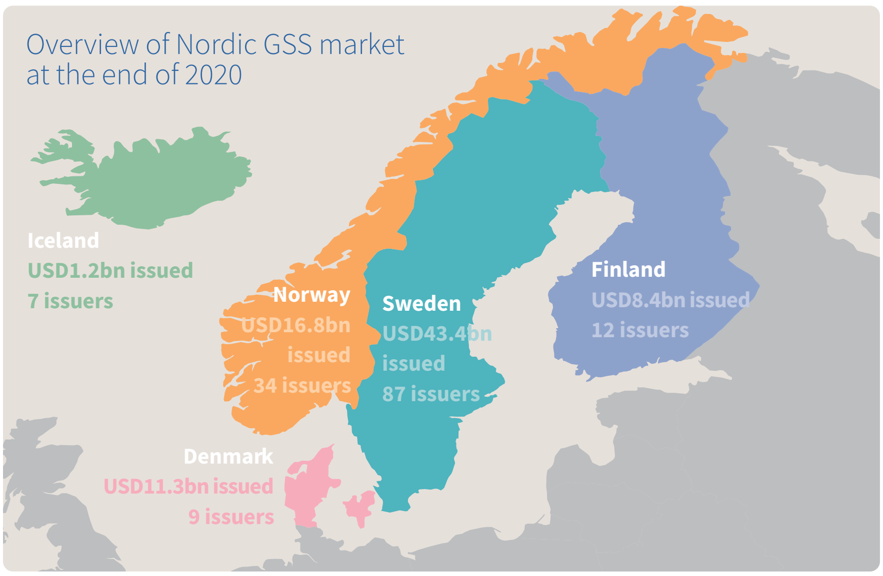
Prepared by the Climate Bonds Initiative

Nordic Sustainable Debt
State of the Market 2020

About this report

This report describes and analyses the latest developments in the Nordic sustainable debt finance landscape. Following from the inaugural Nordic Green Bond State of the Market report published in 2018, this paper provides an updated and extended overview of the shape and size of the green, social and sustainability (GSS) themed debt market in all five regional countries: Sweden, Norway, Denmark, Finland, and Iceland. The analysis also covers the growth potential of GSS bonds and climate finance, including through unlabelled investments into climate change solutions. Finally, the report includes an in-depth look into the policy landscape and other drivers of the Nordic sustainable finance agenda. All data in the report is up to the end of 2020, as of February 28th, 2021, unless otherwise specified.



Contents

Overview of Nordic GSS market at the end of 2020

Country		GREEN	SUSTAINABILITY	SOCIAL
Sweden	USD issued	42.1bn	273m	956m
	Number of issuers	82	2	2
Norway	USD issued	16.8bn	N/A	N/A
	Number of issuers	34	N/A	N/A
Denmark	USD issued	11.3bn	N/A	N/A
	Number of issuers	9	N/A	N/A
Finland	USD issued	7.7bn	N/A	709m
	Number of issuers	11	N/A	1
Iceland	USD issued	0.8bn	356m	53m
	Number of issuers	5	1	1
NIB	USD issued	5.6bn	N/A	1.5bn
Total	USD issued	84.3bn	629m	3.3bn
	Number of issuers	142	3	6

About Climate Bonds Initiative

The Climate Bonds Initiative is an international organisation working solely to mobilise the largest capital market of all, the USD100tn bond market, for climate change solutions.

We promote investment in projects and assets necessary for a rapid transition to a low carbon and climate-resilient economy.

The strategy is to develop a large and liquid Green and Climate Bonds Market that will help drive down the cost of capital for climate projects in developed and emerging markets; to grow aggregation mechanisms for fragmented sectors; and to support governments seeking to tap debt capital markets. We do this via three main workstreams: market intelligence provision, policy and advocacy work, and standard-setting.

Methodology

Scope of analysis

This report includes analysis of all three main sustainable debt themes – Green, Social, and Sustainable. The identification of these themes is based on the projects, assets, activities, and expenditures financed by each instrument.

The themes can be described as follows:

Green: dedicated environmental benefits (captured since 2012)

Social: dedicated social benefits (captured since 2020)

Sustainability: green and social benefits are combined into one instrument (captured since 2020).*

Methodology overview

All analysis in this report is based on data derived from the Climate Bonds Green, and Social and Sustainability Bond Databases. To qualify for inclusion, debt instruments must a) have been labelled by the issuer and b) finance sustainable projects, activities, or expenditures.

Debt labels are set/chosen by the issuer to describe the types of projects, activities, or expenditures financed, and/or their benefits. 'Green', 'social', and 'sustainability' labels are the most common in each theme, but a broad range of labels is used.

Green

All deals in the green theme have been screened for inclusion in the relevant database. Screening is based on a set of process rules stipulated in the Climate Bonds Green Bond Database Methodology, including the following two overarching criteria:[1]

1. Deals must carry a variant of the green label (e.g. green, blue, climate awareness, climate resilience)

2. Net proceeds must verifiably (based on public disclosure) meet Climate Bonds' green definitions based on the Climate Bonds Taxonomy[2]

Climate Bonds review all green debt instruments and their use of proceeds to ensure their green credentials, and then classify them accordingly.

Only bonds with 100% of net proceeds dedicated to green projects are eligible for inclusion in the Green Bond Database. If proceeds are partially allocated to non-eligible categories, or there is insufficient information, instruments may also be classified as one of the following:

Pending bonds are deals in the process of being evaluated, namely due to missing information which prevents inclusion or exclusion of a bond. A decision on inclusion or exclusion is made within a maximum 90 days from the date of discovery for each instrument to allow time for information exchange between Climate Bonds and the issuer, underwriter(s), external review provider(s) or equivalent. The typical duration for the bond review process is between one week and 30 days.

Excluded bonds are those deals whose net proceeds are partly or fully allocated to non-eligible categories, or where there is insufficient information to determine their alignment with the Climate Bonds Taxonomy. Exclusion can thus occur at any point between settlement and the end of the 90-day review period.

Social and sustainability

A comprehensive "social taxonomy" or equivalent classification and screening system does not yet exist in the market, though work on this is underway in the EU and elsewhere.[3] Social and sustainability bonds' use of proceeds are therefore not screened against performance thresholds. Instead, they are classified in accordance with the respective labels and categorised as follows:

Sustainability: label describes a combination of green and social projects, activities, or expenditures e.g., sustainable, SDG, SRI, ESG, etc.

Social: label is exclusively related to social projects e.g., housing, gender, women, health, education, etc.

Pandemic: a COVID-19 related label, such as pandemic, response, COVID-19 response, etc. Pandemic bonds are considered a sub-set of social-themed bonds as outlined above.

Not included in this report

Performance-linked instruments

Performance or KPI-linked debt instruments are excluded from this analysis. These instruments raise general purpose finance and involve penalties (e.g. coupon step-ups) if the issuer does not meet pre-defined, time-bound sustainability performance improvements. The two main types of instrument are commonly referred to as Sustainability-Linked Bonds (SLBs) and Sustainability-Linked Loans (SLLs).

Climate Bonds does not yet track the global market sizes of SLBs or SLLs, preventing inclusion of these debt categories in this analysis. However, coverage of and standards for performance-linked instruments are currently in development and the theme is discussed in the context of country-specific growth prospects on pages 10 to 16.

Transition labels

Transition finance describes instruments financing activities that are not low- or zero-emission (i.e. not eligible under existing green definitions), but have a short- or long-term role to play in decarbonising an activity or supporting an issuer in its transition to Paris Agreement alignment. No transition-labelled bonds have been issued in the Nordic countries. Further, the eligibility definitions and performance thresholds (distinct from process guidelines, including the ICMA Climate Transition Finance Handbook) for transition-related assets, projects, and activities are still being developed. Transition bonds are thus excluded from the analysis in this report.

*The coverage of all of the three themes and their constituent deals dates back to market inception of each theme, e.g. 2007 for green bonds.

Nordic sustainable bond market highlights

Introduction

The Nordic region is made up of a group of five relatively wealthy welfare states: Finland, Denmark, Iceland, Norway and Sweden. Most of these countries are sparsely populated and characterised by their natural surroundings, on which they draw to drive both economic gain as well as general happiness. Along with a strong societal support system, these are some of the key traits shared by these countries – ranked among the world's happiest for close to a decade.[4]

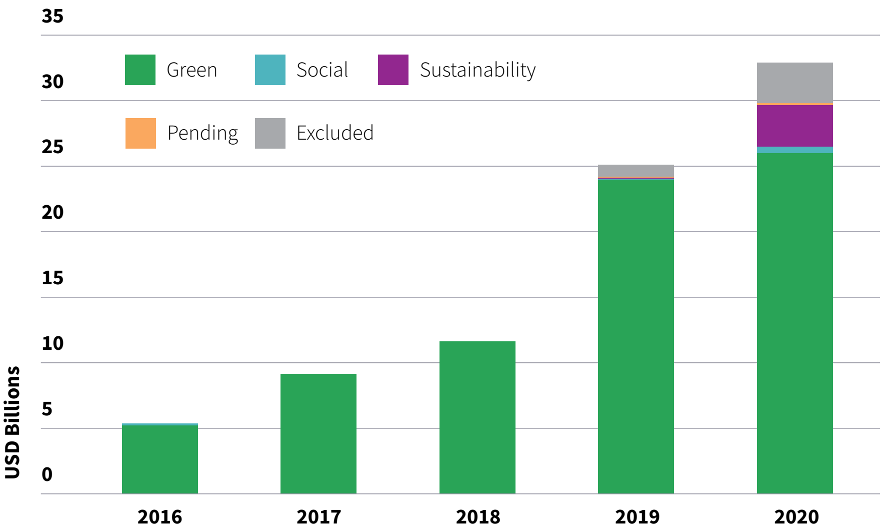
Against this backdrop, the region's early adoption of sustainable finance compared to the rest of Europe and the world came as no surprise. The Nordic social model was extremely conducive to especially public sector entities embracing sustainable finance mechanisms, beginning with green bonds. Indeed, the region's sole multilateral finance institution Nordic Investment Bank (NIB) and Norway's dedicated Local Government Funding Agency (LGFA)[i] KommunalBanken Norway (KBN) were the first to issue labelled green bonds in February and May of 2010, respectively. The public sector dominance is a feature of the market that Climate Bonds analysed extensively in the inaugural Nordic Green Bond State of the Market report published in 2018.[5]

From green to GSS

Since NIB's and KBN's inaugural issuances, the region's thematic bond market has grown beyond the public sector into all issuer types, and expanded from green into other labels, encompassing the entire GSS (Green, Social and Sustainability) trio: **as of end 2020, the total cumulative volume of Nordic GSS labelled bonds stood at 88.2bn. This amounted to 23% growth since 2019.**

Overall, **Nordic countries make up 5% of global GSS issuance** – a striking number for a small group of countries whose corresponding shares of the world's population and GDP are only about 0.3% and 0.2%, respectively.[6] Most of this (96%) is comprised of green bonds, followed by minor but growing shares of sustainability and social-themed bonds. Due to the dominance of green-themed debt, the analysis in the below sections is focused on green bonds with remarks on each of the other labelled deals in the relevant Country overview sections.

Nordic GSS bond issuance grew steadily in 2020



Source: Climate Bonds Initiative, 2021

Beyond labelled bonds

Climate Bonds analysis finds that in addition to labelled GSS bonds, the Nordic region is also home to 24 issuers of unlabelled climate-aligned bonds, or vanilla instruments issued by entities whose revenues arise mostly from activities related to climate change solutions. As these companies expand their operations and refinance existing debt, a further USD21.6bn of outstanding debt volume spread across 156 active securities has the potential to be labelled green. Nordic climate-aligned bonds and issuers are discussed further on page 17.

Policy landscape: Net zero pledges and regional leadership

The Nordic region's climate neutrality ambitions rely on regional collaboration and state level action. All of the countries have set net zero targets with the time frames ranging from Finland's 2035 to Sweden's 2045.

Key financial system actors are also hopping on the bandwagon of setting net neutrality target, with some of the Nordic banks being among the first financial institutions in the world to do so.

The region has, like the rest of the world, been hit by the COVID-19 pandemic, and reacted quickly with regional collaboration as well as country-specific measures. Looking forward, the impact of the EU Taxonomy will be significant for the region. Points of contention remain, especially as they relate to the real estate sector and buildings overall, which make up a hefty chunk of existing GSS issuance in the Nordic countries.

i. The five Nordic LGFAs that have issued green bonds so far are Kommuninvest (SE), KBN (NO), KommuneKredit (DK), MuniFin (FI) and Municipality Credit Iceland.

Green Bond Market Analysis

Overview of Nordic Green Bond Market as of 31/12/2020*

Country	Global ranking	Size of market (USD issued)	Number of issuers	Number of instruments	Average size of instrument	Number of currencies
Sweden	7th	42.1bn	82	416	103m	6
Norway	12th	16.8bn	34	97	172m	9
Denmark	16th	11.3bn	9	28	405m	7
Finland	21st	7.7bn	11	20	340m	5
Iceland	45th	0.8bn	5	22	35m	2
NIB	N/A	5.6bn	N/A	22	255m	7
Total		**84.3bn**	**183**	**605**	**143m**	**14**

*All figures are rounded to the nearest million.

Nordic market shows healthy growth rates

A vast majority (96%, or USD84.3bn) of the Nordic GSS cumulative total is contributed by labelled green bonds. The average year-on-year growth rate since inception in 2010 has been a healthy 158%, with the largest jump (12x) visible between 2012 and 2013, while the market was still in its infancy.

COVID-19 clearly dampened growth last year, with only a 7% rise versus 2019, corresponding to a total of USD25.1bn and 17 new issuers. Issuance was slower for the first half of the year, only picking up in September when the monthly total reached a record USD6.9bn thanks to the region's debut sovereign green bond from Sweden. The remainder of the year was more active with monthly issuance ranging from USD2.4bn to USD3.9bn. For comparison, the average monthly green bond issuance in 2020 was USD2.2bn, and in 2019 the corresponding figure was USD2bn – amounting to an 8% increase.

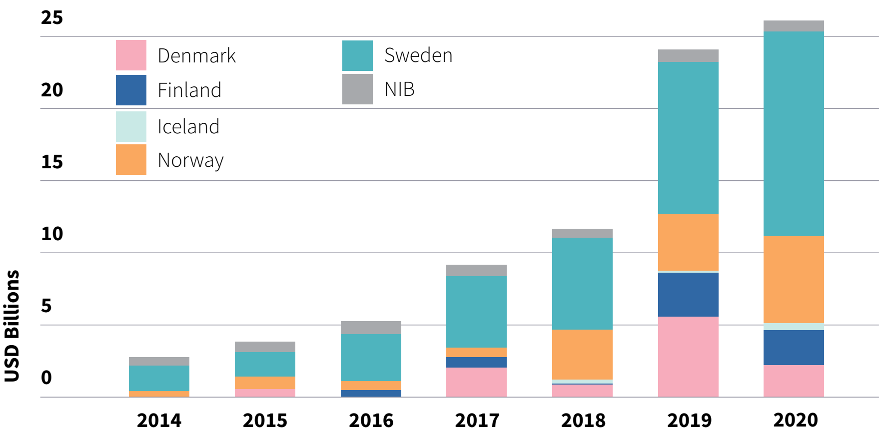
The modest annual growth rate is broadly in line with developments in green bond markets worldwide, which Climate Bonds has covered extensively for some time and will extend in an upcoming Global Sustainable Debt State of the Market report due at the end of April 2021.

The maintenance of modest growth and the first Nordic sovereign bond in 2020 were positive signs of both issuer and investor confidence in the region's green bonds. This stability was almost certainly also aided by the strong continuing presence of public sector and corporate issuers (see Issuer Types below).

Sweden continues as regional leader

Half of the Nordic green bond volume comes from Sweden. The largest Nordic country by area and population, Sweden has maintained its early leadership position in green bonds vis-à-vis its Nordic neighbours, also leading the pack by number of issuers (82) and instruments (416). With these numbers Sweden is the sole Nordic representative in the cumulative top 10 of global green bond country rankings. The country also contributed the largest share of 2020 Nordic green bond volume (51%).

Sweden leads the region in green bonds



Source: Climate Bonds Initiative, 2021

ii. NIB is financed jointly by the Nordic and Baltic countries and finances projects exclusively in these regions.

Norway takes second place with a fifth of cumulative volume, adding a further 34 issuers and 97 deals. Similar to Sweden, Norway's 2020 share (USD6bn, 23%) was slightly higher than its cumulative one of 20% (USD16.8bn).

Denmark also exceeds the 10bn mark, with a total volume of USD11.3bn (13%) but only nine issuers, translating into a significantly larger average deal size than its peers. Denmark's share dipped to 9% in 2020, but the country made waves throughout the year with the early announcement and subsequent discussions around a possible sovereign green bond, to be issued in line with a novel green certificate model (see Country Overview section).

Finland and Iceland contribute a further 9% and 1% respectively to cumulative shares, with USD7.7bn and USD800m of volume and a total of 16 issuers (FI: 11, IS: 5). In 2020, both markets grew their corresponding shares of green issuance to 13% and 2%. The remaining 7% (or USD5.6bn) comes from Helsinki-headquartered supranational development bank NIB, whose 2020 issuance amounted to 3% of the total (USD715m).[ii]

Issuer types

Public sector as a cornerstone

The Nordic model and the strong presence of public sector entities continues to be reflected in the green bond space. About a third of the cumulative volume has been contributed by government-backed entities (32%), while local governments have contributed a further 7%. The largest issuers in both categories hail from Sweden: Kommuninvest, Swedish LGFA, joined the green bond market in 2016 and has printed a total of 12 deals worth a combined USD6.2bn. For direct local government funding, Sweden's capital region Stockholm (Stockholms Läns Landsting) takes the top spot with USD1.7bn and 11 deals. A total of 14 Nordic local governments have issued green bonds, with Sweden home to all but the capital cities of Norway (Oslo) and Iceland (Reykjavik).

National and supranational development banks bring a further 8% or USD6.8bn of Nordic green issuance. NIB has printed the majority (83%, USD5.6bn, 22 deals) of this volume, with the remaining USD1.2bn issued by Swedish Export Credit (12 deals).

Sweden's inaugural sovereign

Sweden is not only the largest Nordic green bond market, but also the only country in the region so far to have issued a labelled sovereign bond: its inaugural green bond (SEK2bn/USD2.3bn) came out in September 2020, immediately taking the top spot as the largest Nordic green bond, both in 2020 and to date. This sole bond brings the sovereign category to a modest 3% share of the cumulative total. Further potential for sovereign issuance is explored in the Country overview sections.

Corporate issuance surges

Corporates combined constitute the most prevalent issuer type in the Nordics. Their share has surged over time, now reaching a cumulative USD41.8bn or 50% of the total, split between financial (FI) and non-financial corporates (non-FI), respectively at 23% and 27%.

The largest corporate issuer is property company Vasakronan (Sweden, USD4.9bn cumulative), which continues to hold the top spot after being one of the first companies globally to issue green bonds, in November 2013. On the FI side, Norway's mortgage lending institution SpareBank 1 Boligkreditt leads, with USD3.3bn issued in four deals.

Corporate issuers helped to keep the market afloat in 2020, especially from a real economy perspective – the proportion of non-FI issuance grew to 35%. This category is also the one with the most deals (323 cumulative), and a diverse group of issuers with several smaller deals (see Deal size below). Financial corporates remained relatively steady in 2020 at 22%.

Green loans have a minor share

At the end of 2020, the market had seen two Nordic green loans amounting to USD608m or about 1% of total volume. The first borrower was Swedish real estate company Fabege AB – also a green bond issuer – signing a SEK1.6bn (USD177m) loan with a debt fund from Brunswick Real Estate in January 2019 to finance a green office building in Stockholm. In addition, Danish specialised fund manager Copenhagen Infrastructure Partners (CIP) borrowed EUR380m (USD431m) in July 2020 to continue its financing of the 487MW 'Monegros' wind portfolio in Spain.

Almost half of issuance in SEK

As of end 2020, Nordic green bonds had been issued in a total of 14 currencies. Hard currencies made up 43% of the running total, and 39% of 2020 issuance.[iii]

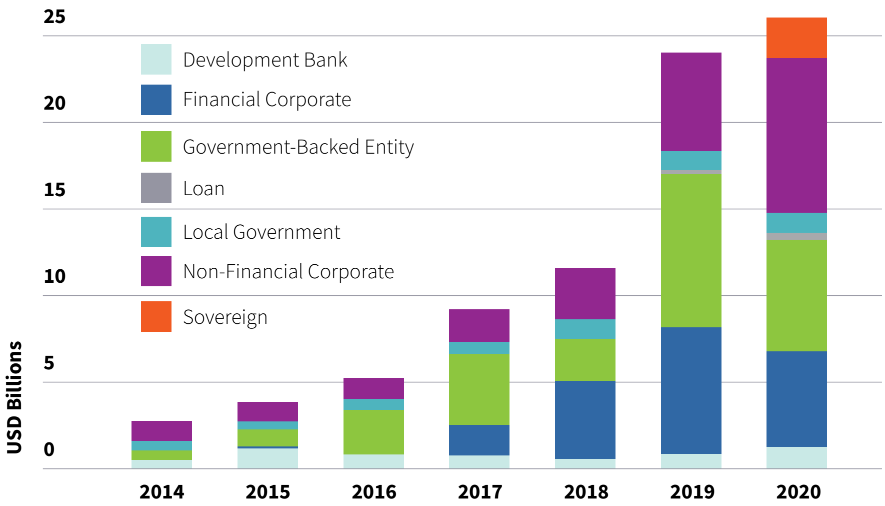
SEK prevails as the most popular currency, representing 46% (USD38.4bn equivalent) of cumulative volume and an equal share in 2020. The largest issuers of SEK-denominated green bonds are Kommuninvest (SEK37.5bn/USD4.1bn – nine deals) and Vasakronan (SEK32.9bn/USD3.8bn – 76 deals). SEK is also the 4th largest currency for green bonds globally in cumulative terms and annually in 2020.

EUR is the second most popular currency, responsible for approximately a further third (34% or USD28.5bn) of issuance on a cumulative basis, and a slightly greater slice (36%) of 2020 figures. The largest issuers in this currency are NIB (EUR3bn/USD3.4bn,, seven deals) and Denmark's LGFA KommuneKredit (EUR2.3bn/USD2.6b, 6bn6b, four deals). Norway's mortgage lender SpareBank 1 Boligkreditt and Danish energy company Ørsted both also exceed EUR2bn (USD2.4bn and USD2.1bn, respectively) with two deals each.

USD and other Nordic currencies have smaller shares of the running total (USD – 7%, NOK – 6% and DKK – 3%). In 2020, however, NOK was slightly more popular with 9% of issuance, whereas USD-denominated volume dropped to 2%.

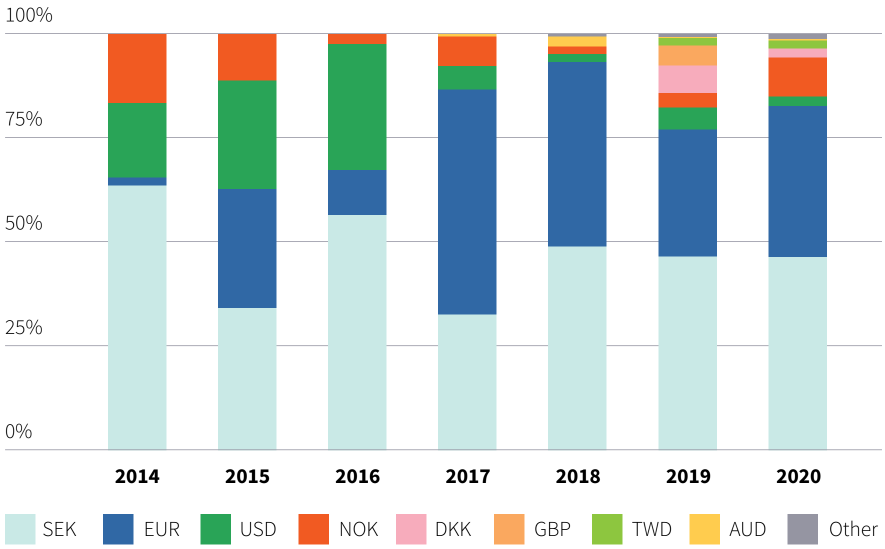
GBP-denominated bonds contribute 1.4% of cumulative volume and TWD 1.1%,%, with the remainder comprised of minor (<1%) shares of a mix of hard and soft currencies. These are mainly contributed by the region's development banks, including KBN and NIB. Icelandic issuers are the only ones to have issued in their domestic currency. Public utility Reykjavik Energy (Orkuveita Reykjavíkur) is in the lead with three deals tapped 12 times for a total of ISK32.1bn (USD240m).

Public sector issuers strong, corporates gaining ground



Source: Climate Bonds Initiative, 2021

Nearly half of Nordic green bonds issued in SEK, hard currency



Source: Climate Bonds Initiative, 2021

iii. Hard currencies: USD, EUR, GBP, CHF, JPY, CAD and AUD. Of these, only CHF and AUD do not appear in the Nordic market.

Larger sizes are common

Nearly half of Nordic green bond issuance comes from larger-sized instruments, with 49% of cumulative volume printed as benchmark-sized bonds (USD500m or larger). The USD500m-1bn category is the most prevalent with a 37% share. This share, which remained nearly static in 2020 (USD500m-1bn: 36%; USD1bn+: 13%) is roughly in line with the cumulative contributions of government-backed entities and financial corporate issuers, which tend to print larger deals. However, the largest deal of 2020 and to date is the Swedish sovereign (SEK20bn/USD2.3bn).

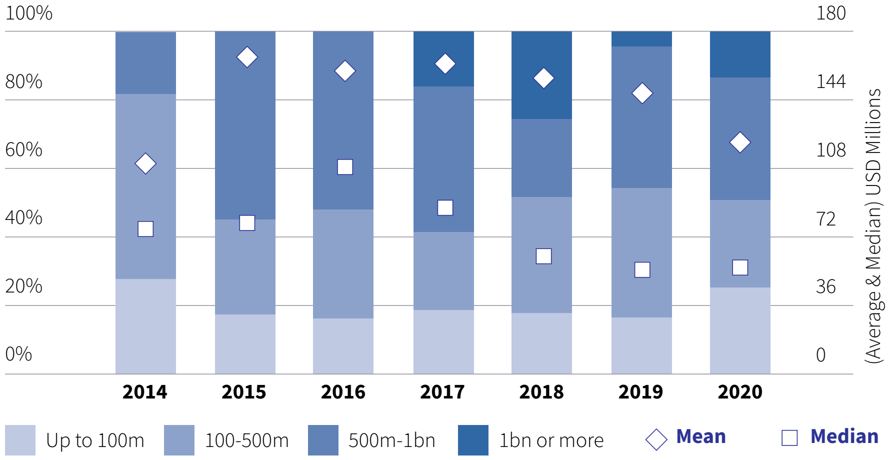
The USD100m-500m size range is also popular with nearly a third (32%) of cumulative issuance, the remaining 20% comprised by bonds up to USD100m. Non-financial corporates, local governments and the two Nordic development banks (Swedish Export Credit and NIB) are frequent issuers of deals in these ranges. The share of the smallest size bucket increased slightly to 26% in 2020, in tandem with the proportional growth of non-financial corporate issuance.

Particularly on the corporate side, the relatively high share of small deals versus other countries (especially European) is in part a reflection of the absolute sizes of the Nordic economies and thus the investment needs of companies operating in the real economy – domestically or even regionally. The debt capital markets in the Nordics are well-developed and fairly accessible to smaller corporates. Norwegian power utility Glitre Energi (NOK300m/USD31.6m, September 2020) as well as Sweden-based public transport company Nobina (SEK500m/USD50m, February 2019) offer pertinent examples. The recent growth of high-yield and non-rated green bonds has also likely contributed to a larger share of <USD100m deals.[7]

The mean (average) and median sizes of Nordic green bonds have remained relatively stable since 2014/2015, currently standing at USD139m and USD59m, respectively. This is a little over half of the global averages of USD260m (mean) and USD95m (median).

The mean size took a slight dip to USD122m in 2020, which was to be expected given the increase in non-financial corporate issuance. The median remained relatively stable at USD56m.

Half of volume from benchmark-sized deals, averages remain small



Source: Climate Bonds Initiative, 2021

Shorter tenors prevail

Nordic green bond tenors lean heavily toward the shorter side: tenors up to 10 years represent 91% or USD79bn of cumulative issuance.

The ≤5-year tenor bucket is the most popular with 48% of volume, and a slightly smaller yet substantial 36% share of 2020 issuance. As expected, short-dated green bonds are especially common among corporates, which comprise more than half (62%) of the 'up to 5 years' category. Perhaps more surprisingly, government-backed entities also feature heavily in this category, representing nearly a third (29%) – government-backed entities' green bonds have the most varied maturity profile overall.

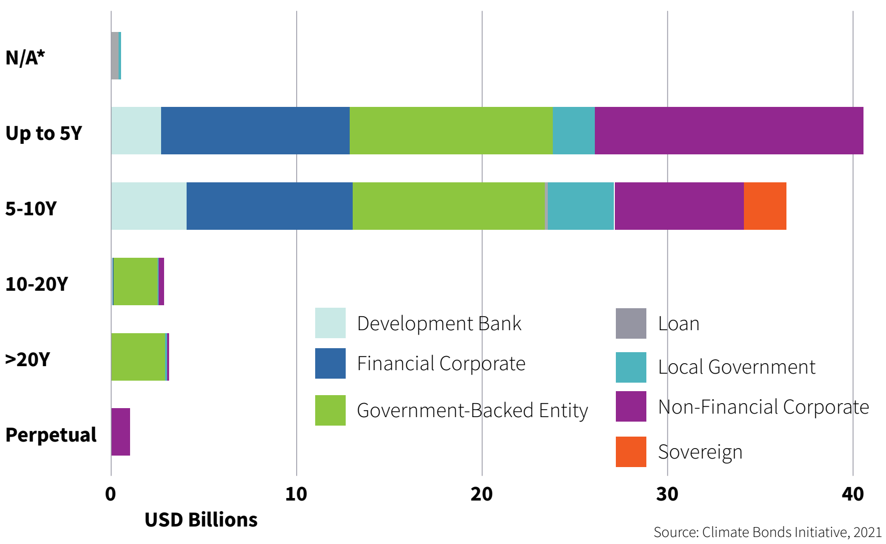
The 5-10 -year bracket makes up 43% of cumulative issuance, and was the most popular in 2020, accounting for 54%.

Most of this (53%) consists of corporate issuance, mainly financial corporates which lead with just under a third (32%). Over 70% of NIB's issuance also falls in this category. Government-backed entities represent a further 30%, and local governments 10%. Though the share is small, this is their tenor range of choice; altogether local government green bonds with tenors of up to 10 years constitute almost all (96%) of this issuer type's green bonds. This may be a reflection of local government funding priorities and election and budget cycles – in contrast with government-backed entities, whose operations may be guaranteed and support larger and longer lifecycle projects, such as power generation/transmission and public transport.

Longer tenor brackets – i.e. between 10-20 years and ≥20 years – contribute minor shares, with the former constituting 3% (2020: 2%) and the latter 4% (2020: 3%) of cumulative issuance. Government-backed entities are the only ones to have issued green bonds with ≥20-year tenors. The longest-dated three deals, all maturing in 2055, come from Reykjavik Energy (ISK8.4bn/USD69m total).

Swedish residential real estate developer K2A Knaust & Andersson Fastigheter and Ørsted are the only Nordic issuers with perpetual green notes outstanding.

Short and medium tenors are most popular

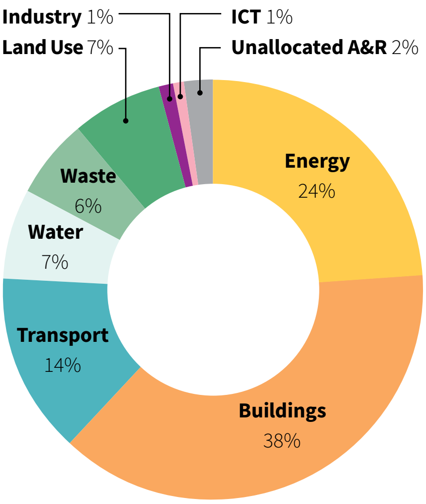


Source: Climate Bonds Initiative, 2021

Real estate features heavily in UoP

The prevalence of real estate issuers in the Nordic green bond market is a widely understood and reported phenomenon[8,9] – and one that is reflected in the Use of proceeds (UoP) mix: Low-carbon buildings represent the largest category with 38% of the cumulative volume. This includes the obvious candidates, such as real estate and construction companies including Finland's Sato and Sweden's Bonava, and specialised mortgage lenders like Norway's SSB Boligkreditt – all 2020 market debutants. However, commercial banks also contribute steadily to this UoP category. Financing for buildings comprised 35% of 2020 volumes, remaining close to the cumulative share.

Financing for Buildings still most common



Source: Climate Bonds Initiative, 2021

Public sector financing is equally common on the transport side: all five LGFAs have included public transport-related allocations in their green bond proceeds, including financing for the Helsinki area metro system expansion (MuniFin), a new hybrid ferry for crossing between two localities in the Jylland region in Denmark (KommuneKredit), and the procurement of electric vehicles and construction of charging stations in several Norwegian municipalities (KBN).[10] Specialist entities are also featured: in addition to private sector bus company Nobina (SE), Norway's state-owned train and toll road operators also joined the market in 2019 and 2020, respectively. The deals from Norske Tog (NOK1.3bn/USD143m, two deals in December 2019) and Ferde (NOK2bn/USD222m, January 2020) were earmarked for the expansion of rail networks, as well as light rail, tram, and bicycle and pedestrian infrastructure.

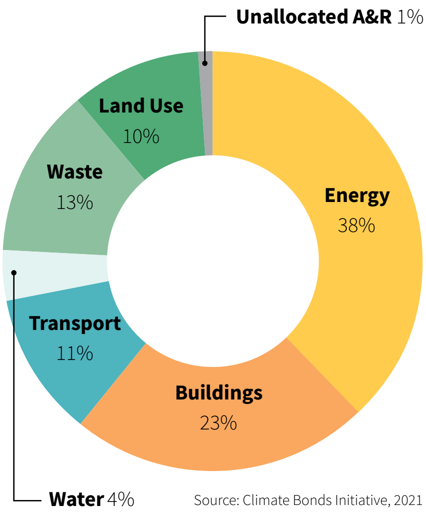
Sweden's car manufacturing legacy is also visible in this UoP category: automotive producer Volvo Cars issued a EUR500m/USD589m green bond in October 2020 to finance Volvo's expansion of Battery Electric Vehicle (BEV) production. The dedicated "mobility bank" owned by Swedish Volvo and Renault retailers, Volvofinans Bank has issued thrice between 2017 and 2020, for a total of SEK22bn (USD2.5bn), to finance loans and leases for BEVs and full hybrid vehicles. There are signs that this will continue: in early 2021, Swedish truck manufacturer Scania debuted in the green market, financing BEV truck development.[iv] Climate Bonds has recently published further analysis of the automotive green bond boom as part of the Green Bond Pricing in the Primary Market report series.[11]

Diverse funding mix

Overall, Nordic green bond UoP is more evenly spread across categories than in the global market. Water, Waste and Land use are close to one another in allocations with respective shares of 7.4%, 6.6% and 6.2% (2020: 5%, 5% and 10%). Much of this diversity is again thanks to the prevalence of the public sector, particularly local governments and LGFAs, as well as NIB. In particular, NIB's Blue Bond – the region's first – from January 2019 featured a number of relevant project categories with a focus on protecting the Baltic Sea.[12]

Commercial banks also help to promote an uptick in the less prevalent UoP categories: all the major commercial banks in the region have issued at least one green bond. The banks have been instrumental in catalysing the market in the early days with DNB ASA (NO) kicking things off in 2015, and the other majors including Nordea, SEB and Swedbank following two years later. All the frameworks have encompassed a large mix of different UoP: as an example, Danske Bank's framework covers eight categories.[13] Altogether, the ten largest banks have issued a total of USD10bn in 29 green bonds.[v]

Commercial banks' UoP slightly more diversified than overall Nordic market



Source: Climate Bonds Initiative, 2021

Land use highly relevant in some countries

Land use allocations obviously benefit from the forestry and pulp and paper sectors, which are a natural fit for countries like Sweden and Finland where more than half of the land mass is covered in trees.[14] After SCA's debut in 2014, Södra Skogsägarna, Sveaskog, Stora Enso, Tornator and UPM have issued green bonds. UPM, a new entrant in November 2020 (EUR750m/USD887m), financed the substitution of petrochemical inputs for renewable wood-based biomass in the chemical industry and various biofuels through its Biofore product series, among other activities.

Nordic green bonds exhibit minor allocations toward the ICT sector, which is a relatively recent addition to the mix. Most recently, Swedish telecommunications company Telia Co joined the market in February 2020 (EUR500m/USD545m) to fund the expansion of high-speed fiber connectivity in Sweden, as well as IoT solutions directly to customers in the built environment and in public transport. This follows earlier issuances from Millicom to finance the expansion of broadband networks, and cloud service provider Ficolo to upgrade its data centre in Helsinki.

Implications of KPI-linked funding

It remains to be seen how the UoP mix develops in the Nordics. A large chunk of companies that are not active in the green bond market are seeking sustainability-related funding via the loan market, in the form of ESG- or Sustainability-Linked Loans. This is likely due to a combination of the required amounts of funding (sizes of instruments) being smaller, and the perceived flexibility of this funding model for those borrowers and issuers that struggle to identify a pipeline of assets, projects and/or activities eligible for the conventional green UoP model. If these companies begin issuing under one of the main themes in the UoP format, this has the potential to bring about significant further diversification of the funding mix of GSS bonds. Further, as discussed in the section on page 17, there is still latent potential from so-called climate-aligned issuers to label their debt as green – and this list is likely to grow as market actors continue the work on setting standards and agreeing on green / sustainability definitions for a wider variety of sectors.

iv. Scania's green bond is not part of the data and analysis in this report due to the end of 2020 cut-off date.
v. In alphabetical order: Banco Santander (NO), Danske Bank (DK, regional), DNB ASA (NO), Handelsbanken (SE, regional), Nordea Bank (FI, regional), Nykredit (DK), OP Corporate Bank (FI), SEB (SE), Sparebank 1 SMN (NO), and Swedbank (SE). The inaugural bond from Íslandsbanki issued in November 2020 is currently under further review and classified as Pending.

External review coverage is superb

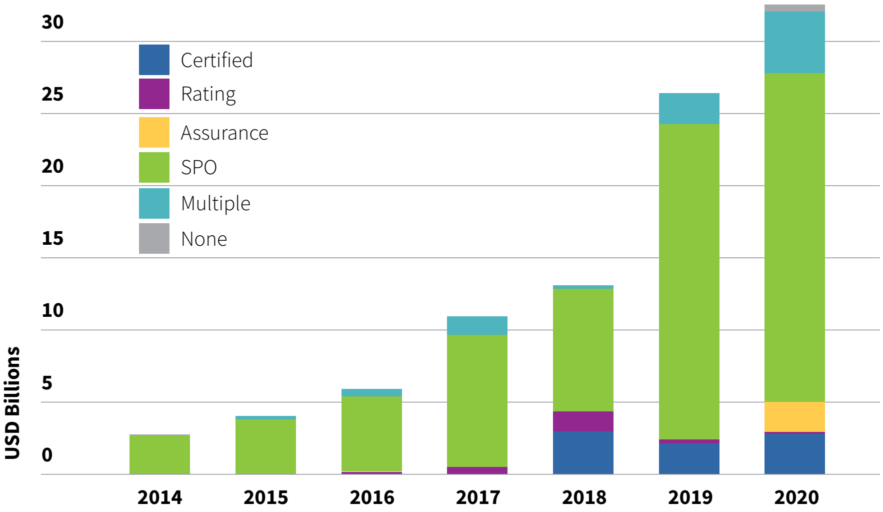
The Nordic region leads the global green bond markets in external reviews: 99% of cumulative green bond volume is covered by at least one type of external review. In 2020 the figure was almost exactly the same (98.5%). The Second Party Opinion (SPO) model continues to be the most common, accounting for 85% of the total volume and 81% of 2020. This is in large part due to CICERO Shades of Green, which pioneered and cemented the practice of providing green bond SPO early in the market's development. CICERO Shades of Green now cover 80% of all Nordic green bond volume (82% in 2020). Additional providers include other globally known names Sustainalytics (14% cumulative, 16% 2020), DNV GL (4%, 2%), and ISS ESG (2.7%, 0.2%).

Other types of external reviews are present in smaller shares. Certified Climate Bonds (CCB) comprise just under a tenth (9%) of total issuance, and the same proportion of 2020 volumes.volumes. Only two Approved Verifiers of CCBs have been used in the region: Sustainalytics and Multiconsult (a Nordic engineering consultancy firm), among which the verification volume is split 58:42.

The 9% CCB share is about half that of the global market, nodding yet again to added popularity of the SPO model among Nordic issuers over other review types. The largest CCB comes from DNB Boligkreditt (EUR1.5bn/USD1.7bn, June 2018), whereas peer SpareBank 1 Boligkreditt took last year's top spot with EUR1bn/USD1.2bn in September.

Deals with assurance make up only 2% of cumulative figures, but saw their share surge to 7.5% last year. This may simply be a reflection of the maturing markets, as many Nordic issuers also employ limited assurance as part of their process for the annual management of green bond proceeds. Ratings on the other hand correspond to 3% of the running total, but only a tenth of that (0.3%) in 2020. Finally, approximately 1% of Nordic green bonds have multiple types of external review, both on a cumulative and 2020 basis, all of which involve at least a SPO.

Almost all Nordic issuance has an external review



Source: Climate Bonds Initiative, 2021

Nearly all green bonds covered by post-issuance reporting

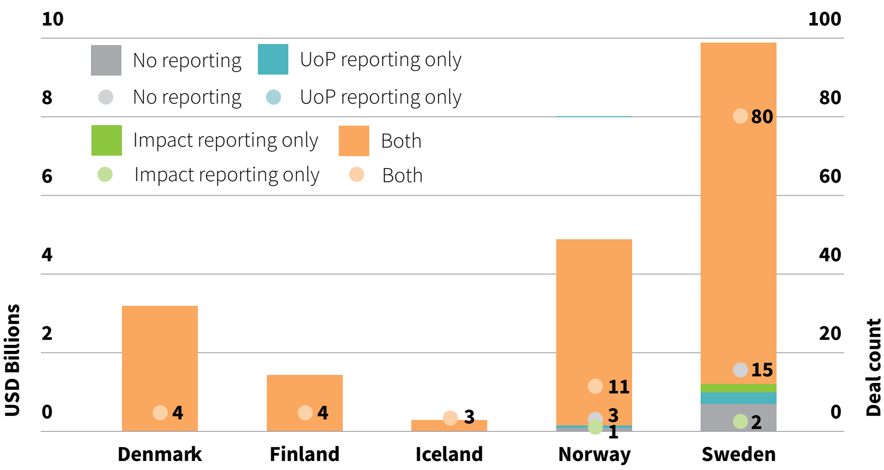
Post-issuance reporting on use of proceeds is a core component of the Green Bond Principles and the Green Loan Principles. Reporting the environmental impacts of projects, assets and activities financed is also recommended. Post-issuance disclosure provides transparency, ensures accountability and underpins the credibility of the green bond market.

Climate Bonds has developed a methodology to assess the frequency and quality of green bond issuers' post-issuance disclosure. The results have been published in the 'Post-Issuance Reporting in the Green Bond Market' report series – an upcoming third edition is due out in May 2021. The analysis highlights best practice examples in reporting quality, with a prominent Nordic example being SpareBank 1 Boligkreditt (NO) which reaches third place in the overall ranking of all of the issuers assessed.[vi] In the country rankings, Denmark and Finland both feature in the top 5.

Further detail on the methodology and comprehensive rankings and best practice case studies are included in the upcoming report.

Overall, green bond issuers in the Nordic region not have excellent external review coverage, but also post-issuance disclosure: nearly all (93% of volume, 82% of number of deals) have associated reporting on both use of proceeds as well as impact. A minor share (2% in both volume and deal count terms) benefit from only UoP reporting, whereas approximately 1% of volume or 2% of deals have impact reporting only. Government-backed entities perform best with 100% coverage of both UoP and impact reporting. Non-financial corporates are at the other end of the spectrum with 78% having both types of reporting, 2% UoP only, 5% impact only and 14% with no post-issuance disclosure available. This, though lower than the other issuer types, is still above the global average, further underpinning the advanced nature of the Nordic green bond market.

Most Nordic green bonds come with UoP and impact reporting



Source: Climate Bonds Initiative, 2021

vi. The upcoming analysis included a review of all green bonds issued between November 2017 and March 2019 included in the Climate Bonds Green Bond Database.

Country overviews

Sweden

Sweden is by far the largest Nordic GSS bond market, with a total issuance volume of USD43.4bn.

USD42.1bn (97%) of Swedish GSS issuance carries a green-themed label. The country is home to a total of 84 issuers of GSS bonds. Out of these, 80 have issued labelled green bonds, two a combination of green and social or sustainability bonds, and two only social bonds.

Sweden's top 5 are all green bond issuers

Name	USD issued	Number of instruments
Kommuninvest	6.2bn	13
Vasakronan	4.9bn	114
Kingdom of Sweden	2.3bn	1
Stockholms Läns Landsting	1.7bn	14
City of Gothenburg	1.6bn	3

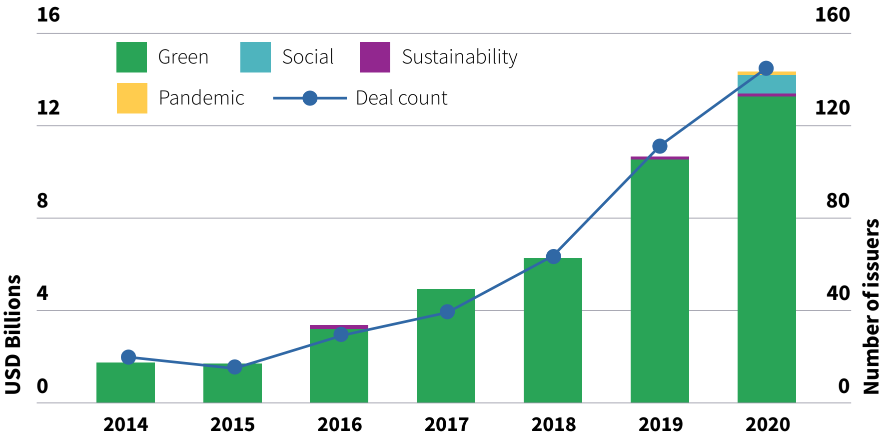
Despite the turmoil brought on by the COVID-19 pandemic, 2020 was a relatively good year for Sweden's labelled bond market: the market reached USD14.4bn of issuance with a YoY growth rate of 35% (26% for green only), compared to a 67% jump from 2018 to 2019. The market also saw the entry of 15 new green and two new social bond issuers, including the Kingdom of Sweden in the green category and Samhällsbyggnadsbolaget i Norden (SBB) with a maiden social bond.[vii] SBB has also issued in the green format a total of nine times (USD268m equivalent).

Property and real estate issuers continue to triumph

Sweden's issuer type mix is fairly balanced. Financial and non-financial corporates make up half of cumulative volume (11% FI / 39% non-FI). The share of non-financials was slightly more pronounced in 2020 with 42% of the total, whereas FIs dampened slightly to 6% despite a growth in the absolute amount issued – in part thanks to the Swedish sovereign green bond, which individually takes 5% of cumulative and 17% of 2020 volume.

As expected, property and real estate issuers continue to dominate. Of the 15 debut issuers

Swedish market continued to grow in 2020



Source: Climate Bonds Initiative, 2021

in 2020, 12 were from the real estate sector. Additionally, one first-time issuer (SIBS AB) develops and manufactures building materials with an emphasis on wood-based, lower-environmental impact materials. A total of 38 property-related issuers – i.e. those that mostly finance low-carbon buildings – hail from Sweden. These include mortgage lenders and property banks, real estate and construction companies, and housing associations. The largest (excluding Vasakronan which is in the overall top 5) are state-owned mortgage property bank SBAB (USD1.3bn, 4 deals), and commercial property companies Fabege AB (USD1.27bn, 23 deals) and Humlegården Fastigheter (USD1bn, 14 deals).

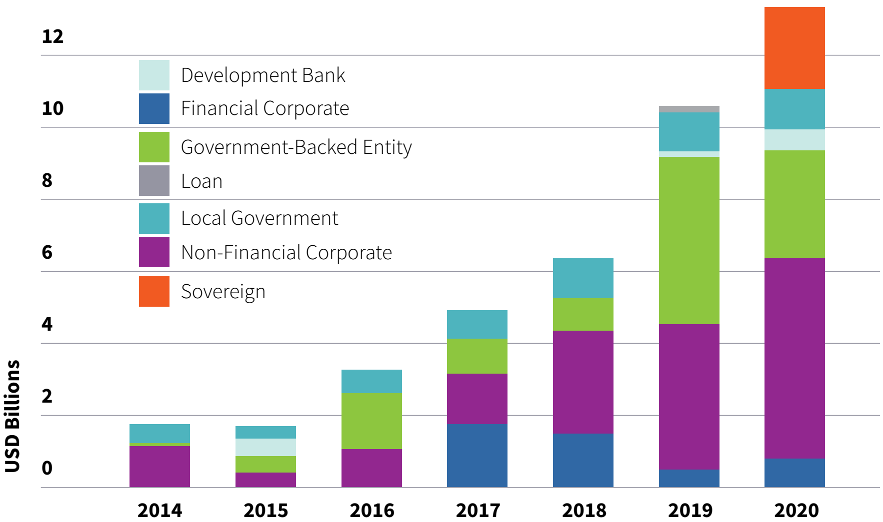
Public sector issuers are strong

Kommuninvest's position as the top issuer is reinforced in the share of government-backed entities at 28% of cumulative green volume. Sweden's numerous local government issuers – including the City of Gothenburg which makes it to the top 5 – boost this issuer type's share to 14% (2020: 9%). Swedish Export Credit continues to issue actively as the sole development bank (agency), claiming the remaining 3% (2020: 4%) of green volume with a total USD1.2bn made up of 12 deals.

UoP diversification is a positive signal

The real estate sector's prevalence is reflected in Swedish green bond UoP: 40% of the total is Buildings. However, the numbers indicate a clear trend toward a welcome diversification of the actual assets and projects financed by Swedish green bonds. UoP diversification increased in 2020 with the inaugural sovereign, which brought the Buildings share down to a third and boosted a number of the others, sectors; this is quite common as sovereign issuers tend to fund a wider array of project types than other issuers.[15] Transport and Energy are the second and third-largest categories at 17% and 15%, respectively.

Inaugural sovereign drove Sweden's green expansion in 2020



Source: Climate Bonds Initiative, 2021

vii. The issuance was completed via SBB's Finnish arm SBB Treasury Oyj, but guaranteed by SBB – hence the country of risk is Sweden.

Land Use represents 9% which comes mainly from a mix of forestry issuers, such as Sveaskog, and local governments. Water and Waste – mostly financed by LGFAs and local governments – are close with 6% and 7%, respectively (5% for both in 2020), while ICT and Adaptation & Resilience categories make up the remaining minor shares. The entry of Telia in 2020 was a welcome signal from this large-cap which is also the biggest telecommunications and broadband provider in the Nordic and Baltic region. This debut issuance paves the way for the rest of the ICT industry which has a key role to play in reducing emissions not only within but also across other industries.

Though we expect Buildings to continue as the top category, it is likely that Sweden's UoP will further diversify in the coming years as the central government grows its green sovereign programme, policy support ramps up, and further clarity on green definitions is achieved (see Policy update section below) – all of which will help issuers in more industries embrace green and sustainable debt.

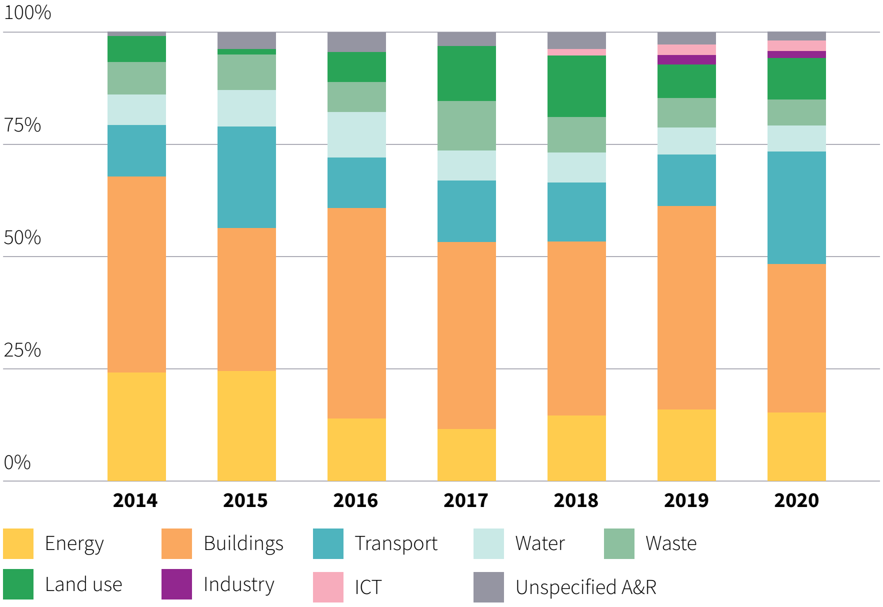
Other labels are emerging

As of the end of 2020, there were seven sustainability and social-labelled bonds from Sweden. Hemsö Fastigheter AB was the first in the market – and indeed the whole Nordic region – with a dual sustainability-labelled issuance of a total SEK1bn/USD119m in June 2016 as part of its wider MTN programme. Hemsö's approach is a great example of the co-benefits of green and other labelled bonds: the eligible project categories all involved buildings that scored highly in BREEAM, LEED or the Swedish Miljöbyggnad certification scheme, or achieved a minimum 25% energy efficiency improvement. The social benefit arose from the financing of buildings related to the public education system, healthcare and/or elderly care (e.g. schools, hospitals and care homes).[16] Hemsö issued a further two sustainability bonds in February 2020, reaching a total of USD273m equivalent.

Swedish issuers have printed two social-themed instruments: the first from medical technology company Getinge, which issued a SEK1bn/USD106m COVID-labelled commercial paper in April 2020. The deal referenced ICMA's Social Bond Principles and was one of the clearest displays of the use of an emergent label for direct relief to the pandemic: the proceeds were allocated exclusively to financing a production increase of ICU-ventilators and other life-saving equipment produced at the company's plant in Solna, outside Stockholm.[17]

The second – and the first Swedish bond with the "conventional" social label, as well as the maiden Nordic corporate social bond – was issued by SBB in December 2020. The EUR700m/USD850m bond's use of proceeds categories were very similar to those in Hemsö's framework, with the addition of rent-regulated residential housing and extending the property types facilitating "access to essential services" from schooling and healthcare to community and culture facilities.[18]

Sweden's UoP has diversified over time



Source: Climate Bonds Initiative, 2021

Future outlook

Future growth in labelled and thematic issuance in Sweden is likely to come from a multitude of sources. Swedish sovereign green issuance is likely to grow, which will provide a welcome boost of liquid and highly-rated supply into the wider Nordic market. Further green bond growth can also be expected from existing debt issuers in sectors whose activities are covered by emerging definitions – whether green or transition – as well as issuers of unlabelled climate-aligned bonds (see Beyond labelled bonds section below).

Sweden is home to ten climate-aligned issuers, half of which have already tapped into the green bond market - Vattenfall AB is the latest (two deals in early 2021, total EUR1bn/USD1.2bn). Beyond these issuers, there is massive latent potential: Sweden's vanilla bond market stood at approximately USD734.8bn equivalent at the end of last year, translating to a modest (yet at least double the global average) 5.5% share for GSS bonds.

On the sustainability and social side, it is likely that both themes will witness rapid growth in the near future; not least if Kommuninvest, other government-backed entities and Swedish local governments follow MuniFin's example (see Finland's Country overview below) on social bonds, which Kommuninvest has already signalled at the start of 2021.[19] Corporates will likely also embrace the sustainability bond model, mirroring indications in other parts of the world.[20]

Finally, one should not dismiss the potential of performance-linked instruments in shaping the Nordic – and global – sustainable finance landscape. Swedish fashion retail giant H&M was the first to embrace this funding model, with a linkage to its company-level sustainability targets of a EUR500m (ca. USD595m) Sustainability-Linked Bond (SLB) in February 2021.[21]

Performance-linked instruments and the low-carbon transition

Performance- or KPI-linked instruments, such as SLBs and their "sister" model of Sustainability-Linked Loans (SLLs), can be a critical tool in financing entity-level transition pathways – a focal concept of transition finance. Nevertheless, certain concerns remain regarding the integrity of these instruments in facilitating change that is ambitious and credible.

In particular, it may be that some of the KPIs set are entity-specific and difficult to benchmark against peers or against, for example, wider global goals such as the Paris Agreement. These concerns are not insurmountable, however, and with some clear guidance to the market, SLBs could be a valuable addition to the sustainable finance landscape – in particular in enabling entity-level transitions. The Climate Bonds Transition Principles and associated Whitepaper starts to iterate guidance around definitions and ambition, whereas the ICMA Climate Transition Finance Handbook lays out useful preliminary guidance around the issuance process.[22, 23]

Norway

Norway has held onto its second place in the Nordic ranking for several years, reaching USD16.8bn issuance volume at the end of 2020 and USD5.8bn last year. The Norwegian market is 17% or approximately USD2.8bn larger than that of Denmark, which is third. The year-on-year growth rate in 2020 compared to 2019 was 53% - encouraging in light of the pandemic and despite falling short of the average 185% yearly growth since market inception. If forecasts hold, there is potential for Norway to bounce back to higher growth in 2021.

The country is home to a total 34 issuers, all so far issuing under the green label. Altogether they have printed 97 deals. The top five issuers are household names mostly from the financial sector, with SpareBank 1's mortgage lending arm taking first and industry peer DBN Boligkreditt third place; pioneer LGFA Kommunalbanken in second; the country's largest FI (DNB ASA) coming in fourth and savings bank for Central Norway SpareBank 1 SMN rounding out the quintet.

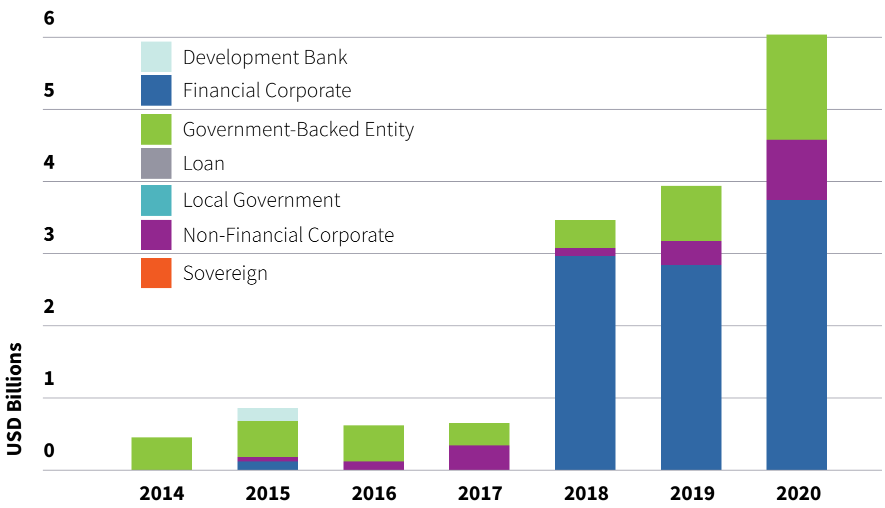
Financials dominate Norwegian top 5 and issuer type mix

Name	USD issued	Number of instruments
SpareBank 1 Boligkreditt	3.3bn	4
KBN	2.9bn	19
DNB Boligkreditt	1.7bn	1
DNB ASA	1.2bn	6
Sparebank 1 SMN	1.0bn	4

Norway's full issuer type mix mirrors the top 5: financials make up 58% of cumulative issuance and brought nearly two-thirds (62%) of 2020 green bond volume to the market. Government-backed entities contribute a further 30% (2020: 24%) with KBN in the lead, followed by energy companies like Eidsiva Energi (USD462m, four deals), BKK (USD444m, two deals), and grid operator Statnett (USD368m, two deals), which are mostly state-owned. The City of Oslo is the only local government issuer, constituting 1% of cumulative volume.

The remaining 11% (2020: 14%) is comprised of non-FI corporate issuance, led by real estate company Entra ASA (USD811m, 11 deals). The rest are mostly private sector energy companies, with the exceptions of NorgesGruppen, a supermarket retailer which debuted in February 2019 and has issued three green bonds (USD164m) to finance clean transportation and buildings, as well as renewable energy related to its direct operations and supply chain. Another new non-FI corporate entrant is seafood company MOWI, whose debut deal is covered in more detail below.

Financial sector drives Norwegian market growth



Source: Climate Bonds Initiative, 2021

Norway tilts towards Buildings, Energy follows

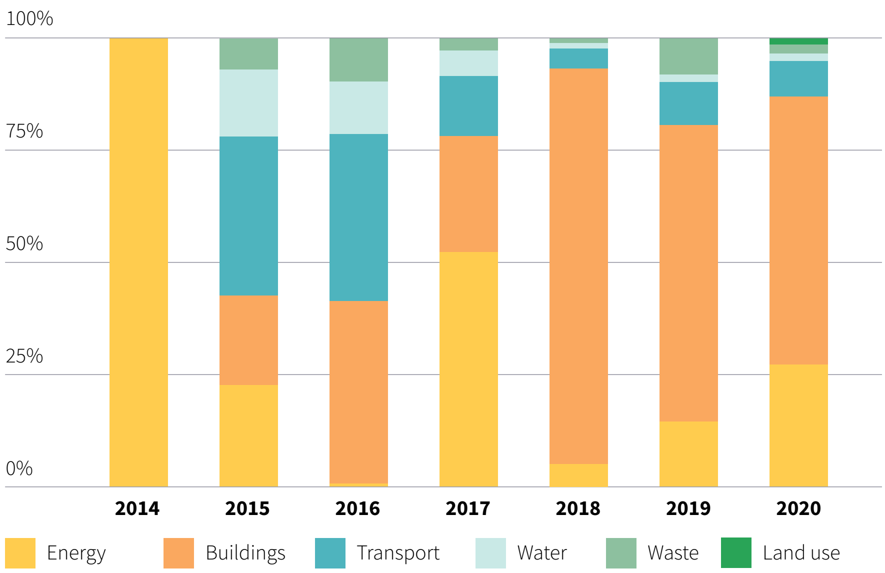
As indicated by the discussion on top issuers, Norway's green bond UoP mix is currently dominated by the Buildings category (61% of proceeds, 62% in 2020), in large part thanks to Sparebank and DNB's mortgage lending but also KBN, whose funding mix encompasses all of the major categories. Energy, which was identified as the most prevalent category in the previous Nordic market analysis, comes in second at 21%. Its share was slightly more pronounced (28%) in 2020, aided for instance by debut issuers Glitre Energi (NOK300m/USD32m) and Akershus Energi (NOK900m/USD105m, two deals). Much of this is hydropower, which accounts for approximately 90% of the country's power production.[24] Transport (12% cumulative, 8% 2020), Waste (4% cumulative, 1% 2020), and Water (3% cumulative, 1% 2020) comprise the remainder of the UoP mix.

Future outlook

GSS bonds from Norway have the potential to grow significantly under all three main themes. The country has yet to see any labelled social or sustainability bonds in the traditional UoP model, which could potentially be utilised most by the public sector.

However, the bigger challenge – and opportunity – for Norway lies in its continued reliance on natural resource exports, including oil and gas. A global energy system transition to low-carbon alternatives will also mean a massive shift in Norway's economy, which is already partly underway. For example: the famous

Buildings most funded in Norway, Energy follows



Source: Climate Bonds Initiative, 2021

Norwegian Sovereign Wealth Fund approved a divestment from oil and gas exploration in 2019 and introduced a mandate to invest directly into renewable energy projects, not just listed companies.[25] The corporate side is showing signs of embracing the change as well, such as in the case of state-owned Equinor (former Statoil) changing its name and strategy to tilt heavily towards low-carbon energy generation and introducing a net zero 2050 target. All of this can bring All of this brings with it further green can bring debt issuance and labelling opportunities.

Green and the big blue

Norway's opportunities extend beyond its vast coastlines and into the sea: it is the world's largest producer of farmed salmon, and ocean-based industries comprise nearly 40% of the country's GDP.[26] Mowi and Grieg Seafood's green bonds are certainly not the last we will hear of the seafood industry's sustainability improvement efforts; in fact, Norway has already seen its largest corporate green bond from SalMar (NOK3.5bn/USD418m) issued in April 2021.[27] The definition and standards-setting work around aquaculture will also continue, in time making it more straightforward for issuers to utilise green or blue bonds to finance the protection of marine environments and biodiversity in numerous ways.

Norwegian aquaculture green bonds

Norwegian seafood producer MOWI ASA became the first in its industry to issue a green bond (EUR200m/USD222m) in January 2020. The issuance was followed by peer Grieg Seafood's NOK500m (USD56m) deal in June, and a NOK1bn (ca. USD118m) tap in November. The two bonds were classified differently in the Climate Bonds Green Bond Database, with MOWI being included and Grieg excluded due to non-alignment with the Climate Bonds Taxonomy.

MOWI's green bond proceeds financed water efficiency projects as well as a component of R&D in the aquaculture sector, specifically for more sustainable fish feed options with tangible emissions savings. The current version of the Climate Bonds Green Bond Database Methodology allows R&D spending that can demonstrate a clear climate-related benefit. The bond was thus eligible for inclusion in the Green Bond Database.

In Grieg's case, the proceeds included an element of financing a switch from fossil fuel-based electricity generation to hybrid systems (renewables and diesel). Though this will result in lower GHG emissions overall, it does not qualify under Climate Bonds green definitions – which do not allow fossil fuel components in electricity generation – nor the equivalent threshold of 100g$CO2_e$/kWh in the EU Taxonomy.

Climate Bonds reserves the right to reclassify deals as market definitions and standards develop and tighten over time, as well as when new information becomes available at the post-issuance stage.

Finally, Norway's vast coast and ocean areas make it a prime candidate for facilitating the decarbonisation of shipping. Various Norwegian and other Nordic actors have been involved in the iteration of green definitions for this industry, including the Shipping Criteria of the Climate Bonds Standard, which were released in November 2020. Furthermore, the Norwegian Government released its Action Plan for Green Shipping at the end of 2019, and has introduced a number of supportive policy measures such as taxation and a dedicated innovation-funding mechanism to boot.[28] January 2021 saw the first Sustainability-Linked Bond from the Norwegian shipping industry, with Odfjell SE's debut (NOK850m/USD100m), and we suspect there is more to come – both in the KPI-linked as well as use-of-proceeds format.[29]

Denmark

Cumulatively, Danish green bonds amounted to USD11.3bn at the end of 2020, placing the country on the final podium spot in the Nordic ranking. There have to date been no social or sustainability bonds from Denmark.

In 2020 the market saw USD2.2bn of additional volume, contracting sharply (-60%) from the previous year. In contrast, the Danish green bond market has on average more than doubled (YoY growth rate of 167%) each year since 2015, when wind turbine manufacturer Vestas issued the country's first green bond. Though Vestas has not issued since, its deal still places it in the bottom spot of the top five issuers.

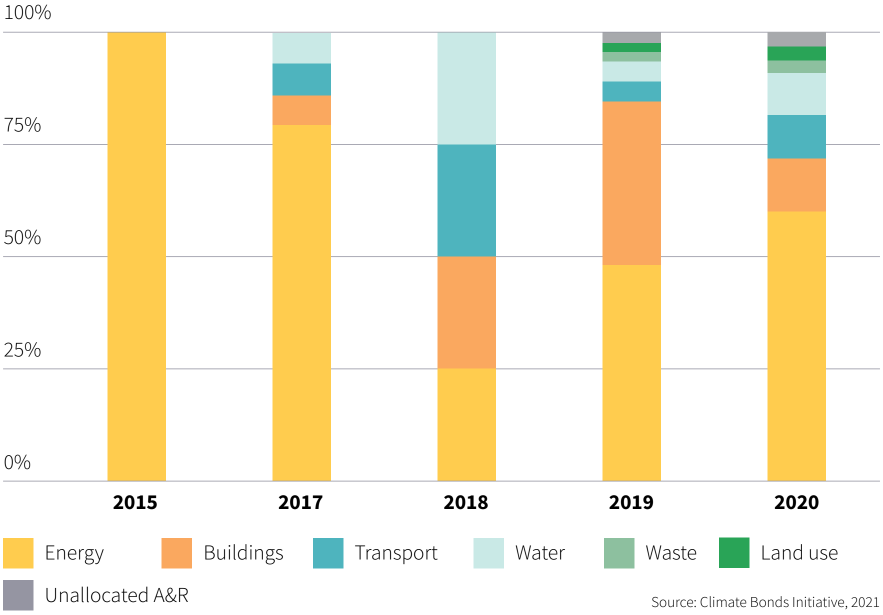
Wind power and financials rule Denmark's top 5

Name	USD issued	Number of instruments
Ørsted	4.2bn	7
KommuneKredit	2.6bn	5
Nykredit	1.8bn	4
Danske Bank	1.4bn	4
Vestas	0.5bn	1

Wind power and financials rule Denmark's top

The country's largest green bond issuer is Ørsted, whose energy transition story from fossil-focused Dong Energy is among the best-known globally, with its USD4.2bn issued in seven deals. It is followed by LGFA KommuneKredit, a household name in the Nordic green bond space and one of the key participants in the group that created the "Nordic Public Sector Issuers Position Paper on Green Bond Impact Reporting" – a development we comment on extensively as part of our upcoming Post-Issuance Reporting in the Green Bond Market report.[30] Denmark's largest banks complete the top five, both bringing deals to the market regularly and adding diversity to the issuer base. Danske Bank Group's issuance volume in the above table includes three green bonds from its property bank subsidiary Realkredit Danmark. Danske is also the region's largest GSS bond underwriter.[31]

Energy leads Danish green bond UoP mix



Source: Climate Bonds Initiative, 2021

The top ranking is representative of the issuer type mix for Denmark, which only has nine green bond issuers in total. The government-backed entity volume (60%, 2020: 51%) is entirely from Ørsted and Kommunekredit, whereas financials (28%, 2020: 26%) include Nordea in addition to the two aforementioned banks. Vestas is joined by European Energy (USD311, three deals) and LM Holding Group (USD58m) in the non-financials group. The remaining one is the green loan from CIP discussed on page 6.

Energy and buildings mark Danish UoP

Danish green bond UoP reflect discussion above, featuring Energy at 57% (2020: 60%). Energy has kept its prevalent position over the past few years, with only a slight dip in 2018. Buildings represents the second-largest category with 23% (2020: 12%), mostly thanks to large allocations from KommuneKredit and the banks. These are also responsible for the smaller shares of Transport (7%, 2020: 10%), Water (7%, 2020: 10%), and Waste (2%, 2020: 3%), as well as small disbursements to Land Use and projects related to Adaptation & Resilience (both 2% cumulative and 3% in 2020).

Future prospects

As with many other countries, sovereign GSS bond issuance offers interesting prospects for Denmark. Widely publicised in the market, the Danish Government made an announcement in 2019 on its consideration of a novel structure comprising a vanilla bond with an accompanying "green certificate" for its upcoming inaugural green sovereign. The Danish Treasury's rationale for this type of issuance is to avoid any loss of liquidity, and resulting fragmentation and rising costs of issuance. The fear is that issuing in the traditional green format could lead to these effects due to the limited funding needs and project pipeline available at any given time, which could restrict instrument size and thus make the bond(s) less tradeable.[32]

The treasury recently reaffirmed its commitment to issuing the conventional bond and certificate combination, and signalled that the first such issuance is planned for later in 2021. When completed, the Danish sovereign will provide a further boost to the market with highly-rated sovereign green-labelled debt – undoubtedly a welcome development for many investors across the region and Europe overall. It remains to be seen how exactly the government will go about the management of proceeds and reporting to ensure the integrity of the green label is maintained under the planned deal.

Further growth is anticipated from other thematic bonds. Denmark's pension fund ATP, which was also one of the world's first investors into green bonds several years ago, recently made its first foray into social bonds by investing into the EU SURE social bonds at the end of 2020.[33] The fund, which is Europe's fourth-largest, now intends to invest DKK50bn (ca. USD8.1bn) into social and sustainability bonds by the end of 2021.[34] If there ever was a signal for domestic issuers to adopt these labels, this is it.

Finland

The Finnish GSS bond market has been comparatively slow to take off. However, 2020 showed some positive signs despite the pandemic, reaching USD4bn of new volume – including a first-ever social bond (USD709m) from top issuer MuniFin in September, the first to expand the Finnish market beyond green bonds – and translating into 33% growth versus 2019. The green-only share of the market grew by 9%. The average annual market growth rate between 2016 and 2020 was 638%, thanks to nearly 27x growth between 2018 and 2019 from USD114m to USD3bn.

Finland's top 5 is a mix of public and private sector entities

Name	USD issued	Number of instruments
MuniFin	2.3bn	5
Stora Enso	1.6bn	6
UPM	887m	1
Nordea Bank	893m	1
OP Corporate Bank	570m	1

The country's largest green bond issuer is Finnish LGFA MuniFin, with USD2.3bn and five deals. It became the first Finnish issuer in 2016, and has continued to blaze the trail with new innovations such as the recent social bond, which was enthusiastically received by investors.

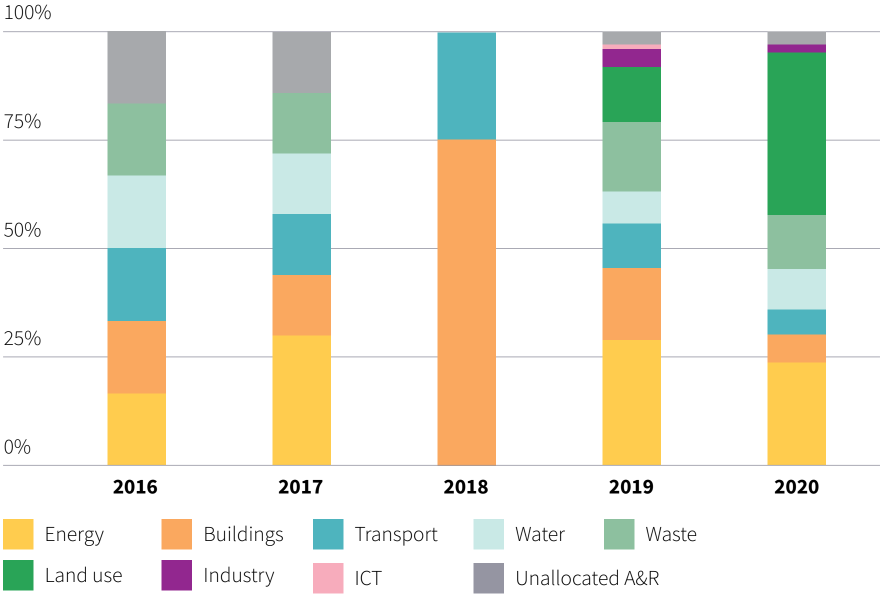
Forestry company Stora Enso – the ninth-largest Finnish listed company by market cap – takes second place in the issuer ranking with its six deals (two of which are taps) amounting to USD1.6bn equivalent. Industry peer UPM went straight to number three with its EUR750m (USD889m) debut from November 2020. Finland's major commercial banks Nordea and OP follow as fourth and fifth, likewise with EUR-denominated benchmark-sized deals, both from 2019.

Corporate issuers most common

Finnish green bonds have come from a total of 10 issuers falling into only three issuer type categories so far. Government-backed entities are in the lead on MuniFin's account (37%, 2020: 24%), though non-financial corporates took over in 2020 with 59% compared to their 36% cumulative share. The banks' share thus works out at 27% (2020: 17%).

In addition to UPM, last year's debuts include residential real estate company Sato Oyj (EUR350m/USD408m, September) and forest management company Tornator (EUR350m/USD411m, October). Fingrid and Ficolo (see page 8), as well as University Properties Finland (EUR100m/USD114m) issued individual deals between 2017 and 2019.

Finnish green bond funding is most diverse across categories



Source: Climate Bonds Initiative, 2021

Despite smaller market, Finland's UoP mix is diverse

Finnish green bond use of proceeds display an impressive diversity vis-à-vis the small size of the market. All major categories are covered, with Energy in the lead at 26% (2020: 24%), contrasting with most other Nordic markets. The differences are even more pronounced in 2020, when Land Use UoP was by far the largest category with 37%, mainly thanks to Stora Enso and the debuts from UPM and Tornator. Land Use is the second-largest in cumulative terms (21%), followed by Waste (14%, 2020: 13% - the largest share in the Nordics), Buildings (13%, 2020: 6%), Transport (9%, 2020: 6%), Adaptation & Resilience (5%, 2020: 3%), and minor shares for Industry and ICT.

Future prospects

Finland's GSS bond growth prospects are looking bright: 2021 has already seen the entry of a new issuer in transition from a traditionally very polluting industry, as Neste completed its benchmark-sized green debut (EUR500m/USD595m) following a prior ESG-linked revolving credit facility. The OMX25 –the largest companies listed on NASDAQ Helsinki – include several other candidates operating in essential industries that could adopt a similar approach to transition, with a few examples including steel and stainless steel manufacturer Outokumpu; industrial process technology and machinery company Valmet; and Metso Outotec, which operates in the minerals and metals refining business. All of these could, depending on the funding needs and assets, choose to issue against any of the labels under the GSS umbrella, and/or an emerging transition label or the SLB format.

MuniFin's social bond

The bond's supporting documentation included not only a framework but also a specific background paper wherein MuniFin outlined its approach to the definition of target populations – a key concept in financing for social impact, which is by nature often more localised than that of green bonds – and the two types of social bonds it can issue under the framework.[35] These include "Social Bonds for general social purposes", i.e. a mix of the three eligible project categories (social housing, welfare, and education projects) and "Thematic Bonds" which aim to promote solutions to address a specific social challenge in one of the three main categories. Overall, MuniFin's framework drives home the point that Finnish municipalities already have a considerable positive social impact on the lives of residents. The aim of social bond issuance is to enhance and secure the Nordic welfare society and overcome the challenges in ensuring a high equality, maintaining high education and competence levels, and minimising the expanding welfare gap between social groups.[36]

Similar to its green bonds, any issuance under MuniFin's social bond will be subject to stringent reporting requirements, including quantitative and/or qualitative impact indicators for which MuniFin will seek input from stakeholders to improve the quality of reporting on an ongoing basis.

Further, issuance from companies operating in and providing services to the forestry, pulp and paper industries is likely to continue now that successful examples have been set regionally and domestically. Observing initially and acting later when a format has been successfully established matches the generally more conservative nature of the Finnish market compared to that of Norway and especially Sweden. New issuances from industries already active in the green market across the Nordics could emerge also in Finland, with examples from Telia's peer Elisa Oyj and NorgesGruppen's Finnish equivalent Kesko Oyj. Finland is home to a further two issuers – hydropower producer Kemijoki Oy and nuclear power company TVO (former Teollisuuden Voima) – already identified as climate-aligned; these have perhaps the most straightforward route to market in terms of eligible project definitions.

Finally, now that MuniFin has taken the leap of taking social bonds mainstream, it will be fascinating to see if any of the other public sector entities in the country take the plunge and join in issuing under social or sustainability labels. There is less likelihood that such issuance comes from the central government any time soon due to the structure of the government budget, which prevents the earmarking of funds required for allocating and managing green bond proceeds with adequate transparency – but should this change, it could be a great mechanism to aid Finland in its quest for a net neutral economy by as early as 2035.

Iceland

Iceland is the smallest of the Nordic GSS bond markets with a total volume of USD1.2bn, of which two-thirds were issued in 2020. The entire issuer pool comprises seven entities covering all GSS themes: one each issuing sustainability and social bonds, and the rest issuing green.

Icelandic GSS issuers amount to seven in total so far

Name	USD issued	Number of instruments
Íslandsbanki HF (sustainability bond)	356m	1
Landsvirkjun	350m	2
Reykjavik Energy	244m	15
Reginn HF	105m	2
City of Reykjavik	63m	2
Reykjavik Social Housing	53m	1
Municipality Credit Iceland	9m	1

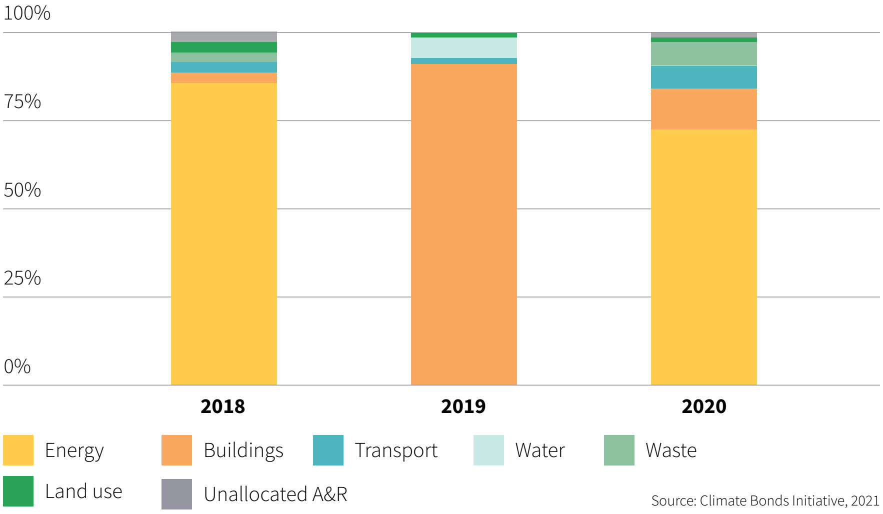
The largest Icelandic GSS issuer is Íslandsbanki, whose EUR300m (USD356m) sustainability bond settled in November 2020. The bond was issued under a framework that identifies a whopping 18 environmental and social categories split into green, blue and social projects. It is also the largest individual GSS-labelled instrument from the country.

The sole social bond comes from Reykjavik Social Housing and finances its namesake in the form of rental housing in the Icelandic capital, with a view to increase the number of rental units by at least 500 by 2022.

Energy most funded in Iceland

The remaining five issuers all issue green bonds, and there is a mix of use of proceeds.

Energy dominates in renewables-rich Iceland



Source: Climate Bonds Initiative, 2021

Landsvirkjun and Reykjavik Energy are both state-backed energy companies. The former is the national power company of Iceland and Europe's largest renewable energy producer, as well as the inaugural Icelandic green bond issuer in March 2018. The latter focuses on the country's specialty, geothermal energy. Thanks to this emphasis, 79% of Iceland's green bond proceeds are in the Energy category.

The City of Reykjavik and Iceland's LGFA Municipality Credit Iceland finance a number of green categories, including Buildings, Transport, Water, Waste and Adaptation & Resilience. Municipality Credit Iceland debuted in 2020, whereas Reykjavik was one of the early issuers in late 2018. Reginn is the only Icelandic real estate company to have issued so far in the private sector, and was another 2020 new entrant.

Future prospects

Though Icelandic green bonds are already focusing on renewable energy, there is more to do. Some additional investments into geothermal and hydropower, which comprise >99% of the country's installed energy generation capacity, will be required to maintain, store and distribute heat, power and electricity – including in the built environment.

Given the size of Iceland's economy and its relatively advanced position in climate, environmental and societal progress, the GSS (especially green) market is already well underway. For example, both of Iceland's climate-aligned issuers – Reykjavik Energy and Landvirksjun – are already green bond issuers, too.

It is reasonable that the market will remain a modest size, but opportunities remain. The Icelandic government's plan for a net zero economy encompasses not only emissions but also minimising the negative impact on other environmental issues. This, along with more social- and sustainability-related issuance, is likely where most of future growth will come from.

Essential infrastructure (energy, transport, buildings) is an obvious focus area for almost any economy to decarbonise, but for Iceland, similar to Norway, the seafood and agriculture industries, as well as aluminium smelting, are crucial industries and prime candidates for transition and / or transformation. Finally, the largest industry sector of the Icelandic economy is tourism, which will also need to grapple with the low-carbon transition and its broader environmental and societal impacts – this could very well relate to questions around air, land and sea transportation; the protection of natural landscapes and biodiversity, and the sustainability of the built environment.

Beyond the labelled debt universe

As discussed, the debt capital markets offer several opportunities for financing climate change solutions even beyond labelled GSS bonds. A key way to assess this is the identification of so-called climate-aligned issuers. The section below discusses the shape and size of this segment in the Nordic region.

Methodology

The unlabelled climate-aligned (CA) universe highlights investment opportunities which are not explicitly labelled as 'green' by the issuer, but finance climate-aligned assets and activities. Climate-aligned bonds are identified at the issuer level:

- bond issuers whose revenue streams are at least 75% climate-aligned ("strongly-aligned"), and
- bond issuers whose revenue streams are at least 95% climate-aligned ("fully-aligned").

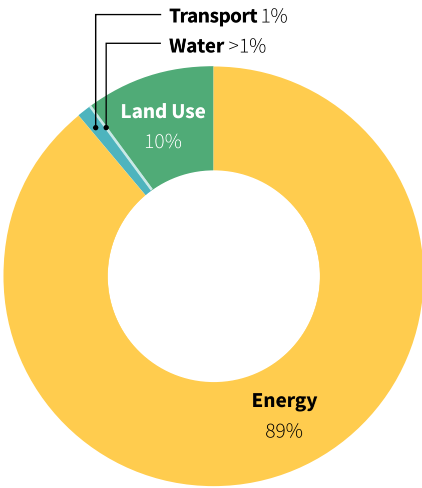
Climate Bonds has identified seven climate-alignment themes: Energy, Transport, Buildings, Water, Waste, Land Use & Agriculture, and ICT. We have been collecting this data since 2012, with the historical bond-level coverage reaching back to January 1st, 2005 (i.e. the ratification of the Kyoto Protocol).

Energy is the top Nordic climate -aligned theme

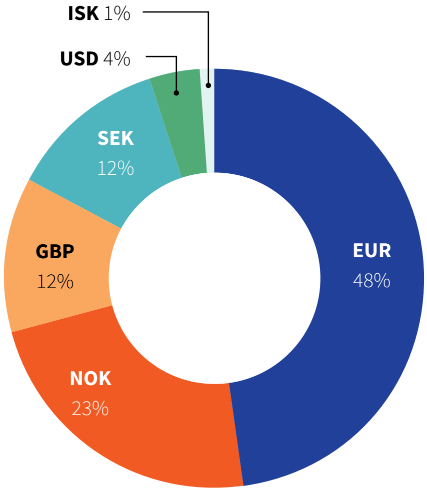
With 156 bonds issued by 24 issuers, Nordic climate-aligned outstanding debt amounts to USD21.6bn. Energy is the top climate-aligned theme (USD19.1bn), dominated by Norwegian (36% of climate-aligned outstanding debt in the Energy theme) and Swedish issuers (26%). Denmark and Finland account for 18% and 17% of Energy-related debt, while Iceland contributes 3%. The top issuer is the Swedish power generation company Vattenfall AB, which is responsible for a quarter of the sector's climate-aligned debt.

The second-largest climate-aligned theme is Land Use & Agriculture, with USD2.2bn of outstanding bonds. Transport and Water follow with USD249m and USD67m respectively (1% and <1% of Nordic climate-aligned outstanding debt).

Most climate-aligned volume from Energy

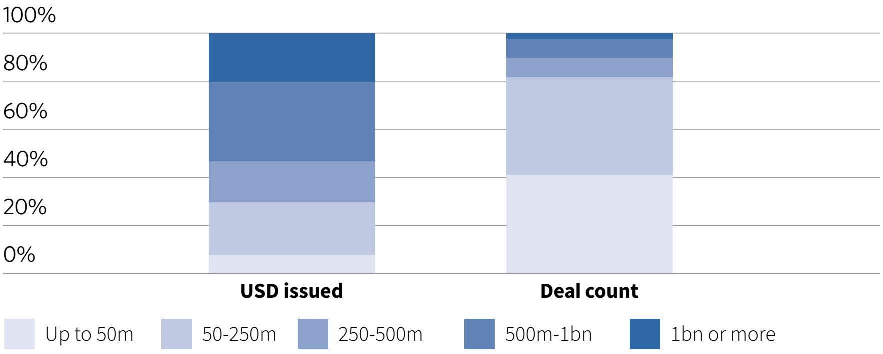


64% of issuance in hard currency



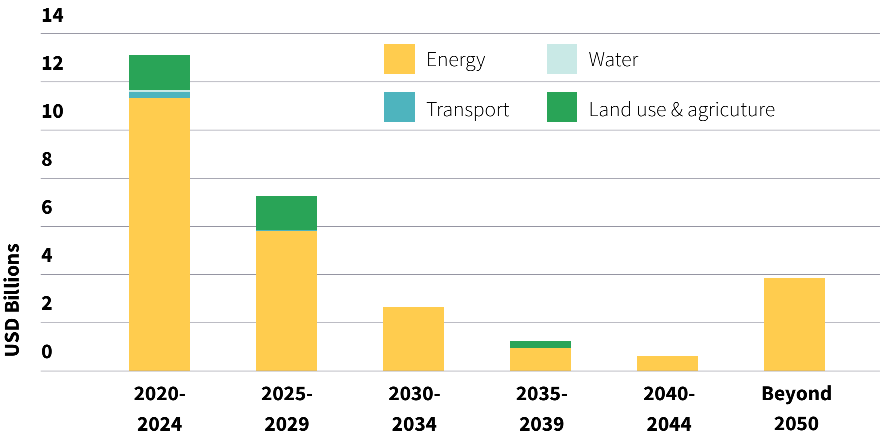
Source: Climate Bonds Initiative, 2021

As with green bonds, smaller sizes are common



Source: Climate Bonds Initiative, 2021

Most climate-aligned bonds mature by 2029



Source: Climate Bonds Initiative, 2021

EUR accounts for almost half of climate-aligned issuance

EUR is the dominant currency for Nordic climate-aligned bonds, representing over half of total bond issuance (48%). NOK is the second most common currency (23%), followed by the GBP and SEK, both representing 12% of the market. USD and ISK account for 4% and 1% of bond issuance. Just under two-thirds (64%) of issuance is hard currency-denominated.

Most climate-aligned deals are smaller in size

Despite representing only 8% of Nordic climate-aligned issuance volume, 41% of total deals are USD50-250m in size. The largest (USD1bn+) are concentrated in the energy sector, primarily in Sweden (78% of volume and three out of four of the sector's deals) and the remaining share in Denmark.

Nearly half of volume maturing in the next three years

Almost half (45% or USD13.1bn) of Nordic climate-aligned outstanding debt will mature by 2024. Issuers operating in energy, transport, water and land use and agriculture can choose to refinance their operations with labelled green bonds in the short term. More opportunities to scale up labelled issuance arise from 2025, with USD7.3bn (25% of outstanding debt) maturing in 2029.

Sweden's Vattenfall AB, the largest issuer of Nordic climate-aligned debt, has already entered the labelled green bond market to raise funds for renewable energy and related infrastructure, energy efficiency, electrification of transport and heating, and industry projects. Ørsted, another climate-aligned issuer in the energy sector, has deployed green financing for offshore wind projects *en masse*. Other climate-aligned issuers that have tapped the labelled green bond marked include BKK AS, Orkuveita Reykjavíkur (Reykjavik Energy), and Stora Enso.

Top Nordic climate themes and issuers

Climate theme	USD issued	Number of issuers	Top issuers
1. Energy	19.1bn	17	**Vattenfall AB, Ørsted A/S, Teollisuuden Voima Oyj**
2. Land-use & Agriculture	2.2bn	4	**Stora Enso Oyj, Svenska Cellulosa AB, Holmen AB**
3. Transport	<1bn	2	**DSB, Fjord 1 ASA**
4. Water	<1bn	1	**Kappalaforbundet**

Policy update

The Net Zero journey

The Nordic region has historically been very attuned to the wider sustainable development agenda, with climate as a central part of this. This ambition is reflected at the level of national legislation and in regional co-operation.

National commitments

In addition to adopting sustainable finance mechanisms relatively early, some of the countries are also among the world's most ambitious in their economy-wide net zero targets.

Nordic net zero targets

Country	Target	Time frame
Finland	Net zero	2035
Denmark	-70% from 1990 baseline	2030
Iceland	Net zero	2040
Norway	-40% from 1990 baseline	2030
Sweden	-85% from 1990 baseline	2045

Norway's target is the only one not enshrined in law (though numerous other pieces of climate-related legislation exist). It is also contingent on other countries' actions and to some degree carbon trading and other "flexible mechanisms", causing some confusion and concern around the adequacy of Norway's low-carbon transition ambitions.[37] The phasing out (or at least downsizing) of the fossil fuel exploration and refining industries will need to play a key role for the country.

Finland also has some remaining thinking to do on ways of meeting its target – the most ambitious of the group – including very quickly winding down transportation emissions, from private vehicles in particular.[38, 39]

Regional collaboration

In January 2019, the Nordic Council of Ministers published a Declaration on Nordic Carbon Neutrality or the "Helsingfors Declaration". In it, the countries reaffirmed their commitment to pursuing carbon neutrality in the five Nordic states, as well as being active in Nordic climate diplomacy in international arenas to try and effect global emission reductions in line with the Paris Accord target of limiting the global average temperature increase to 1.5°C.[40]

More recently, in a Nordic leadership N8 meeting in October 2020, the Climate Investment Coalition – a public-private partnership between the Government of Denmark, Insurance & Pension Denmark, the Institutional Investors Group on Climate Change (IIGCC), and World Climate Foundation – announced its intention to solicit further commitments from Nordic pension funds to ramp up their green investments. The Coalition's aim is to facilitate the announcements of further commitments at the upcoming COP26, which will be held in November 2021 in Glasgow, UK.[41]

On private sector collaboration, the Nordic Platform for Mobilising Sustainable Finance was initiated in 2019 by consultancy firms South Pole and Gaia. The Platform hosts 25+ Nordic companies, investors and other key stakeholders with the aim of facilitating information exchange and dialogue to help drive the region's low-carbon transition.[42]

Pension funds

A number of Nordic pension funds have pioneered the expansion of climate-specific mandates and neutrality targets. The Danes were the first: the ground-breaking announcement from Danish pension funds in September 2019 stipulated their conditional commitment to mobilise USD50bn for green energy and climate-related investments by 2030.[43] The commitment led to the establishment of the Climate Investment Coalition (see above).

Sweden's AP4 has set a net zero 2040 goal and began decreasing its emission-intensive energy holdings last year.[44] Peer AP7 divested coal from its portfolio in December 2020 and increased the total size of its green impact mandate – managed by Impax – to EUR135.8m (ca. USD160m).[45]

Finland's Varma is committed to an EU-aligned net zero 2030 target. As part of this, Varma will exit thermal coal exposure by 2025; exclude oil exploration by 2030; and remove gas from portfolios by 2050.[46]

Banks

Nordic banks have been among some of the early movers in their sector, even on a global scale, to set net zero targets. Nordea announced its net zero 2050 commitment in February 2021, including interim milestones against a 2019 baseline. Handelsbanken followed with its own target a week later, bringing the deadline forward by a decade.[47] Danske Bank's asset management arm also affirmed its 2050 net neutrality target in March 2021.[48]

Green recovery

The emergence of the pandemic has prompted countries across the world to consider "building back better" via various green recovery mechanisms, and the Nordics are no exception. On a regional level, the Nordic Council of Ministers began examining the region's green recovery prospects in April 2020, and the region's energy ministers reaffirmed the crucial role of the clean energy sector in kickstarting the recovery.[49, 50]

Numerous country-specific actions have also been taken: for example, Sweden extended its Fossil-Free Sweden programme to 2024 to facilitate recovery and help the private sector detangle from fossil fuels and other non-renewable resources.[51] Another key example is the attachment of so-called "green strings" to the public bailout of Sweden-based Scandinavian Airlines (SAS), demanding the airline – which covers up to two-thirds of intra-Scandinavian traffic in non-pandemic times – to demonstrate quantifiable emission reductions and better alignment with the Paris Agreement 1.5°C target.[52] In Finland, the government's COVID-19 recovery package included a fourth supplementary budget proposal for 2020, focusing on "ensuring an economically, ecologically and socially sustainable emergence from the crisis".[53] As part of this, the government also launched a climate innovation fund under the State Business Development Company (VAKE). It will invest in developing climate solutions, promoting digitalisation, and enhancing low-carbon operations in manufacturing industries.[54]

Green definitions: Role of the EU Taxonomy

Out of the five Nordic countries, three – Finland, Denmark, and Sweden – are European Union Member States, while Norway and Iceland are members of the European Economic Area. The whole region is therefore heavily influenced by the legislative outputs of the EU's Sustainable Finance Action Plan, including the Taxonomy Regulation.

Concerns around Buildings and DNSH criteria

Though generally welcomed as a further effort to standardise definitions, some Nordic issuers and investors are concerned about the applicability of the Taxonomy and the proposed EU Green Bond Standard, especially as these relate to the financing of low-carbon buildings.

A key component of the green bond market in the Nordics, there are concerns that imposing a blanket EPC-based requirement as a measure of energy efficiency will make many existing green bond issuer frameworks ineligible, thereby disproportionately disadvantaging many Nordic issuers. The roots of this are in the fact that the overall efficiency and regulatory requirements for buildings vary significantly across Europe – for example, only about 1% of both Finland and Sweden's building stock achieves or can theoretically achieve the "A" level EPC, yet buildings overall and on average consume far less energy than in other European countries.[55] Climate Bonds continues to advocate for the proportional approach of making the top 15% most efficient dwellings (by primary energy demand) eligible – which is the approach that the Technical Expert Group had recommended to the EU Commission.[56]

The most vocal criticism came jointly from the three important LGFAs – Kommuninvest, MuniFin and KBN – last December in the form of an official letter to the Commission, which outlined elements of the points above as well as significant concerns around the administrative burden and lack of clarity around the usability of the so-called Do No Significant Harm (DNSH) criteria of the Taxonomy; a concern shared by a number of market participants across Europe and beyond. We discuss the regulatory framework which will implement the European Sustainable Action Plan at length in the upcoming Global Sustainable Debt State of the Market 2020 report.[57]

Conclusion

The economic systems of the Nordic countries were built on the values of a welfare state. The region continues to embrace the model of a strong public sector that facilitates the requisite societal systems for its citizens to lead stable and happy lives.

The early adoption of green and sustainable finance models and instruments is therefore no surprise. Under predominantly Sweden's trailblazing leadership, Nordic labelled bonds and the broader decarbonisation agenda have triumphed, with GSS bond issuance in the region reaching USD88.2bn at the end of 2020. This equates to 5% of global (labelled) green capital flows – more than an order of magnitude larger than the sizes of the region's population and economy.

The pioneer position of Sweden was further cemented by the country's inaugural sovereign green bond issued in September 2020. It is likely that at least some of the others will follow suit, and in fact Denmark had already announced its intentions and ongoing plans to do so back in 2019. These will continue to be welcome developments and crucial to unlocking the scale needed to meet the Nordic countries' net zero targets, which are some of the most ambitious in the world. The rest of the public sector – government-backed entities, local governments and the like – will need to continue to play a role for this to happen, but so must corporates.

Some early signals from key industries in the region's economy and emissions profile, such as energy (utilities), forestry and transport, indicate that this change is underway. However, the Nordics will also need to keep pace with the rest of the world in engaging other heavy and basic industries, and take into account the varied nature of natural resources in each country, including iron ore for Sweden and aluminium for Iceland. Regulation at the EU level, along with the emerging transition finance agenda and the new definitions and standards these bring, will be useful in creating further opportunities to scale up sustainable activities across the Nordic economies.

Related to this, social bonds – pioneered by the likes of MuniFin and SBB – appear well-suited for a region whose values are centred on social inclusivity and equity. These instruments and their sustainability-themed counterparts, which blend green and social categories, will offer another avenue for further growth of finance that generates positive impact. Any growing supply will presumably be met with enthusiasm from the buy-side, with several Nordic institutional investors already announcing divestments from fossil fuels, net-zero targets and other dedicated sustainability mandates. Policy leadership at the country and regional level is required to provide both regulatory pressure as well as incentives that facilitate favourable conditions for the market to grow. This is crucial for the region to continue to build resilience to be able to thrive in a resource-constrained world coloured by a range of different climate-related risks.

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