

## **1.2 GREEN COVERED BONDS – AN IMPORTANT CONTRIBUTION TO CLIMATE NEUTRALITY**

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### **Green Bond Principles and use of proceeds**

#### *Market overview:*

A green covered bond is a bond where the proceeds (or an equivalent amount) are used to (re)finance in part or in full eligible green projects which meet specific green standards. The most popular format is a structure wherein mortgage loans to residential and/or commercial properties are (re)financed that meet certain sustainable criteria. However, we currently observe four exceptions in the market. Two issuers (re)finance green public sector loan assets, one issuer has (re)financed renewable energy loans in sub-benchmark size green format and another issuer refinances sustainable forestry.

#### *ICMA's Green Bond Principles:*

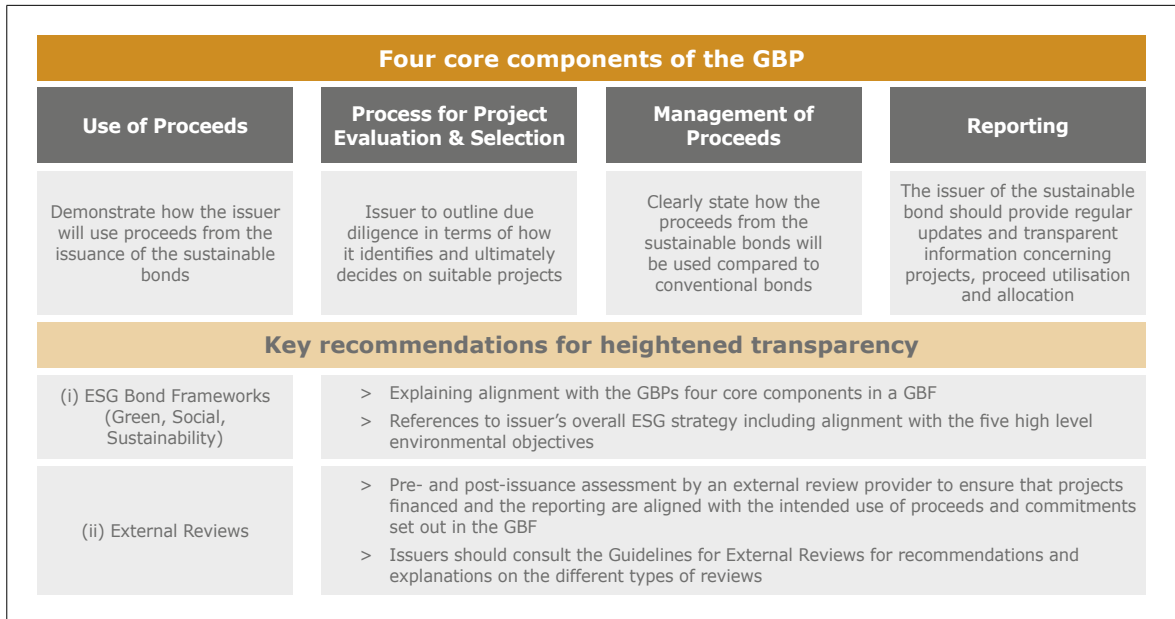
In the absence of regulation, the green covered bond market adopted, in line with other debt capital market instruments, the principles and standards as set by ICMA in their Green Bond Principles (GBP) and which are voluntary guidelines. All existing green covered bonds in the market are currently GBP based.

The latest version of the GBP was published on 10 June 2021. Appendix 1 of the GBP was updated in June 2022 to make a distinction between "Standard Green Use of Proceeds Bonds" (unsecured debt obligation) and "Secured Green Bonds" and to provide further guidance on green covered bonds. The category "Secured Green Bonds" can be subdivided between (i) bonds where the underlying green projects are directly securing the specific bond only ("Secured Green Collateral Bond") and (ii) bonds where the green projects are securing the specific bond in whole or in part ("Secured Green Standard Bond"). The latter is therefore currently the most dominant type in the green covered bond market, as most green covered bond programmes are issued from the same programme as where regular covered bonds are issued from. ICMA recommends issuers to specify the relevant category of the bond in their marketing material and offering documents. The GBP put emphasis on transparency and integrity of the information that is disclosed and reported by issuers through four core components and two key recommendations.

Additionally, ICMA promotes two recommendations for increased transparency. First of all, issuers should explain the alignment of their green bond with the four core criteria in a Green Bond Framework (GBF). In doing so, issuers are encouraged to also incorporate any relevant information on their overall ESG strategy, including alignment with the five high-level environmental objectives. Secondly, issuers are recommended to seek external review to confirm the alignment with the GBP's four core components. See below figure 1 for a detailed overview of these components and the recommendations.

When analysing the largest and most active green covered bond programmes in the market, we observe that they all (i) claim compliance with the GBP, (ii) have a GBF in place (either on a covered bond programme level or on issuer level) and (iii) that they use external verification.

> FIGURE 1: THE FOUR COMPONENTS OF THE GREEN BOND PRINCIPLES



Source: ICMA, Rabobank Research

The GBP recognize five high level environmental objectives, to which a green bond can contribute:

- > Climate change mitigation;
- > Climate change adaptation;
- > Natural resource conservation;
- > Biodiversity conservation; and
- > Pollution prevention and control

Based on these five areas, the principles make reference to numerous possible project directions, without limiting them. With regard to the green covered bond universe, we currently observe the following "Use of Proceeds" categories:

- > *Energy efficiency;*
- > *Pollution prevention and control;*
- > *Green buildings;*
- > *Clean transportation;*
- > *Environmentally sustainable management of living natural resources and land use*

Furthermore, ICMA has published a reference framework that helps parties to translate investment targets of to the so-called UN Sustainable Development Goals (SDGs). Market analysis shows that the following categories are the most popular among green covered bond issuers:



Source: UN SDG

Most green mortgage covered bond issuers focus primarily on the goals of 'Affordable and Clean Energy' (SDG 7), 'Sustainable Cities and Communities' (SDG 11) and 'Climate Action' (SDG 13). Whereas green public sector covered bond issuers also include categories such as 'Clean Water and Sanitation' (SDG 6), 'Affordable and Clean Energy' (SDG 7), 'Industry, Innovation and Infrastructure' (SDG 9) and 'Responsible Consumption and Production' (SDG 12), in their use of proceeds.

It is important to note that the GBP are largely build on recommendations. When it comes to the eligibility criteria to define 'green projects', the GBP address these on a high-level basis. In doing so the definitions of green projects and 'green' may vary between issuers, jurisdictions, and sectors. This limits the comparability between GBP based green bonds to some extent. These shortcomings are covered under the EU Green Bond Standard (GBS) which requires clear alignment of the use of proceeds with eligible projects as defined under the EU taxonomy.

### **The EU taxonomy regulation in a nutshell**

The EU taxonomy regulation came into force in July 2020. It provides a unified classification system for sustainable activities and is an important pillar within the EU sustainable finance framework.

At this point, the EU taxonomy identifies six environmental objectives. An economic activity is considered environmentally sustainable and thus EU taxonomy aligned if it:

- > **Contributes substantially** to one of the six environmental objectives identified:
  1. Climate change mitigation;
  2. Climate change adaptation;
  3. Sustainable use and protection of water and marine resources;
  4. Transition to a circular economy, waste prevention and recycling;
  5. Pollution prevention and control;
  6. Protection and restoration of biodiversity and ecosystems.
- > **Does not significantly harm** (DNSH) any of these environmental objectives;
- > Is carried out in compliance with the **minimum safeguards** (MS); and
- > Complies with the technical screening criteria (TSC) for substantial contribution (SC) and for DNSH to the other environmental objectives.

The climate delegated act of June 2021 sets the TSC for the climate mitigation and climate adaptation objectives (1-2) and the conditions for avoiding significant harm to the other objectives (including 3-6). These criteria became applicable per 1 January 2022. The environmental delegated act of June 2023 defines the criteria for substantial contribution and doing no significant harm to the remaining four environmental objectives and is applicable since 1 January 2024.

> FIGURE 2: THE IDENTIFIED ECONOMIC ACTIVITIES PER ENVIRONMENTAL OBJECTIVE 1-6

Economic activities		Environmental objectives					
		1	2	3	4	5	6
1	Forestry	✓	✓				
2	Environmental protection and restoration activities	✓	✓				✓
3	Manufacturing	✓	✓	✓	✓	✓	
4	Energy	✓	✓				
5	Water supply, sewerage, waste management and remediation	✓	✓	✓	✓	✓	
6	Transport	✓	✓				
7	<b>Construction and real estate activities</b>	✓	✓		✓		
8	Information and communication	✓	✓	✓	✓		
9	Professional, scientific and technical activities	✓	✓				
10	Financial and insurance activities		✓				
11	Education		✓				
12	Human health and social work activities		✓				
13	Arts, entertainment and recreation		✓				
14	Disaster risk management		✓	✓			
15	Services				✓		
16	Accommodation activities						✓

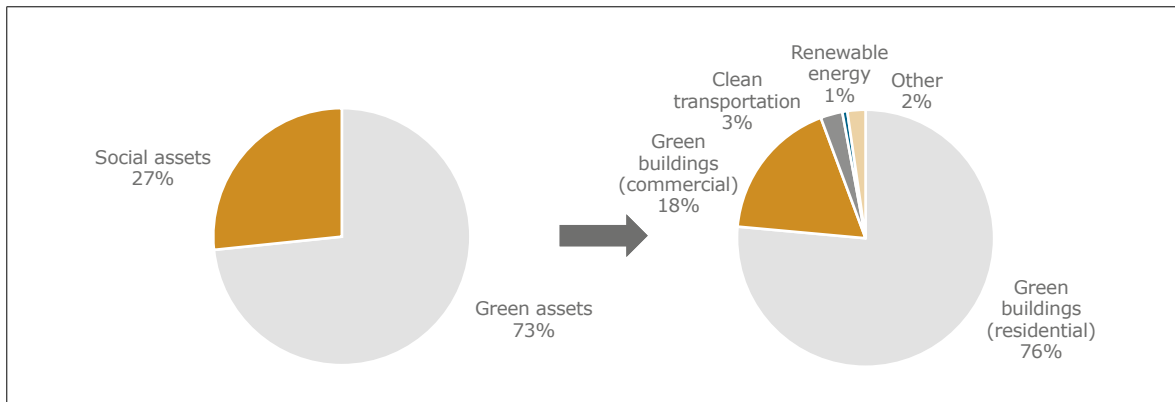
Source: European Commission, ING

### Building loans contributing substantially to climate change mitigation

Due to the dominance of mortgage assets in cover pools, the TSC for **construction and real estate activities** are the most relevant for green covered bonds. Figure 4 confirms that of all the EUR sustainable covered bond green asset allocations, 95% finance energy-efficient building loans.

> FIGURE 3: ASSET ALLOCATIONS BY TYPE (COVERED € 92 BN)\*

> FIGURE 4: GREEN ASSET ALLOCATIONS BY TYPE (COVERED € 68 BN)\*



\*Covered EUR supply (size ≥ € 250 mn)  
Source: Issuer allocation reports, ING

The climate delegated act divides the construction and real estate activities in seven sub-categories. Two of them are **low-carbon activities** that themselves contribute substantially to one of the taxonomy's environmental objectives. These are generally most important for the selection of green real estate assets:

- > The construction of new buildings;
- > The acquisition and ownership of buildings.

One is a **transitional activity**:

- > Renovation of existing buildings.

The remaining four activities are all **enabling activities**. These include the installation, maintenance and repair of:

- > Energy-efficiency equipment;
- > Charging stations for electric vehicles in buildings (and parking spaces attached to buildings);
- > Instruments/devices for measuring, regulation and controlling energy performance of buildings;
- > Renewable energy technologies.

Figure 5 summarises the TSC for the climate change mitigation, climate change adaptation, and transition to a circular economy objectives. The overview only shows a subset of the criteria for SC and DNSH, solely for the low carbon and transitional construction and real estate activities.

> FIGURE 5: SELECTION OF TSC FOR CONSTRUCTION AND REAL ESTATE ACTIVITIES

Substantial contribution			Do no significant harm		
Climate change mitigation	Climate change adaptation	Transition to a circular economy	Climate change mitigation	Climate change adaptation	Transition to a circular economy
<b>Buildings built pre-2021</b> > EPC = A > Top 15% building stock (PED)	<b>Buildings built pre-2021</b> > Implementation of physical and non-physical adaptation solutions for material physical climate risks (identified via CRVA)		<b>Buildings built pre-2021</b> > EPC ≤ C > Top 30% building stock (PED) > Building is not dedicated to fossil fuels activities	<b>Buildings built pre-2021</b> > CRVA to identify material physical climate risks > Adaptation solutions to address material physical climate risks	
<b>Buildings built after 2021</b> > PED ≤ NZEB -10%; as built EPC > Buildings ≥ 5000 m <sup>2</sup> : thermal integrity testing, calculation life-cycle GWP	<b>Buildings built after 2021</b> > Implementation of physical and non-physical adaptation solutions for material physical climate risks (identified via CRVA)	<b>New constructions</b> > ≥ 90% non-hazardous waste is recyclable > Cap on use (non-recycled) primary raw materials (eg 70% concrete, bricks, glass)	<b>Buildings built after 2021</b> > PED ≤ NZEB; as built EPC > Building is not dedicated to fossil fuels activities	<b>Buildings built after 2021</b> > CRVA to identify material physical climate risks > Adaptation solutions to address material physical climate risks	<b>New constructions</b> > ≥ 70% non-hazardous waste is recyclable > Operators limit waste generation > Circular building design
<b>Renovations</b> > Compliance with EU rules for major renovations, incl. on cost-optimal minimum energy performance > 30% PED improvement	<b>Renovations</b> > Implementation of physical and non-physical adaptation solutions for material physical climate risks (identified via CRVA)	<b>Renovations</b> > ≥ 70% non-hazardous waste is recyclable, > Cap primary raw materials (85% concrete, bricks, glass) > ≥ 50% is original building	<b>Renovations</b> > Building is not dedicated to fossil fuels activities	<b>Renovations</b> > CRVA to identify material physical climate risks > Adaptation solutions to address material physical climate risks	<b>Renovations</b> > ≥ 70% non-hazardous waste is recyclable > Operators limit waste generation > Circular building design

Source: European Commission, ING

To contribute to the climate change mitigation objective, buildings built as of 2021 should have a primary energy demand that is 10% lower than a country's threshold for 'nearly zero-energy buildings' (NZEB) applicable for new buildings in the EU per 2021. Buildings built before 31 December 2020 should have an energy performance certificate (EPC) class A. These buildings are also taxonomy compliant if they belong to the top 15% most energy efficient buildings of the regional and national building stock built before 2021.

Even if an economic activity contributes substantially to the climate change mitigation objective, taxonomy alignment also requires that no significant harm is done to the other environmental objectives. Not doing significant harm to the climate change adaptation objective is most crucial, as these DNSH criteria apply to all construction and real estate activities. They require a climate risk and vulnerability assessment (CRVA) to identify physical climate risks such as floods and an adaptation solutions plan to reduce these risks if material.

Meeting the do no significant harm criteria is most challenging for the construction of new buildings and the renovation of existing buildings. These criteria stretch well beyond doing no significant harm to the climate change adaptation objective alone. For the acquisition and ownership of buildings built per 2021 the substantial contribution criteria for new buildings apply. Yet, it is our understanding that the same do no significant harm provisions must be met as for buildings built before 2021. For any building acquisition, it is only important to not cause significant harm to climate change adaptation.

Sustainable economic activities must also comply with the OECD Guidelines for Multinational Enterprises and UN Guiding Principles on Business and Human Rights, including the ILO declaration on the Fundamental Principles and Rights at Work, the eight fundamental conventions of the ILO and the International Bill on Human Rights (minimum safeguards). The Platform on Sustainable Finance clarified in October 2022 that households are not deemed to be covered by the minimum safeguards under the EU taxonomy. However, the European’s Commission’s guidance in its December 2023 Draft Commission Notice (FAQ37) on the adherence to the TSC and minimum safeguards by producers of goods and service providers to retail clients, raised unclarity if alignment could be claimed for borrowers that purchased their house from contractors. At the time of writing it is heavily debated in the market that this should apply only to mortgages granted for the acquisition of new buildings.

> FIGURE 6: MITIGATING CLIMATE CHANGE THROUGH CONSTRUCTION AND REAL ESTATE ACTIVITIES  
 THE ‘DO NO SIGNIFICANT HARM’ CRITERIA THAT CONSTRUCTION AND REAL ESTATE ACTIVITIES SHOULD MEET

	Construction of new buildings	Renovation of existing building	Energy efficiency equipment	Charging stations	Devices for energy performance regulation	Renewable energy technologies	Acquisition & ownership of buildings
Climate change mitigation	✓	✓	✓	✓	✓	✓	✓
Climate change adaptation	✓	✓	✓	✓	✓	✓	✓
Sustainable use and protection of water and marine resources	✓	✓					
Transitions to a circular economy, waste prevention and recycling	✓	✓					
Pollution prevention and control	✓	✓	✓				
Protection and restoration of biodiversity and ecosystems	✓						

- ✓ = Contributing substantially to
- ✓ = Doing no significant harm to

Source: European Commission, ING

**The importance of taxonomy compliance for green covered bonds**

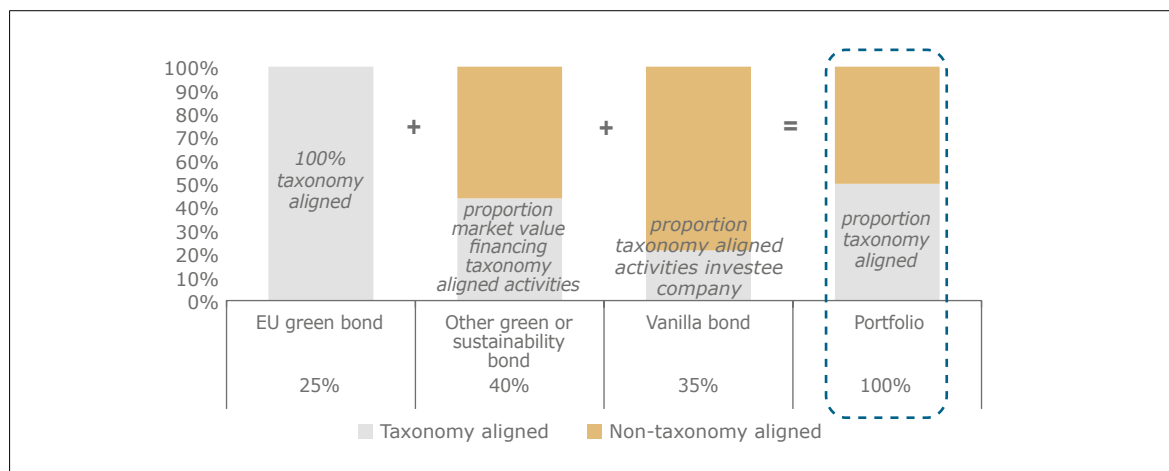
Banks have good reasons to strive for the best possible taxonomy alignment of their green assets. These stretch well beyond the purpose of green bond issuance. The taxonomy regulation is an important pillar to the voluntary EU GBS that will apply from 21 December 2024, which requires full taxonomy alignment of the use of proceeds.

However, it also forms an integral part of EU regulation promoting sustainable reporting, via the sustainable finance disclosure regulation (SFDR) and the corporate sustainability reporting directive (CSRD). The latter directive applies from 2024 and replaces the non-financial reporting directive (NFRD). These disclosure regulations have the consequential side-effect that companies (including banks) face increased scrutiny on the sustainability of their activities, among others from investors that must show to what extent their investments consider sustainability aspects.

The intentions of the ECB to introduce climate change related disclosure requirements for collateral, will only strengthen this effect. As of 2026 the ECB will solely accept marketable assets and credit claims from companies and debtors that comply with the CSRD. In light thereof, the ECB and the ESAs also support better and harmonised disclosures of climate related data for assets that do not fall under the CSRD, such as covered bonds and asset-backed securities. In fact, the EBA is in the process of assessing the relevance of introducing cover pool ESG disclosure requirements as part of its response to the European Commission before 30 June 2025 on the call for advice on the EU covered bond framework.

For taxonomy disclosure purposes, the SFDR, CSRD and EU GBS work as communicating vessels. This is illustrated by an indicative investment portfolio comprised of bonds in figure 8 based on the regulatory technical standards on disclosures under the SFDR. These apply since 1 January 2023 to financial market participants such as insurance companies, pension funds, and investment firms.

> FIGURE 7: TAXONOMY RELATED DISCLOSURES WILL IMPACT GREEN AND VANILLA BONDS DIFFERENTLY



Source: European Commission, regulatory technical standards adopted on 6 April 2022, ING

The key performance indicator measuring the taxonomy compliance of financial products, is calculated as the ratio of the market value of investments in environmentally sustainable (ie taxonomy aligned) activities versus the market value of all investments. Environmentally sustainable investments can (among others) include the following:

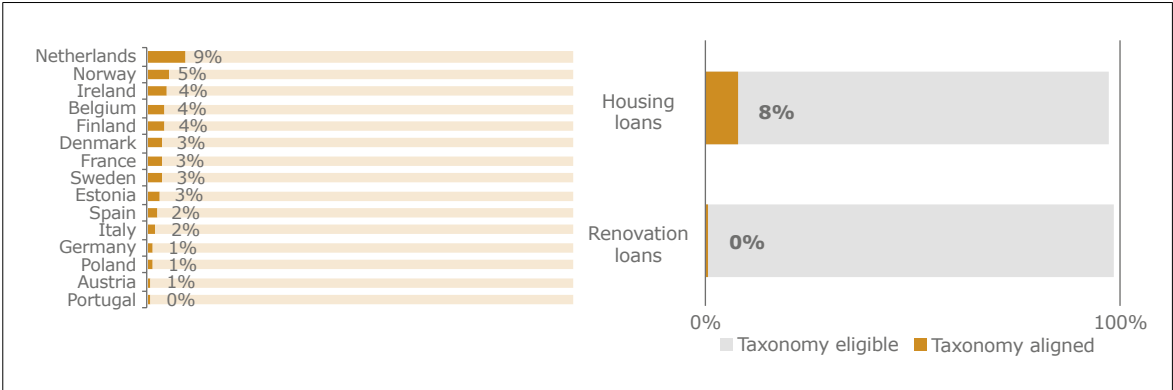
- > **Bonds** issued under the future voluntary **EU GBS** = 100% market value;
- > **Other debt securities** where a proportion of the proceeds is used exclusively on **environmentally sustainable activities** = proportion of the market value corresponding to the share of the proceeds used to finance taxonomy aligned economic activities;
- > **Debt instruments** and equities in **investee companies** = market value of the proportion of debt instruments/equities reflecting the proportion of activities of the investee companies that is associated with environmentally sustainable economic activities.

For banks, this proportion comes down to the share of environmentally sustainable economic activities as disclosed under the NFRD/CSRD (ie, "green asset ratio").

This illustrates that the taxonomy-related disclosure requirements may impact all bonds, whether marketed with a sustainable use of proceeds or not. The taxonomy compliance of vanilla bonds will also be considered via the issuer's overall portion of environmentally sustainable activities.

The first green asset ratio disclosures do point at a low taxonomy alignment of EU banks. Even housing loans score low on taxonomy alignment, despite the almost 100% taxonomy eligibility of these loan portfolios. This not only reflects the application of the top 15% criterion for buildings built before 2021, but also the reluctance of issuers to claim full taxonomy alignment. An indication that probably few issuers will be start issuing (covered) bonds under the EU GBS as of next year.

> FIGURE 8: GAR DISCLOSURES POINT AT LOW TAXONOMY ALIGNMENT > FIGURE 9: EVEN HOUSING LOANS HAVE LOW EUT ALIGNMENT



Source: Issuer 2023 Pillar 3 reports (44 EU banks), ING

**The European green bond standard**

Green covered bonds that comply with the EU GBS should allocate the bond proceeds to (new and/or existing) loans (ie financial assets) that finance environmentally sustainable economic activities (ie that are taxonomy aligned). These loans do not have to be part of the cover pool.

The proceeds of the financial assets financed through a European green bond should be allocated to fixed assets (eg construction or acquisition of buildings), capital expenditures (eg the installation of renewable energy technologies), or operating expenditures (eg building renovation measures). The loans can also finance other financial assets if there are not more than three subsequent financial assets in a row. The loans financed by green (covered) bond proceeds should in any event not be created later than five years after the issuance of the European green bond.

Issuers may also allocate the proceeds from a portfolio of outstanding European green bonds to a portfolio of taxonomy-aligned assets (portfolio approach). In that case they must prove that the total value of the green assets exceeds the total value of the outstanding green covered bonds. Most banks with green covered bonds outstanding apply a portfolio approach at this stage, but there are also banks that allocate their green bond proceeds to a dedicated loan portfolio.

The European green bond regulation provides some flexibility regarding the full taxonomy alignment requirement. Namely, issuers are allowed to allocate up to 15% of the bond proceeds to economic activities that comply with the EU taxonomy apart from the TSC (flexibility pocket). These include economic activities for which the TSC have not entered into force at the time of issuance. This doesn't change the fact that issuers still must prove that the activities contribute substantially to at least one of the environmental objectives, DNSH to the other objectives and comply with the MS.

Moreover, capital and operating expenditures funded through a European green bond do not have to be fully taxonomy aligned yet upon issuance if there is a CapEx plan in place. This plan specifies the deadline when the expenditures should be taxonomy-aligned before the bond matures.



European green bond proceeds must always be allocated in full before the bond matures. If the TSC and DNSH provisions are amended ahead of maturity, issuers must ensure that unallocated proceeds and proceeds covered by a CapEx plan, are allocated conform the new criteria within seven years. If the proceeds are allocated via a portfolio approach, the green assets should be aligned with any of the TSC applicable during the seven years prior to the publication of the allocation report. As such, assets not meeting the amended TSC can remain part of the green portfolio for seven years at most.

The EU GBS also subjects issuers of European green bonds to stricter transparency requirements. The required (pre-issuance) green bond factsheet and (post-issuance) allocation and impact reports, will only provide information on the level of the green asset portfolio. For covered bonds there are no information provisions on the taxonomy alignment at the level of the cover pool. However, the EU GBS does have specific disclosure and exclusion requirements for EU GBS securitisation notes. These include information on the taxonomy eligibility and alignment, and compliance with the DNSH criteria of the underlying assets.

In time, the EU GBS may become an important reference for investors to show the taxonomy alignment of their green bonds. Especially as investors may not always have resources to perform a taxonomy compliance assessment for every green bond. Against this backdrop, industry initiatives, such as the EMF-ECBC's Energy Efficient Mortgages Initiative (EEMI) and the VDP's minimum standards for Green Pfandbriefe, will remain an important support to both issuers and investors in their green bond structuring and investment processes.

### **Performance Certificate (EPC) Labelling System**

The EPC labelling system is a critical component of the EPBD, providing a standardised measure of a building's energy efficiency:

1. **Purpose:** The EPC labels provide clear information on the energy performance of buildings, helping owners, tenants, and potential buyers to make informed decisions. It also plays a crucial role in identifying buildings that require energy efficiency improvements.
2. **Classification:** Buildings are rated on a scale from A (most energy-efficient) to G (least energy-efficient). This reflects the building's energy consumption and efficiency measures.
3. **Impact on Green Assets:** The EPC system directly impacts the classification of green assets. Buildings with higher EPC ratings are more likely to be considered Taxonomy eligible/aligned, meaning they meet the criteria set out by the EU Taxonomy for sustainable investments.

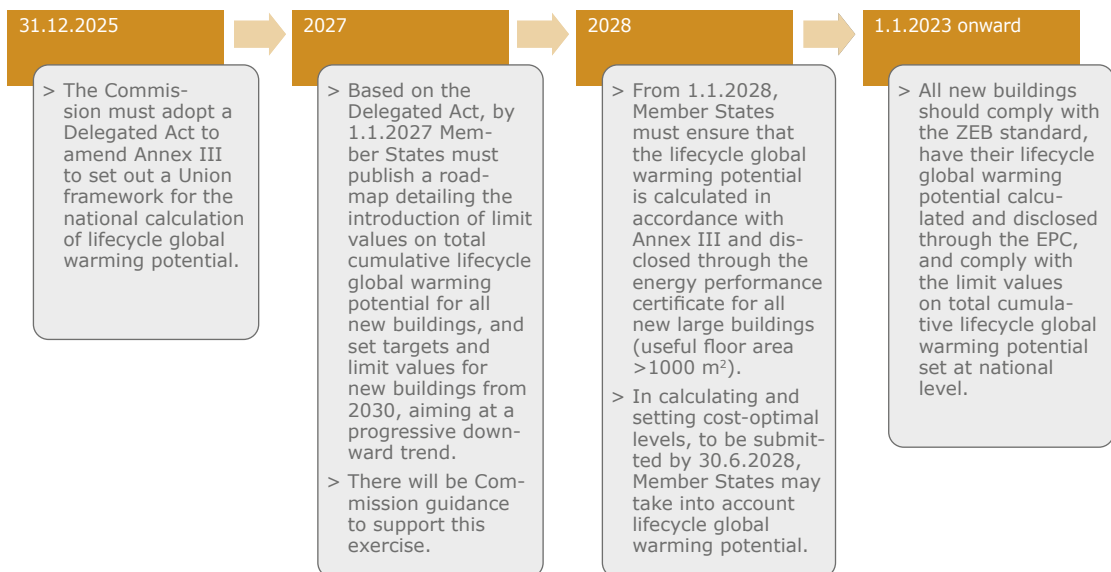
### **Impact on Covered Bond Issuance**

The EPBD and the EPC labelling system significantly influence the market for green bonds, particularly covered bonds:

1. **Green Bonds and Covered Bonds:** These financial instruments are used to fund environmentally sustainable projects, including energy-efficient buildings. High EPC-rated buildings are prime candidates for inclusion in green covered bond portfolios.
2. **Taxonomy Alignment:** Buildings that meet the energy performance criteria and have high EPC ratings are more likely to be taxonomy-aligned. This alignment enhances their eligibility for green bond issuance, attracting investors seeking sustainable investment opportunities.
3. **Market Dynamics:** The growing emphasis on energy efficiency and sustainability in the building sector is likely to increase the supply of green assets. This, in turn, supports the issuance of green bonds, providing financial incentives for investments in energy-efficient buildings.

> FIGURE 10: TIMELINE FOR THE CONSIDERATION OF LIFECYCLE GLOBAL WARMING POTENTIAL

## EPBD



Source: OP Financial Group / OP-Confidential

### **Green covered bonds as an instrument to finance green investments by the public sector**

The (re)financing of energy efficient mortgages via green mortgage covered bonds remains by far the most important use of proceeds in the green covered bond segment. In addition, green public sector covered bonds are used with a focus on financing green investments by the public sector.

Local and regional governments in most European countries are in charge of investments related to waste management, water treatment and public transportation. These activities represent an important share of local and regional government investments, and provide important environmental benefits. In 2022, European Union local and regional government investments totaled EUR 281 billion<sup>1</sup>. For the same year, investments in the area of environmental protection (including waste water treatment waste management) by local and regional governments reached a total volume of EUR 20 billion. Investment in transportation, including clean public transportation, exceeded EUR 52 billion for 2022.

Public sector covered bonds play a key role in financing investments by the local public sector. Local governments in Europe generally do not have sufficiently large funding needs for direct bond issuance. These entities rely to a large extent on the loan market to finance new investments. In many countries, including France and Germany, local government lenders rely on covered bonds to refinance these loans.

Green public sector covered bonds are a relatively new instrument. The first benchmark green public sector bond was issued in 2019, to finance green investments by local authorities in France. One problem holding back public sector covered bond issuers from issuing under green covered bonds is the difficulty of identifying specific green projects. Local government lenders typically finance the overall investment budget of a local authority, and do not link the loan contract to specific investment projects. In some cases, local government lenders may finance public sector entities with a clearly defined mission, for example public water boards or

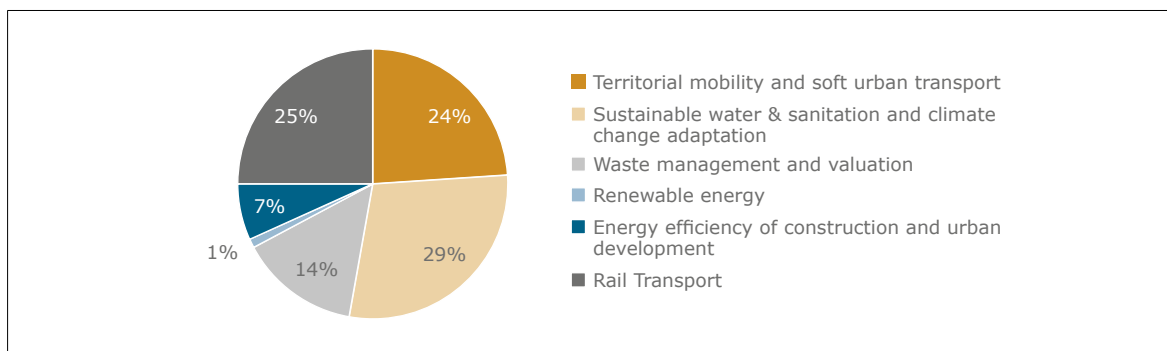
<sup>1</sup> Source of all local and regional government data: Eurostat

public transport authorities. However, in most cases local government lenders will need to adjust the lending process by setting up loan contracts linked to specific green investments, in order to refinance these assets via the issuance of green public sector covered bonds.

The total outstanding volume of benchmark green public sector covered bonds currently stands at EUR 2.75 billion with two active benchmark issuers. The majority of proceeds has been used to finance investments in three categories:

- > Sustainable water and sanitation represent 29% of allocated proceeds
- > Territorial mobility and soft urban transportation represent 24% of allocated proceeds
- > Rail transport represents 25% of allocated proceeds

> FIGURE 11: TOTAL OUTSTANDING GREEN PUBLIC SECTOR COVERED BONDS (€2.75BN) (DISTRIBUTION BY USE OF PROCEEDS CATEGORY)



It is worth noting that local authority investments often have both environmental and social objectives. As an example, the construction of a new school represents an investment in public education, but at the same time, it may also be considered a green project, if the construction is an energy efficient building. Another example would be the construction of a new tramway line with a focus on providing clean local public transportation, but at the same time providing important social benefits. Sustainable water management is another area, where social and environmental objectives are closely linked. Very often, it will be up to the issuer to determine whether a specific local government investment mainly aims to address social or environmental issues.

### **Taxonomy considerations**

Many issuers will aim to align their green covered bond issuance with the applicable taxonomy regulation. The main focus is on alignment with the substantial contribution criteria, with issuers generally still working on alignment with the DNSH criteria.

When looking at the different categories of public investments currently financed via Green public sector covered bonds, the choice of the relevant delegated act of the EU Taxonomy is not always straightforward.

The main focus of public investments in green buildings, in clean public transportation and in renewable energy will be a reduction in CO2 emissions. The EU Climate Delegated Act provides clear criteria for a substantial contribution for these investments, and existing frameworks in the covered bond space are at least partly aligned with these criteria.

The situation is less straightforward for public investments in sustainable water and sanitation, and in projects related to waste management and valuation. Even though the Climate Delegated Act provides some substantial contribution criteria, a reduction in CO2 emissions is in most cases not the main objective for investments in these areas.

A large share of public investments in sustainable water management finances water treatment plants, water supply systems, and sewer networks. In many cases, these investments are closely linked the environmental objective 'sustainable use and protection of water and marine resources' set out in the EU Taxonomy. The Commission Delegated Regulation (EU) 2023/2486 published in June 2023 provides applicable substantial contribution criteria for these activities. However, current issuance of green public sector covered bonds is not aligned with these criteria.

A significant share of public investments in the area of 'waste management and valuation' finance investments in waste collection, waste sorting, and waste recycling. These investments are closely linked to the objective of 'transition to a circular economy'. Again, The Commission Delegated Regulation (EU) 2023/2486 published in June 2023 provides applicable substantial contribution criteria. However, the existing frameworks by public sector covered bond issuers are at the moment not aligned with the criteria set out in the taxonomy.

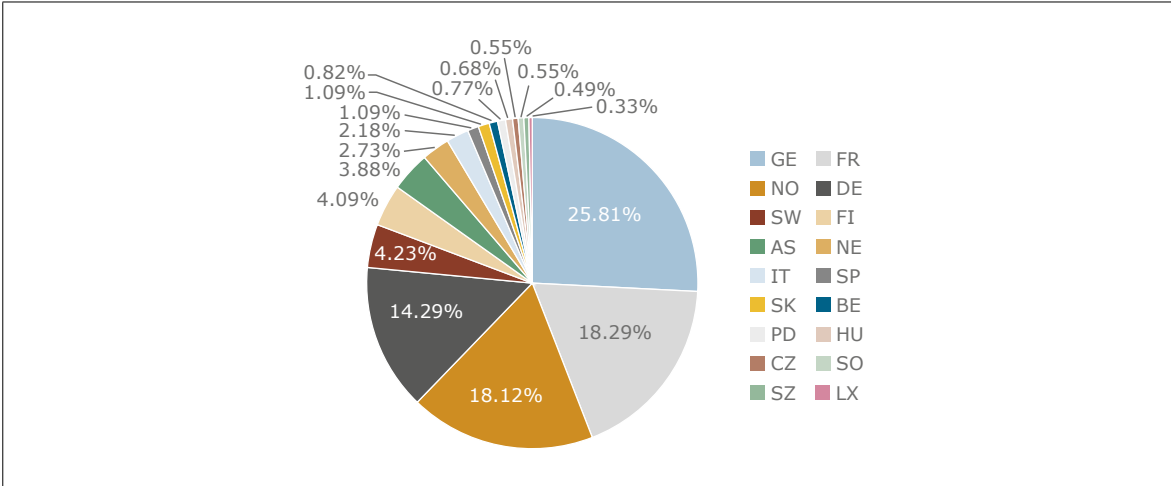
**Outlook**

Up to now, issuance of green public sector covered bonds has exclusively focused on the financing of green investments by the local public sector. One potential area of growth may be linked to the financing of export contracts with public guarantees. Export loans benefitting from Export Credit Agency guarantees are regularly financed via the issuance of public sector covered bonds. In many cases, these loans finance green investments, for example in the area of renewable energies or rail transport. To date, one framework has been set up to finance this type of loan via the issuance of green public sector covered bonds.

**Green covered bond market**

During 2023 and 1H 2024, the green covered bond market further expanded in terms of debutant issuers as well as new jurisdictions. In 1H 2024 the first green covered bond from Belgium could be observed, bringing the total number of jurisdictions to 18 (as per end 1H 2024 figures) and the number of single issuers to 69. German, French, Norwegian and Danish issuers represent the largest group with 76.51% of the current outstanding volume.

> FIGURE 12: AMOUNT OF GREEN COVERED BONDS OUTSTANDING PER JURISDICTION



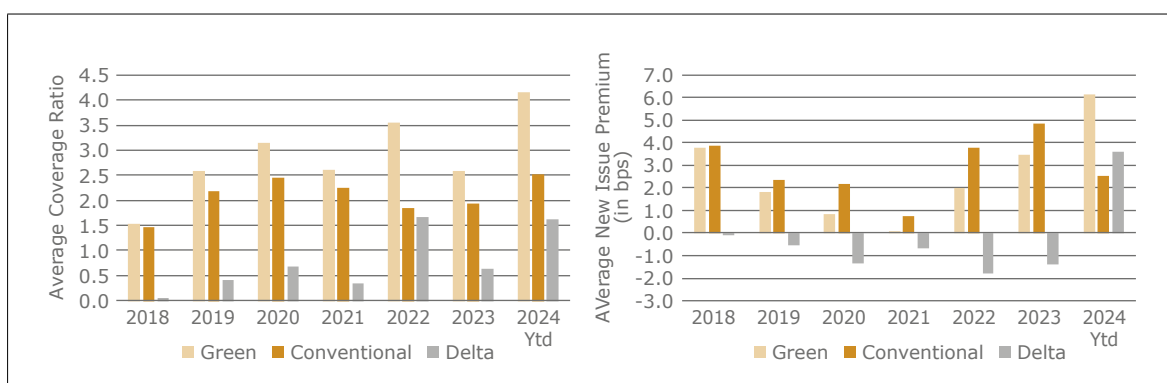
Note: non-EUR issuances have been converted to EUR equivalents at moment of issuance  
 Source: Bloomberg, Rabobank, data as per end of June 2024

*Market Dynamics:*

Green covered bonds benefit from the same high security standards as regular bonds. At the same time, printing a covered bond in green format involves additional costs for an issuer (ie additional ESG reporting, drafting and maintaining a GBF, costs of SPO(s)). Hence one could assume that issuers are only willing to make these investments if printing a green bond compensates for these costs.

From figure 13 it can be derived that green covered bonds – measured by the coverage ratios of their order book – are able to attract larger order books than regular covered bonds and therefore have the benefit of reduced execution risk compared to conventional covered bonds.

> FIGURE 13: AVERAGE COVERAGE RATIO AND AVERAGE NEW ISSUE PREMIUM ON EUR BENCHMARKS COVERED BONDS (AUSTRIA, GERMANY, FRANCE, NETHERLANDS, FINLAND, NORWAY AND SWEDEN)

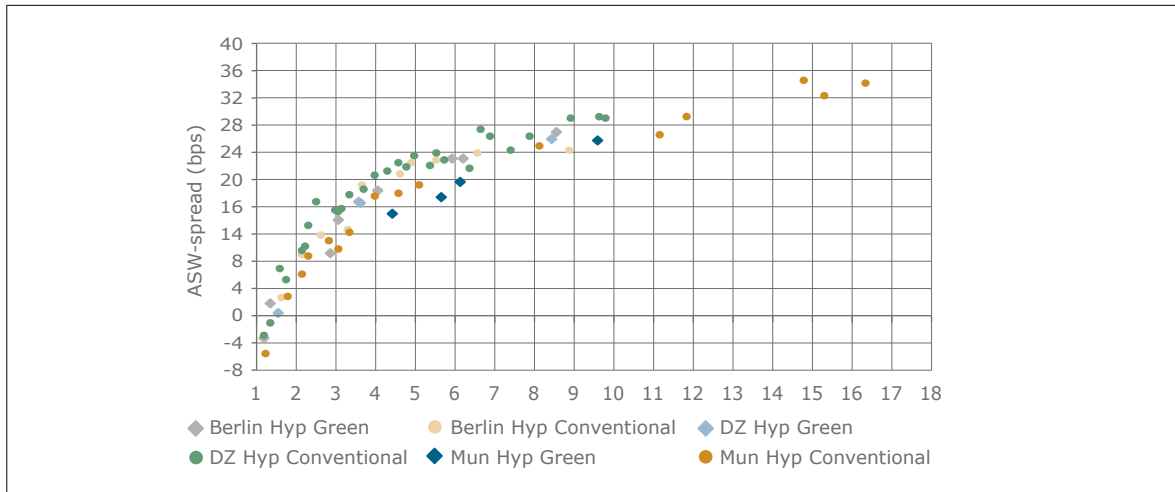


Source: Bloomberg, Rabobank Research

At the same time, market data on new issue premiums (NIP) as displayed in figure 13 indicates that green covered bonds were able to benefit from a lower NIP compared to regular covered bonds between 2019 and 2023. However, 2024YTD so far shows a different story. In the first six months of the year, the average NIP for green covered bonds is higher than for conventional bonds. This effect is mainly driven by timing differences and issuer specific reasons. Overall, NIPs were higher at the start of the year, a period in which relatively more green covered bonds were issued. Market conditions improved throughout the year and as a result less green issuance was printed in the last months when market conditions were more favourable and hence NIPs were lower.

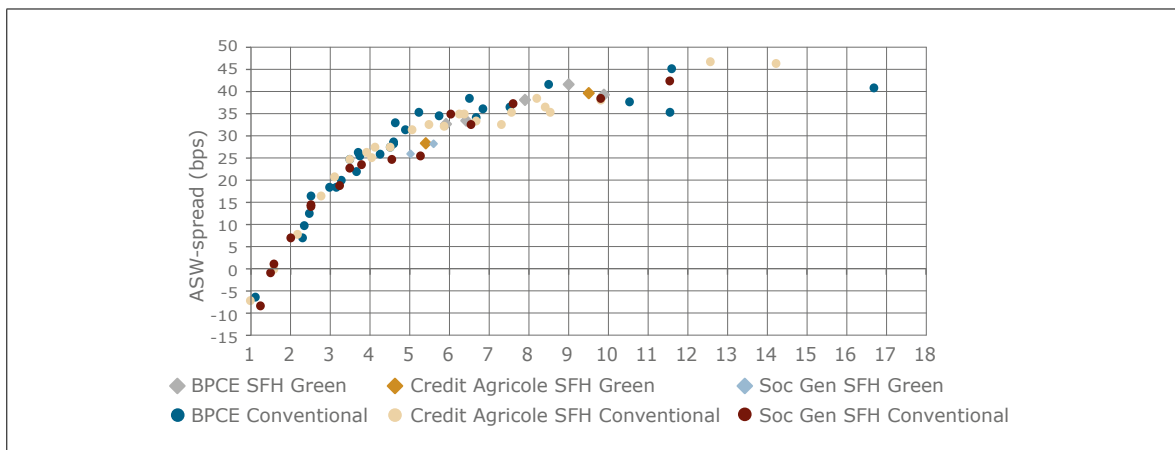
A different perspective can be generated by studying secondary market data whereby we compare outstanding bonds. In doing so, we compare the average spread levels (ASW based) on a single moment in time (i.e. 28 June 2024) for issuers that have both green covered bonds and conventional covered bonds outstanding. In order to isolate spread differentials between countries, we created two different selections: (i) three German issuers and (ii) three French issuers. Studying these market snapshots to see how pricing occurs in secondary markets does not offer a clear picture. For our German selection, we observe a greenium in the range of 0 to 3bp, but the existence of this greenium is issuer specific and also driven by tenor. We note a similar pattern for our French selection, where the greenium is issuer specific and hovers between 0 and 3 bp but becomes more visible from the 5 years tenor onwards.

> FIGURE 14: A SELECTION OF GERMAN ISSUERS WITH GREEN AND CONVENTIONAL MORTGAGE PFANDBRIEFE OUTSTANDING



Source: Bloomberg, Rabobank Research

> FIGURE 15: A SELECTION OF FRENCH ISSUERS WITH GREEN AND CONVENTIONAL (MORTGAGE) OBLIGATION DE FINANCEMENT DE L'HABITAT OUTSTANDING



Source: Bloomberg, Rabobank Research

## Conclusion

Although the market share of green covered bonds is relatively modest compared to the overall green bond market, the direction of travel is clear. Since 2021 green covered bonds have experienced an impressive growth path. This growth is supported by political and regulatory developments in Europe, aiming at channeling investments towards environmentally sustainable assets. Currently, all green covered bonds are ICMA GBP based. However, the taxonomy regulation, and related voluntary EU GBS will form an important future reference point for investors when assessing the contribution of green covered bonds towards environmentally sustainable objectives. The execution in green covered format has tangible benefits for issuers in the form of higher coverage ratios compared to conventional bonds. However, in the secondary market the existence of a greenium is to a large extent issuer, tenor and country specific.