MERLIN
OFF-THE-SHELF INSTRUMENT

Green bonds

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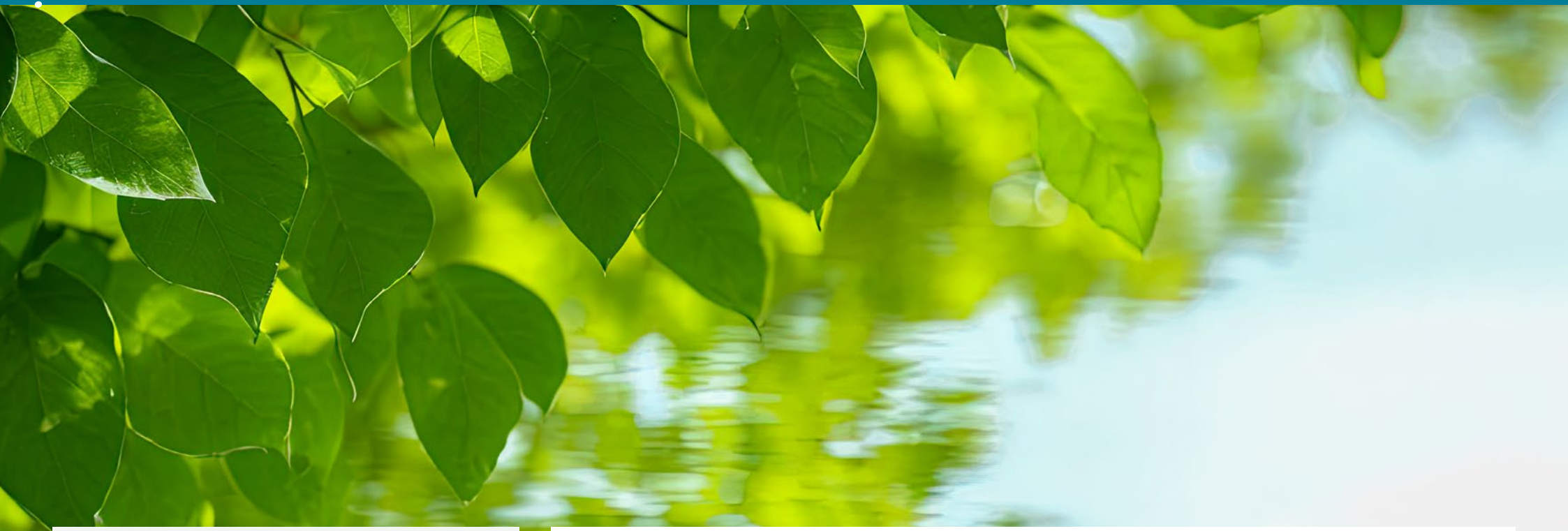

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Executive summary

In the face of biodiversity loss and the escalating climate crisis, innovative financing instruments, such as green bonds, are becoming essential to mobilise capital for environmental and nature restoration efforts. **Green bonds are fixed-income instruments specifically designed to finance projects that generate verifiable environmental benefits,** ranging from renewable energy and clean transportation to water and waste management and biodiversity protection. By fixed-income, one means a type of loan that governments or organisations can take out, with the promise to use the money only for environmentally-friendly (green) projects.

This report presents green bonds as a suitable funding tool for nature restoration projects, highlighting how they can provide both **capital and reputational advantages** to public and private entities. While they share structural similarities with traditional bonds, green bonds stand out for the clear environmental purpose tied to the proceeds, and for the transparency requirements demanded by both market standards and investor expectations.

This document explores the **potential beneficiaries of green bonds**, including local governments, development banks, NGOs, and conservation organisations. It examines how green bonds can support and leverage the implementation of freshwater restoration projects. A key emphasis is placed on the EU's leadership in regulating this instrument through the EU Green Bond Standard and EU Taxonomy, which are rapidly becoming benchmarks for market credibility.

The **practical section** of the report details **how to implement a green bond issuance**. This includes necessary **prerequisites** (such as frameworks and project pipelines), the preparation and issuance phases, external verification and certification options, and key cost considerations. It also outlines the required **timeline**, which can vary from a few months to more than a year, depending on the complexity of the bond and readiness of the issuer.

The report also weighs the **advantages and drawbacks** (pros and cons) **of green bonds**. On the one hand, issuers benefit from better access to capital, stronger ESG (Environmental, Social, Governance) positioning, and often lower interest rates. On the other hand, additional monitoring, legal compliance, and reporting costs must be considered. For investors, green bonds offer relatively safe and impact-driven returns, although questions remain regarding impact measurement and transparency.

Finally, the document presents **real-world examples** to illustrate implementation, such as the pioneering green bond programme in Gothenburg and a similar initiative in the Île-de-France region. These case studies show that **green bonds can successfully support local sustainability transitions while attracting diverse investors**. This document supports nature restoration project managers by explaining how green bonds can help secure long-term funding in a clear and practical way.

Whether for regional governments, public utilities, or NGOs, green bonds offer a **scalable and transparent way to finance environmental objectives**. With proper planning and credible execution, they can be a powerful addition to any nature restoration funding strategy.

We hope that this report will help you to figure out how green bonds can be a viable instrument for your nature restoration efforts.

Good luck!

Introduction

In recent years, the accelerating impacts of climate change and environmental degradation have prompted governments, development banks, and private companies to seek innovative financing solutions for sustainability. Among these entities, green bonds have emerged as powerful tools to mobilise capital for environmentally beneficial projects. Since the issuance of the first green bond by the European Investment Bank in 2007, the market has expanded rapidly, surpassing $1 trillion in cumulative issuance by 2020.[1] This growth reflects both increasing investor demand for sustainable investments and the urgent need to transition to low-carbon, climate-resilient economies.

Green bonds are debt instruments specifically designed to fund projects that generate measurable environmental benefits. They function like traditional bonds in terms of risk and return. Traditional bonds are loans issued by governments or companies to raise money. Investors (the buyers of the bond) lend money to the issuer in exchange for regular interest payments and full repayment of the amount after a set time (maturity). There are no restrictions on how the money is used unless specified, which is the case with green bonds.

1 European Investment Bank. (2022, May). 15 years of EIB green bonds: leading sustainable investment from niche to mainstream. Retrieved from https://www.eib.org/en/press/all/2022-308-15-years-of-eib-green-bonds-leading-sustainable-investment-from-niche-to-mainstream

Green bond proceeds are earmarked for initiatives such as renewable energy development, energy efficiency upgrades, sustainable water and wastewater management, pollution prevention and control, or biodiversity and ecosystem conservation.

These bonds help channel capital towards environmentally beneficial projects, providing **transparency** and **confidence** to investors who are increasingly interested in sustainable and impact-driven investments.

Green bonds are typically issued following frameworks such as the **Green Bond Principles** (GBPs)[2] from the International Capital Market Association (ICMA) or the **Climate Bonds Standard**,[3] which provide guidelines to ensure transparency, integrity, and investor confidence.

Over time, the green bond market has expanded and diversified, giving rise to **several thematic instruments** under the green finance umbrella. Although the term "green bond" is often used broadly to refer to any of these environmentally themed bonds, the sustainable finance landscape includes several more specific definitions:

- **Climate bonds:** A subset of green bonds explicitly dedicated to climate change mitigation and adaptation projects. These initiatives include renewable energy, energy efficiency, sustainable transportation, and climate-resilient infrastructure. Climate bonds are often issued under frameworks, such as the Climate Bonds Standard developed by the Climate Bonds Initiative (CBI), which ensures alignment with the objectives of the Paris Agreement. Their primary purpose is to direct capital toward projects that reduce greenhouse gas emissions or enhance resilience to climate-related risks.
- **Blue bonds:** An emerging subset of green finance dedicated to the sustainable use of ocean resources. They support projects such as marine conservation, sustainable fisheries, and coastal resilience. Typically issued by governments or development banks, blue bonds aim to advance the goals of the blue economy, promoting economic growth while preserving the health of marine ecosystems. A well-known example is the Seychelles Sovereign Blue Bond,[4] which helped pioneer this innovative financing model for ocean-based sustainability.
- Innovative instruments have continued to emerge in this field, including **outcome-based bonds** that link financial returns to environmental results (e.g., the Wildlife Conservation Bond, tied to rhino population growth in South Africa) and **sustainability-linked loans** whose terms vary based on the issuer's environmental performance (e.g., Uruguay's Green and Resilient Growth Development Policy Loan, linked to methane emission reductions).[5]

In addition to green bonds, **several other bond types** support broader sustainability goals.[6]

- **Sustainability bonds** finance a mix of green and social projects, combining environmental and social impacts in one instrument.
- **Sustainability-linked bonds** (SLBs) are tied to performance targets, such as emission reductions, rather than specific projects; financial terms, including interest rates, adjust based on the issuer's results.
- **Transition bonds** help carbon-intensive industries move toward greener operations by funding credible decarbonisation efforts.

Together, these instruments reflect the increasing sophistication and diversification of sustainable finance tools, each suited to different issuers, sectors, and stages of environmental ambition. While not formally green bonds, these instruments share similar transparency and reporting standards.

This document outlines the structure and functioning of green bonds, their benefits and limitations, implementation timelines, associated costs, and regulatory prerequisites. It also presents **practical guidance on how to issue them**, from project planning and documentation to certification, allocation of proceeds, and reporting. Real-world case studies from Gothenburg and Île-de-France demonstrate the tangible impact green bonds can have on sustainability transitions at both local and regional levels.

While this instrument is focused on green bonds, the information can also be applied, with certain adjustments, to the other sustainability-related bonds mentioned, apart from climate bonds and blue bonds. As such, this report provides a useful reference for understanding the broader landscape of sustainable finance tools, while focusing specifically on the mechanisms most relevant to nature-based and environmental restoration projects.

2 International Capital Market Association. (n.d.). Green Bond Principles (GBP). ICMA. Retrieved from https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/green-bond-principles-gbp/
3 Climate Bonds Initiative. (n.d.). Climate Bonds Standard. Retrieved from https://www.climatebonds.net/our-expertise/standard-sector-criteria-certification/the-standard
4 World Bank. (2018). Seychelles launches world's first sovereign blue bond. Retrieved from https://www.worldbank.org/en/news/press-release/2018/10/29/seychelles-launches-worlds-first-sovereign-blue-bond
5 World Bank. (2025). Innovative approaches for a clean, blue and green planet – Harnessing nature, analytics and finance. World Bank. Retrieved from https://www.worldbank.org/en/results/2025/06/30/innovative-approaches-for-a-clean-blue-and-green-planet-harnessing-nature-analytics-and-finance
6 International Capital Market Association. (2025). Sustainable Bonds for Nature: A Practitioner's Guide. Retrieved from https://www.icmagroup.org/News/news-in-brief/the-executive-committee-of-the-principles-announces-a-practitioners-guide-on-sustainable-bonds-for-nature-alongside-updates-to-existing-guidance/

Aim of the instrument

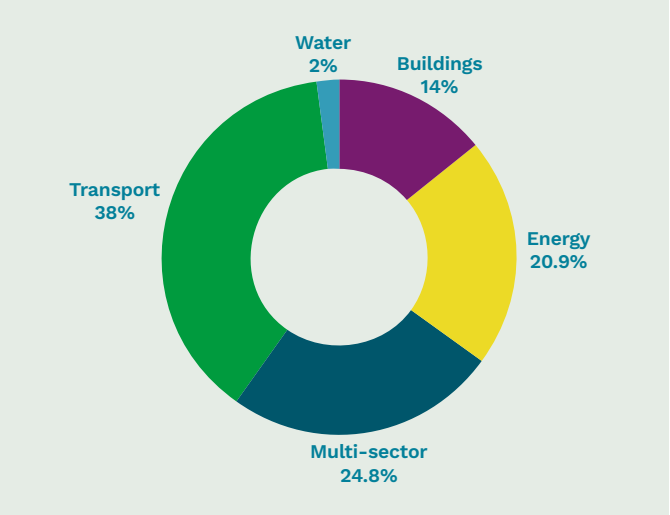
In the face of accelerating climate change and biodiversity loss, there is an urgent need for innovative financing mechanisms capable of mobilising capital toward sustainability goals. Green bonds have emerged as one of the most effective instruments to fill this gap, directing investments to projects that support the transition to a low-carbon, climate-resilient economy.

Green bonds are designed to raise capital for projects that generate verifiable environmental benefits. These fixed-income instruments are structured like traditional bonds but require that the proceeds be exclusively allocated to green initiatives, such as renewable energy, sustainable land use, biodiversity conservation, or nature restoration. **By combining financial returns with environmental impact, green bonds offer a compelling fundraising mechanism for nature-based projects.** Their dual appeal to both public and private issuers seeking to demonstrate environmental responsibility, and to investors aiming to align their portfolios with sustainability goals (SDGs),[1] makes them a powerful tool for advancing ecological restoration efforts.

The success of a green bond issuance is closely linked to the issuer's credit rating and the expected environmental and financial outcomes of the project, as green bonds offer not only financial returns but also reputational and strategic benefits. Issuers may benefit from enhanced visibility, improved stakeholder trust, and access to a broader investor base through the "green" labelling and associated marketing potential.

The chart below illustrates the main purposes for which green bond proceeds are allocated:

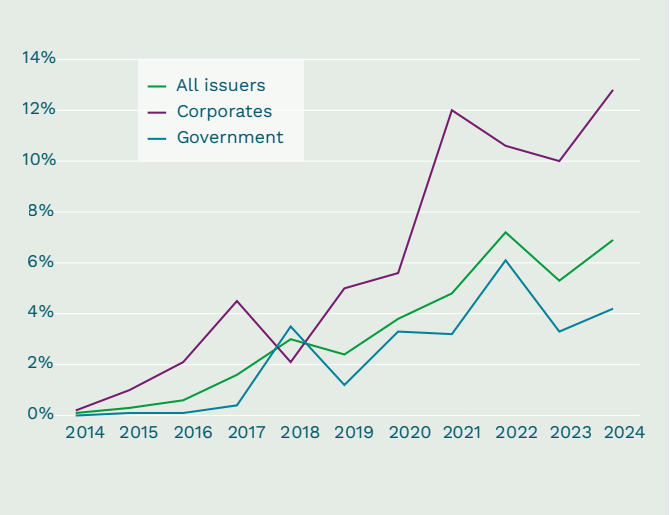
Figure 1: Use of green bonds and loans proceeds – 2024



Source: Climate Bonds Initiative[2]

Over the past decade, green bonds have become a central tool in the EU's strategy to channel private capital toward sustainable development. Green bond issuance in the EU increased significantly from 0.1% of total bond issuance in 2014 to 6.9% in 2024, indicating a clear shift toward sustainable financing. This growth has been supported by EU policy frameworks such as the European Green Deal, the EU Taxonomy, and the broader push toward a low-carbon, resource-efficient economy.[3]

Figure 2: Green bond issuance as a share of total bond issuance



Source: European Environment Agency[4]

This shift is not limited to Europe. In 2024, Europe remained the leading region for green, social, sustainability, and sustainability-linked (GSS+) debt instruments, with over 1,600 green bond issuances raising USD 475 billion (EUR 437 billion), accounting for 45% of global volume. The United States registered a 45% year-on-year increase, reaching 16% of the total volume, while supranational institutions (SNATs) expanded their share to 7%, reflecting broader international engagement in sustainable finance.[5]

1 United Nations (n.d.) Sustainable Development Goals. United Nations. Retrieved from https://sdgs.un.org/goals
2 Climate Bonds Initiative. (2024). Climate Bonds Certification surges past USD300bn milestone in 2023, driving green finance forward. Retrieved from https://www.climatebonds.net/news-events/blog/climate-bonds-certification-surges-past-usd300bn-milestone-2023-driving-green-finance-forward
3 European Environment Agency. (2025). Green bonds as a percentage of total bonds issued by corporations and governments in the EU-27, 2014–2024 [Data set]. Retrieved from https://www.eea.europa.eu/en/analysis/indicators/green-bonds-8th-eap
4 European Environment Agency. (2025). Green bonds in Europe (Eighth Environment Action Programme indicator). EEA. Retrieved from https://www.eea.europa.eu/en/analysis/indicators/green-bonds-8th-eap/
5 Linklaters. (2024, November 8). ESG bond issuance surpasses $800bn as momentum builds for sustainable debt. Retrieved from https://www.linklaters.com/en-us/about-us/news-and-deals/news/2024/november/esg-bond-issuance-surpasses-%24800bn-as-momentum-builds-for-sustainable-debt

Potential beneficiaries

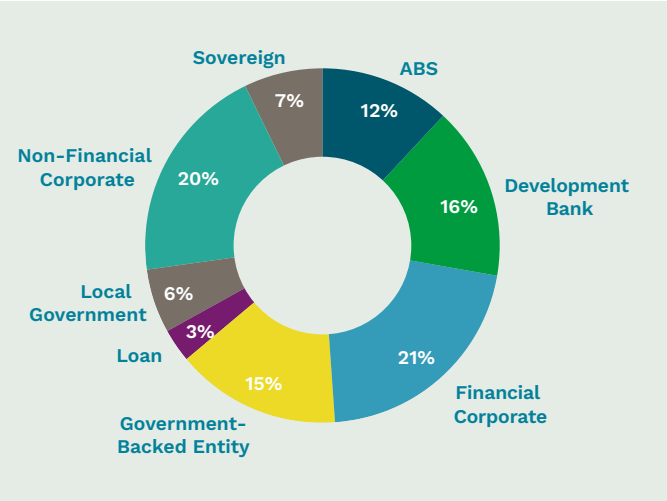
Green bonds can benefit a broad range of stakeholders, depending on the type of project financed, the issuing entity, and the expected environmental and financial outcomes.

Issuers (who borrow money)

Green bonds may be issued by various public and private actors aiming to finance environmentally sustainable projects. Potential issuers include:

- **Local and national governments**, whose size allows them to finance large-scale nature restoration, green infrastructure, and climate adaptation initiatives.
- **Financial institutions**, such as commercial banks and development banks, which currently represent the largest category of green bond issuers (**Figure 3**).
- **Non-financial corporations** that seek to transition their operations toward low-carbon and nature-positive practices.
- **Municipalities and utilities** are investing in public transport, sustainable water systems, and green urban development.

Figure 3: Green bond issuers



Source: Climate Bonds[1]

Interested buyers (who lend money)

On the demand side, green bonds attract a growing base of institutional and private investors seeking sustainable and stable returns. These investors typically aim to align their portfolios with environmental or ESG (Environmental, Social, Governance) goals, often encouraged by policy frameworks and financial incentives. Key categories include:

- **Institutional investors**, such as pension funds, insurance companies, and sovereign wealth funds, which are increasingly required to integrate ESG considerations into their investment strategies.
- **Green and impact investment funds**, which specifically focus on financing climate-friendly and nature-positive solutions.
- **Retail investors** looking for ethical and sustainable investment options that also offer financial returns and reputational alignment.
- **Multilateral development institutions and donor agencies**, which may buy green bonds or act as anchor investors to help scale sustainable finance markets, particularly in developing regions.

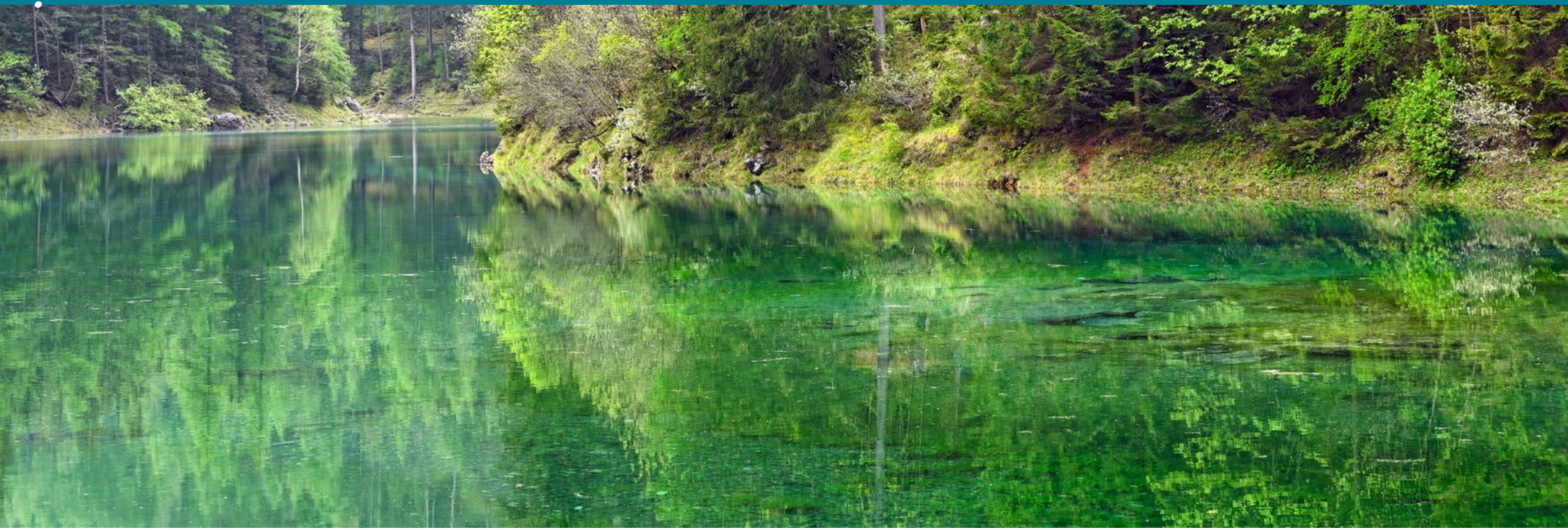
This strong and diversified demand for green bonds helps increase their liquidity, credibility, and resilience, even during times of financial uncertainty.

Other general beneficiaries

Although issuers and buyers raise the capital, the projects funded may have a wide range of direct and indirect beneficiaries:

- **Nature and biodiversity managers**, including NGOs, land trusts, or conservation agencies, which may receive funding through green bond-backed projects.
- **Local communities and society in general**, especially when involved in or impacted by Nature-based Solutions, sustainable land use, or community-led restoration initiatives.
- **The private sector**, including SMEs and corporations, that will indirectly benefit from green infrastructure and environmental improvements funded by green bonds. Additionally, the process also generates opportunities for specialised actors such as consultancies, legal firms, financial advisors, and verification agencies, whose expertise is essential throughout the bond issuance lifecycle.
- **Public institutions and the environment itself** benefit from green bonds, which contribute to ecosystem restoration, climate mitigation, and improved environmental resilience.

1 Climate Bonds Initiative (2020) $1 trillion mark reached - global cumulative green issuance: Climate Bonds data intelligence. Climate Bonds Initiative. Retrieved from https://www.climatebonds.net/news-events/blog/1trillion-mark-reached-global-cumulative-green-issuance-climate-bonds-data-intelligence-reports-latest-figures



How does it work

Structurally, green bonds function similarly to traditional bonds. **An issuer**, typically a government, financial institution, development bank, or corporation, **raises capital by selling bonds to investors. In return, the issuer commits to repay the principal amount on a specific maturity date, along with periodic interest payments that can be either fixed or variable.** For instance, the UK's NS&I Green Savings Bond offers an annual return of 1.3%.

What distinguishes green bonds is their earmarked use of proceeds. Almost all green bonds are use-of-proceeds bonds, meaning that funds raised are dedicated exclusively to pre-defined green projects. This assurance helps investors align their portfolios with environmental and climate goals, making these instruments attractive for ESG and impact investing.

While the bond's repayment is generally tied to the issuer's creditworthiness rather than the project's performance, the environmental value of the investment is a crucial factor for many investors. Issuers are expected to transparently track, manage, and report on the allocation and environmental impact of the proceeds, often through annual updates and impact reports.

However, as this instrument is still a bond, investors will also consider the usual **key financial aspects, such as price, coupon, maturity, and the creditworthiness** of the issuer. The price reflects market demand and can fluctuate around the bond's face value, affecting the investor's return. The coupon is the interest paid, either fixed or variable, and depends on market conditions and the issuer's risk. Maturity refers to the bond's duration, with longer terms often offering higher yields due to the increased risk associated with them over time.

Finally, the creditworthiness of the issuer, as assessed by ratings from agencies such as Moody's or S&P, indicates the likelihood of repayment and significantly influences investor confidence and pricing.

Although the proceeds from the bonds are collected for specific projects, the payment of the proceeds is typically linked to the issuer, rather than to the success of the projects. This means that **usually the project risk lies with the issuer, not the investor, which explains the need to study the basic indicators.** Moreover, in some cases, issuers of such bonds may be able to make use of part of the proceeds to repay other debt obligations and for working capital. Additionally, proceeds can also be used to replace high-cost debt in existing projects, but this will only be permitted when the issuer has a strong credit rating and a solid performance record.

The benefits of issuing these bonds must be weighed against the possible limiting factors. Compared to conventional bonds, these may require additional monitoring, tracking, and reporting procedures, as well as an initial investment to determine the environmental performance and sustainability objectives of the bond.

Over the last few years, given the emergence of the market, there was a need to establish a set of **guiding principles**, including non-binding rules that the market should follow. The most popular guidelines that were published were those developed by the International **Capital Market Association** (ICMA) in its **Green Bond Principles** (GBP),[1] in which rules are set with particular reference to project selection, the destination of proceeds, reporting, and external review. The rules should be followed by players in the market, totally or partially, depending on their voluntary base.

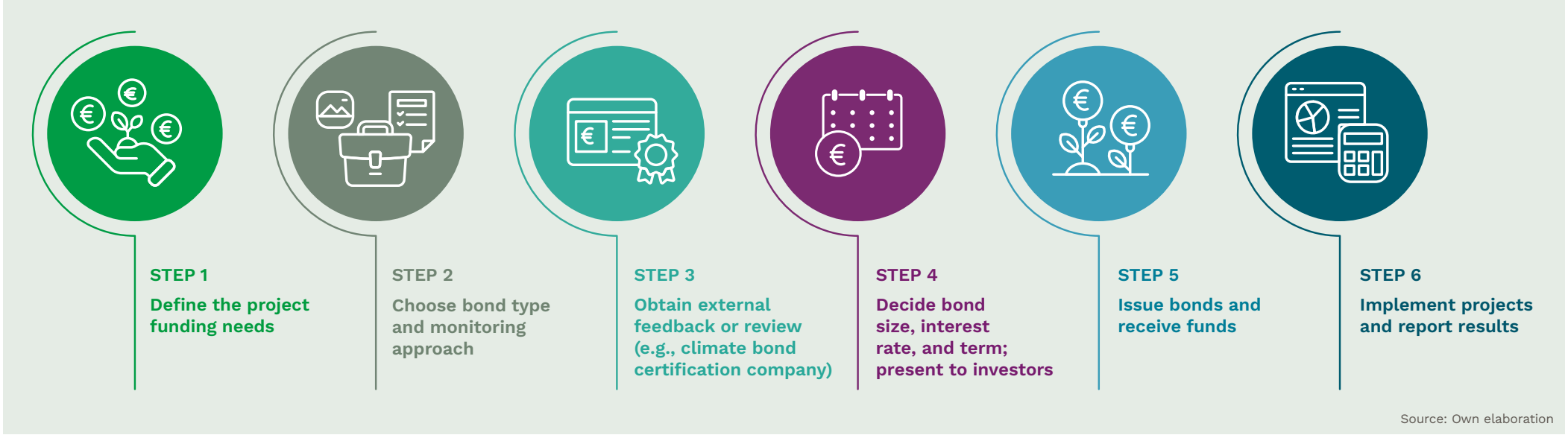
However, as the market grew, additional certified standards emerged, such as the **Climate Bonds Standard** (CBS)[2], developed by the **Climate Bonds Initiative** (CBI), which builds upon the GBP by offering sector-specific criteria for climate change mitigation and the option of formal certification. This includes third-party verification and more precise guidance for issuers on aligning with climate goals. While CBS applies broadly to climate-related bonds, its requirements are consistent with those of green bonds, and both terms are often used interchangeably in practice.

In Europe, the market is moving towards stronger regulation and harmonisation. The **EU Green Bond Standard** (EU GBS),[3] though currently voluntary, aims to provide a trusted framework aligned with the EU Taxonomy for sustainable activities. It sets detailed requirements regarding eligible activities, transparency, and external verification, and is expected to become the benchmark for credible green bonds in the European market.

As regulations and standards improve transparency and credibility, green bonds are increasingly viewed as reliable investment instruments. Although their structure mirrors that of conventional bonds, differences in return can occur. For example, German climate bonds have offered interest rates up to two basis points lower than standard bonds, which is still significant in multi-billion-euro issuances. In lower-rated markets, such as Serbia, the yield differential between green and conventional bonds can be significantly wider, reaching up to 25 basis points. This reflects both higher perceived risk and a stronger greenium effect, as investors may demand relatively more return or place a higher value on the environmental impact.

Ultimately, while returns are typically linked to the issuer's credit quality rather than project performance, green bonds allow investors to support climate goals without taking on additional risk. Still, they involve added due diligence, including tracking, reporting, and alignment with sustainability targets, factors that both issuers and investors must weigh when entering this evolving market.

Figure 4: Step-by-step process for implementing a green bond issuance



Source: Own elaboration

1 International Capital Market Association. (2021). Green Bond Principles: Voluntary process guidelines for issuing green bonds. ICMA. Retrieved from https://www.icmagroup.org/assets/documents/Sustainable-finance/2021-updates/Green-Bond-Principles-June-2021-140621.pdf
2 Climate Bonds Initiative. (2019). Climate Bonds Standard Version 3.0. Climate Bonds Initiative. Retrieved from https://www.climatebonds.net/files/documents/Climate-Bonds_Climate-Bonds-Standard_V3_Dec-2019.pdf
3 European Parliamentary Research Service. (2021). European Green Bond Standard (EPRS Bri/2021/694239). Retrieved from https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/694239/EPRS_BRI(2021)694239_EN.pdf

Pros and cons of green bonds

Like any other financial instrument, green bonds come with both advantages and disadvantages. On the positive side, they help secure funding for environmental and sustainability initiatives, often at a lower cost of capital compared to traditional loans. They can enhance an issuer's reputation by demonstrating commitment to environmental goals and, in some cases, offer tax incentives to investors. Green bonds also support the development of local capital markets and improve the issuer's capital structure. Moreover, green bonds tend to retain their value better during financial downturns than conventional bonds, due to investor confidence in their tradability and long-term environmental and reputational value. This makes green bonds an attractive and resilient financial product for both issuers and investors.[1]

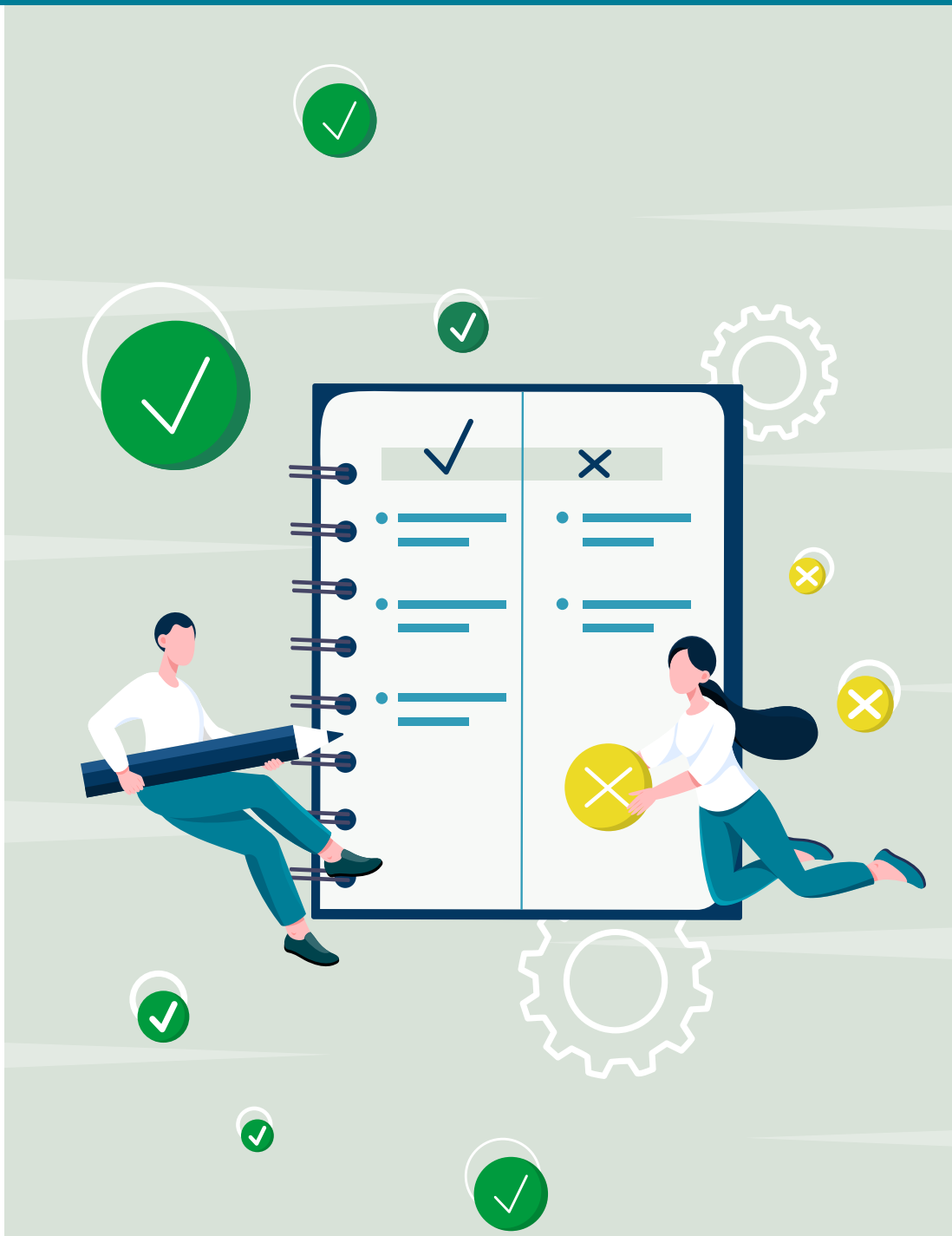
However, they can involve higher initial costs due to the need for external reviews and credit ratings, and their impact may be difficult to measure or verify. Additionally, in underdeveloped financial markets, they may face lower liquidity and lower investor interest. The table below outlines the green bonds pros and cons for issuers and investors.

Advantage of green bonds (PROs)

- → Tax incentives for investors
- → Create goodwill for companies issuing
- → Better environment
- → Improved capital structure
- → Development of local financial markets
- → Lower cost of financing due to less interest rate than loans from banks

Disadvantages of green bonds (CONs)

- → More expensive due to credit rating
- → Not easy to identify "impact"
- → May fail to provide liquidity
- → Misleading end proceeds
- → Under-developed financial market
- → Less attractive for high expected investors



1 Wass. S (2021) Green bond premium justified by strong secondary market performance, flexibility. Retrieved from https://www.spglobal.com/market-intelligence/en/news-insights/articles/2021/9/green-bond-premium-justified-by-strong-secondary-market-performance-flexibility-66696509?

Expected time to implement

Issuing bonds, whether ordinary or green bonds, may become a complex process due to the different tasks that must be completed. Indeed, while many of these tasks can take as long as the issuer desires, such as the time spent planning and presenting the project to investors, other tasks depend on external parties, such as the rating process. **The overall timeline for launching a green bond typically ranges from five to thirteen months.** However, this can vary depending on the issuer's preparedness, prior experience, and the complexity of the project. For first-time issuers or those working on nature restoration projects, timelines tend to fall on the longer end due to the technical, legal, and environmental requirements involved. It is crucial to plan each step thoroughly, taking as much time as needed; any slight error can lead to impediments in the issuance of bonds, as requirements may not be met, or there may be legal processes that demand compliance.

The tasks necessary to complete successful issuance involve the following:[1]

1. Approach to the operation

(Approx. 2–8 weeks)

This phase begins when the organisation or project promoter (such as a local authority, environmental NGO, or private company) contacts a bank or financial advisor. Together, they analyse the need for financing and the issuer's financial capacity, and assess whether issuing a bond is an appropriate solution. For nature restoration and freshwater-focused projects, this step may require additional technical documentation and impact studies, which means that the timeline tends to fall on the longer end.

2. Documentation preparation

(Approx. 3–6 months)

This is often the longest and most sensitive phase. It includes drafting legal documents, bond frameworks (especially important for green bonds), and defining how proceeds will be used and monitored. In green bond issuances, alignment with standards such as the EU Green Bond Standard or ICMA's Green Bond Principles is critical.

Different jurisdictions can significantly impact the process. For example, Germany requires adherence to the High-Quality Green Bond Standard, while France has specific labelling schemes (e.g., "Greenfin"). These regional differences often require additional legal and technical validation.

3. Rating

(Approx. 2–6 weeks)

The issuer typically hires a credit rating agency to assess the risk profile of the bond. This step is not mandatory, but it is crucial for reaching a wider pool of investors. Green bonds may also require a Second-Party Opinion (SPO) to validate environmental claims. For nature-based or freshwater projects, proving a measurable impact is essential and might extend the timeline.

4. Presentation to investors

(Approx. 1–3 months)

Often referred to as the "roadshow," this step involves presenting the bond to potential institutional investors. A roadshow is like a sales pitch tour to get investors interested in buying your green bond. These meetings are crucial for gauging interest, gathering feedback, and building trust, particularly for first-time issuers or non-traditional projects. For nature restoration projects, visuals, maps, and local stakeholder involvement can strengthen credibility. Thus, the purpose of the roadshow will be to involve investors and set prices and maturity.

5. Bond placed into the market

(Variable: days to months)

Once there is sufficient investor interest and favourable market conditions, the bond is launched. Timing here is essential; if conditions are not favourable (e.g., high interest rates, geopolitical instability), the issuance might be delayed.

6. Bond allocation and pricing

(Approx. 1–3 days)

Once issued, the underwriter[2] or bank provides a list of investors and distributes the bonds to them. The issuer reviews and approves the allocations. Pricing is finalised based on market indicators, and the bond is then listed on a secondary market.

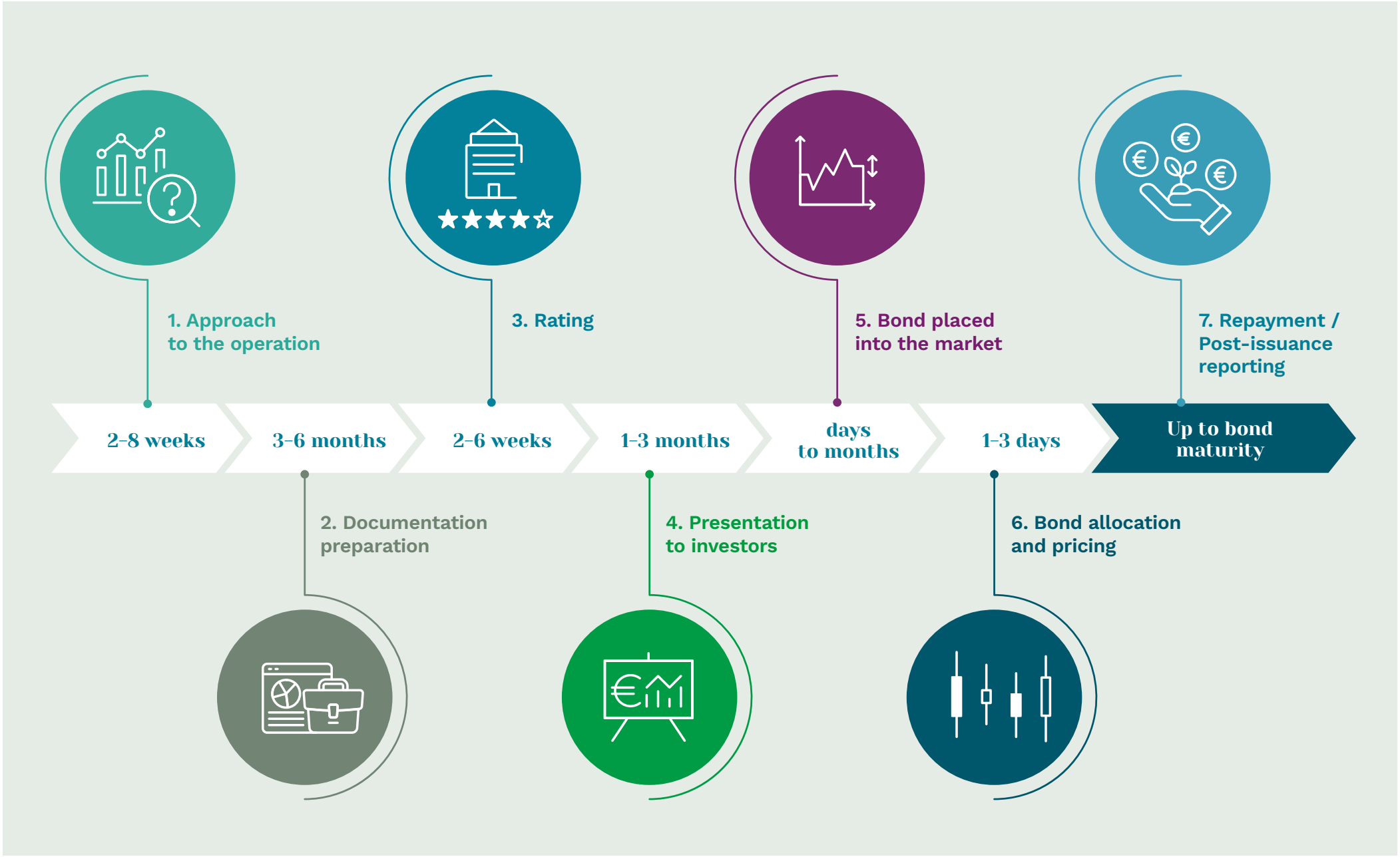
7. Post-issuance phase and repayment

(Duration: up to bond maturity)

Once the bond is sold and funds are raised, the issuer is responsible for allocating the proceeds strictly according to the bond framework. The issuer must also begin regular reporting on both the use of proceeds and the environmental or social impact achieved, often through annual updates or verified impact reports. Although labelled as "green," these are still debt instruments. This means the issuer is obligated to repay investors the full principal amount at maturity and to pay interest (the coupon) at scheduled intervals throughout the bond's life.

1 Martínez Fariña, P. (2019). Step-by-step guide to issuing a bond. BBVA. Retrieved from https://www.bbva.com/en/step-by-step-guide-to-issuing-a-bond/
2 An underwriter is a **financial institution or investment bank** that helps the issuer (e.g., a city, utility, company or NGO) bring the bond to the market and sell it to investors.

Figure 5: Indicative timeline for key green bond issuance tasks



Source: Own elaboration

Implementing costs

Issuing a bond involves several upfront costs that must be addressed before presenting the bond to the public. These include legal structuring, underwriting, regulatory compliance, ratings, and accounting setup. According to the Government Finance Officers Association (GFOA)[1] and other reliable institutions, the **main categories of bond issuance costs** are:

Cost	Description	% of total costs (approx.)	Amount
Underwriters' discount	Investment banks handling bond sales typically retain a percentage of the capital raised as compensation.	2% – 7%	€200,000 – €700,000 (on a €10M issuance)
Admission fees	Fees for listing bonds on trading platforms, such as the London Stock Exchange.	<1%	Face Value (£m)[2] 0 – 50 - 3450£ (€3,968) 50 – 100 - 5500£ (€6,325) 100 – 1000 - 5800£ (€6,670) 1000+ - 6515£ (€7,492)
Consulting agency fees	Fees paid to advisors or banks helping structure the bond strategy.	0.5% – 5%	€50,000 – €500,000 (based on issue size)
Attorney fees	Fees to be paid when lawyers assist in legal compliance, document drafting, and due diligence.	1% – 4%	Commercial law fees range between €200 and €1,000/hour
Rating agency fees	Fees paid to a nationally recognised statistical rating organisation to assign letter grades to bonds, indicating their level of safety.	Fixed + annual	For a €20M bond, approximately: The initial fee could be €18,500, aggregation €1,000, annual fees €500 (Moody's)[3]
Certification fees	Fees paid for climate or sustainability labels ensuring that the use of funds is tied to climate investment.	Fixed + % of amount	Minimum fee: approximately €1,850 – €1,900 (USD$2,000), plus 0.00001 × bond amount[4]

Total issuance costs often range between 0.74 % and 3.10 % of the bond value, depending on size and complexity.

1 Government Finance Officers Association (GFOA). (2023). Debt Issuance Transaction Costs. Retrieved from https://www.gfoa.org/materials/debt-issuance-transaction-costs
2 London Stock Exchange plc. (2025). Fees for issuers [PDF]. Retrieved from https://www.londonstockexchange.com/discover/news-and-insights/updated-2025-fee-schedule-published-london-stock-exchange-fixed-income-issuers
3 Moody's Investors Service. (n.d.). Best practices guidance for the credit rating process (Exhibit 3). Retrieved from https://www.moodys.com/sites/products/ProductAttachments/Compliance/Exhibit%203/Best%20Practices%20Guidance%20for%20the%20Credit%20Rating%20Process.pdf
4 Climate Bonds Initiative. (n.d.). Use of Proceeds Certification 2021. Climate Bonds Initiative. Retrieved from https://www.climatebonds.net/expertise/standard-sector-criteria-certification/certification/use-proceeds-uop-certification

Operational costs

Even after a bond is released and sells well, additional bond issuance costs are incurred. Many of these relate to maintaining the accounting process, including documenting the use of funds raised as part of the issuance, tracking the actual dates of sales to investors, and calculating investor returns based on the terms of the bond itself.

Some examples of costs are outlined below:

Cost	Description	% of total costs (approx.)	Amount
Interest rate	Annual payments to investors (the coupon). Reflects the credit risk of the issuer: the higher the risk, the higher the coupon.	Typically ranges from 0% to 3.5%	Example: Red Eléctrica issued a €600M green bond with a 12-year maturity at 0.625%
Consulting agency fees	Fees paid to external consultants for preparing documents, verifying eligibility, and reporting use of proceeds.	0.5% – 5% (varies by scope)	Financial advisor per hour 60 €/h – 600 €/h[1] Advisory fee (on assets) 0.15 % – 2.5 % Activity fee (on profit) 0.15 % – 15 % Monthly fee 35 €/month – 1,000 €/month
Reporting and monitoring costs	Ongoing expenses to track use of proceeds, measure environmental impacts, publish annual reports, and comply with standards such as the EU Green Bond Standard or ICMA GBP.	Up to 0.5% annually	May range from €5,000 to over €50,000 annually, depending on project complexity and whether third-party assurance is used
External reviews and verification	Costs associated with second-party opinions (SPO), pre- and post-issuance certification, or third-party verification. Required for credibility and often necessary for accessing institutional investors.	0.1% – 0.5% (est.)	SPO: €10,000 – €40,000 Certification: varies depending on the provider and bond size

1 Zaask. (n.d.). ¿Cuánto cuesta consultoría financiera? Zaask. Retrieved from https://www.zaask.es/cuanto-cuesta/consultoria-financiera

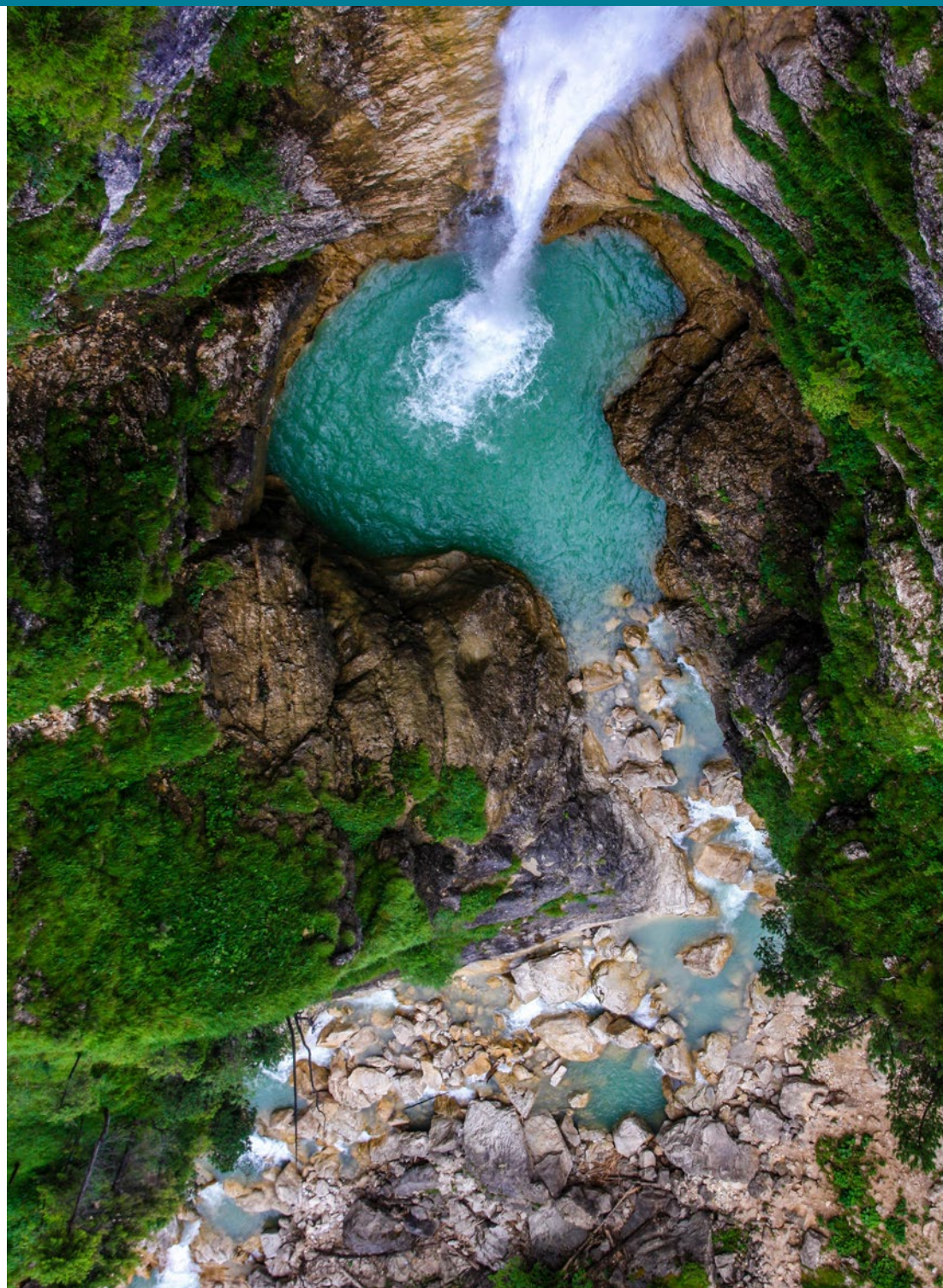
Prerequisites to implement

There are multiple industry standards, including the Green Bond Principles of the International Capital Markets Association and the EU Green Bond Standard (EU GBS) proposed by the European Commission.[1] However, the market's need for uniformity has led to regulatory waves worldwide.

From a legal point of view, what is needed to issue a green bond? It depends on whether the offering is in the primary market or the secondary market. In both cases, **the issue must be authorised for registration in the European Securities and Markets Authority** (ESMA) **and its public offering**. In the main market only, the bonds must be listed on a stock exchange and have a rating. In the secondary market, no rating or additional verifiers of green bond quality are required.

The main documentation in a bond issue is the issuer's prospectus. Following the Green Bond Principles, **the main information that must be in the issuer's prospectus is:**

- **Use of funds.** First, a use of funds policy for projects, investment plans, or uses related to the green label and a taxonomy classification system must be in place.
- **Project evaluation and selection process.** The selection of projects should include:
  - environmental sustainability objectives of the investment,
  - criteria for eligibility or exclusion of projects,
  - policies to identify social and environmental risks of projects. If projects are already identified: a list of projects or investments, an explanation of technical, financial and legal elements, and the relationship of projects to taxonomy and environmental objectives,
  - mechanisms for project evaluation and monitoring.
- **Fund management.** Prospectus should include policies for transparency in the management and reallocation of funds.
- **Reporting.** Prospectus should also indicate:
  - the third parties in charge of (a) studies of the issuer's ability to comply with the principles governing the use of funds and the project selection criteria, and (b) studies of actual or expected results in relation to the sustainability objectives of the issue and the effective use of funds,
  - the commitment to conduct such studies,
  - mechanisms for periodic disclosure of information (optional), and
  - specific forms of disclosure for independent studies.



1 European Parliamentary Research Service. (2021). European green bond standard (EPRS Bri/2021/694239). Retrieved from https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/694239/EPRS_BRI(2021)694239_EN.pdf

Companies that can support the instrument[1]

Although it is an individual decision for each issuer, there are several companies in the market with expertise in green bonds. The following list is provided for informational purposes only and does not imply an endorsement or guarantee of the companies' services related to green bonds. While these firms have experience in the field, we cannot take responsibility for the quality or outcome of their work. If you have people experienced in issuing and commercializing green bonds in your team, you probably do not need any external help.

Company name	Geographic spot	Area of support
Bureau Veritas (UK) bureauveritas.co.uk	Worldwide	Certification & Verification: Acts as an independent verifier for second-party opinions, sustainability frameworks, and post-issuance reporting.
Carbon Trust carbontrust.com	Worldwide	Project Design & Investor Communication: Advises on carbon footprinting, sustainability metrics, and can support in attracting climate-conscious investors.
KommunalKredit (KPC) umweltfoerderung.at	Europe	Approach to Operation & Project Design: Especially strong in funding environmental infrastructure in Central Europe; supports feasibility studies, impact assessments, and funding strategies.
SustainAdvisory sustainadvisory.it	Europe	Approach to the Operation, Documentation & Certification: Specialised in EU Taxonomy alignment and preparing documentation for ESG bonds.
Deloitte deloitte.com	Italy, Spain, Germany, France, China, Luxembourg	Documentation, Legal Structuring & Investor Presentation: Provides advisory for structuring the issuance, financial reporting, and compliance with green standards.
ERM Certification and Verification Services (ERM CVS) erm.com	Worldwide	Certification & Verification: Offers second-party opinions and assurance services, aligning issuance with frameworks such as ICMA and EU Green Bond Standards.
HR Ratings hrratings.com	Worldwide	Rating Process: Provides independent credit ratings and could evaluate the green impact of the project if requested. Also suitable for Latin American projects.

1 Climate Bonds Initiative. (n.d.). Approved verifiers under the Climate Bonds Standard. Climate Bonds Initiative. Retrieved from https://www.climatebonds.net/certification/approved-verifiers

How to implement the instrument

Before making the decision to adopt this type of financing option, it is essential to assess other funding options and conduct a comprehensive cost–benefit analysis. Indeed, nature restoration project managers should, prior to becoming issuers, review the business case for green bond issuance. They should consider whether it matches with their financing objectives and sustainability strategy or not, and also compare the benefits the bond issuance provides to their specific challenges. Challenges may include issuance and ongoing tracking, monitoring, and reporting costs; keeping a "closeness" to conventional bonds, including returns; and reputational risks associated with "greenwashing" accusations, among others.

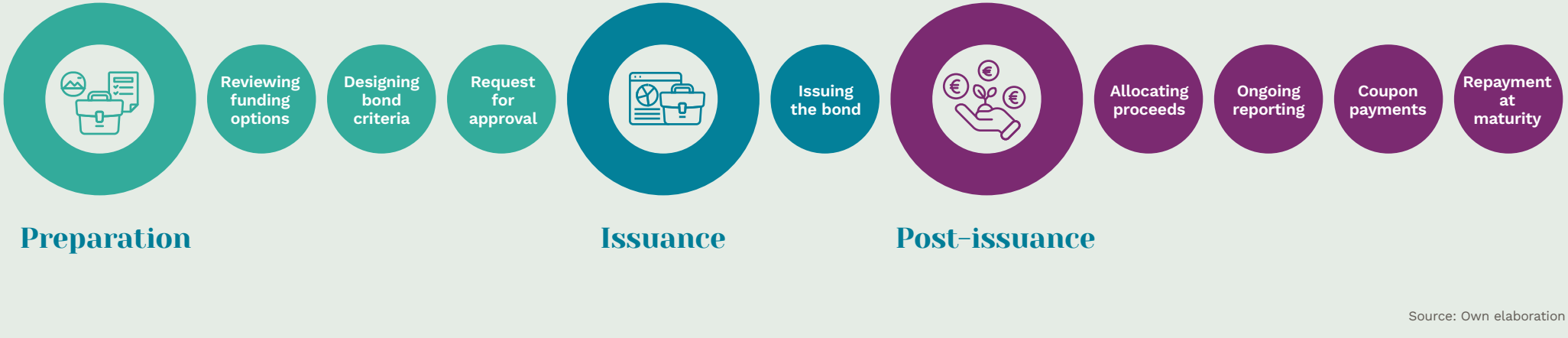
During the **preparation** phase, potential issuers should:

- → Develop an institutional framework for climate bond issuance
- → Identify eligible green projects or assets
- → Establish monitoring and reporting mechanisms
- → Organise an external review
- → Identify consulting firms and lawyers able to provide support in the process

The issuer should develop an institutional framework for green bond issuance, covering the identification of green projects or assets and the management process. They should establish procedures for monitoring and reporting on the use of proceeds. To ensure that all resources are allocated to green projects, the resources invested in green assets or projects, as well as the outstanding resources to be invested in such assets, should be equivalent to the amount of the bond. In this regard, issuers should consider hiring a qualified external reviewer (either international or domestic) to conduct a review of the green bond's credentials, as this will provide investors with confidence.

Following the preparation, the **bond criteria** must be designed. For the support of this task, as well as the preparation task, employing an underwriter is advisable, as they will have knowledge gained from previous experiences and contacts. However, regarding the design of the criteria, **there is no universally agreed-upon standard for a climate bond and the kind of activities that can be funded with this opportunity. As a result, issuers can use different principles or standards as guidelines and sources – including the Green Bond Principles, the Climate Bonds Standard, national guidelines, green bond indices, and sector-specific standards – to set their climate bond and the issuance process.**

Figure 6: Process flow for implementing a green bond



Source: Own elaboration

For the **approval** of the application, **issuers must follow regulations on the issuance of green bonds,** including requirements for issuer qualification, application and registration procedures, disclosure of information, registration of the issue, custody and clearing, and mechanisms for investor protection. Thus, the **main points for the approval of the issuance** include:

- → Issuer qualifications
- → Documents required by the regulator
- → External review report (recommended)

From this point on, it is advisable to have a legal advisor available, as they will assist in preparing the prospectus, bond documentation, and provide legal opinions.

Issuers should commission a credit rating for the bond. By means of this rating, the ability of an entity to repay its debt and the risk involved in investing in this debt will be established. Investors, as a result, will look to the credit rating to assess the likelihood of default by the debt issuer, and will make their investment choice mainly based on this criterion. A credit agency will evaluate the credit rating of the issue by analysing the qualitative and quantitative attributes of the entity in question. Credit ratings can differ significantly among issuers.

Moreover, issuers seeking certification to identify their bond as a green or climate bond should review the relevant regulators' climate bond guidelines. **According to the Climate Bond Initiative, to receive the Certification Mark, the issuer must first appoint an Approved Verifier, who, acting as a consultant, will provide assurance that the bond meets the Climate Bonds Standard's requirements. Besides, the Climate Bonds Standard Board provides the final confirmation of all Climate Bond Certifications.**

Before the official issuance of the bond, setting up robust management controls for tracking and allocation of proceeds is recommended to verify that the proceeds will be used in line with the terms of the bond.

The following areas should be considered while designing the tracking mechanisms and processes:

- → Tracking of proceeds
- → Management of proceeds
- → Management of unallocated proceeds
- → Assurance

During the **issuance of the green bond**, nature restoration managers should focus on:

- → Due diligence
- → Structuring the bond and promoting to potential investors
- → Promotional event and pricing

For this purpose, the issuer may make use of a consultant agent, which will provide expertise in structuring the bond, administering the transaction, and acting as coordinator and bookrunner by managing the book of the issue.

Presenting the nature restoration project outputs to investors is crucial for the success of the issuance. Indeed, organising a "roadshow" and arranging meetings with the biggest "green" potential investors will provide more than just funding opportunities. It will be possible to find out how the market will behave towards the bonds and investors' reaction to the issuer's risk. Then, even if the result is negative regarding the bond issuance, presentations can be helpful for raising awareness of the project and engaging potential investors through other mechanisms.

Regarding the price, the bond consultant assists with pricing the bond and negotiating fees related to placement, coordination, and underwriting. Once the price is agreed, the issuance is announced to the market. Pricing adjustments may occur over the following days, based on investor demand and market conditions, although such fluctuations tend to be more stable as compared to those of stock offerings.

Once investors purchase the bond, the issuer receives the funds through a designated account. These funds must be **allocated** to eligible green projects as stated in the bond documentation. **A formal allocation report should be published by the issuer to confirm the use of proceeds.** This step is essential for transparency and to maintain investor confidence. After the purchase, the allocation, and the development of the project comes the **Interest Payments and Repayment**. Unlike grants, green bonds are debt instruments and must be repaid. **The issuer is obligated to:**

- → **Pay regular interest** (coupon) **to investors**, typically on a semi-annual basis
- → **Repay the principal amount upon bond maturity**

The schedule for interest payments and repayment terms should be clearly stated in the bond prospectus. The issuer must ensure adequate cash flow to meet these obligations over the life of the bond.

As mentioned, in the allocation of proceeds, issuers must regularly **report to confirm that funds are allocated to green projects**, on both the use of proceeds and the impact achieved utilising this funding. The auditor will prepare the audit report and approve the financial disclosure in the prospectus. Issuers are recommended to consider:[1]

- → Designing monitoring and evaluation processes in advance
- → Implementing key performance indicators (KPIs) and data collection systems to monitor environmental outcomes of projects over time
- → Seeking third-party assurance to reduce data quality risks and raise stakeholder confidence in disclosures

1 KPMG. (2016). Green Bonds: The Process. KPMG. Retrieved from https://assets.kpmg/content/dam/kpmg/pdf/2016/04/green-bonds-process.pdf

Best practice recommendations

In addition to the required prerequisites covered in a previous chapter, **the following best practices are recommended to strengthen the effectiveness, transparency, and investor appeal of green bond issuances.** While not mandatory, these practices can significantly enhance the credibility of the bond and improve its impact over the long term.

These practices are structured around **four core components**:

→ use of proceeds,
→ project selection and evaluation,
→ fund management, and
→ reporting and disclosure

Use of funds

To determine the use of funds, it is recommended to use nationally or internationally recognised classification systems or taxonomies such as the Climate Bond Standard,[1] as well as the Green Bond Principles[2] or the IFC's[3] definitions for climate-related activities.

Suppose part or all of the funds are or may be used for refinancing. In that case, the issuer is recommended to inform investors of the estimated proportion between those with financing objectives and those with refinancing objectives, and to indicate, to the extent possible, which investments or project portfolio may be refinanced.

Project selection and evaluation process

When applying for authorisation to launch the public offering of green bonds, it is recommended to have a list of pre-selected projects, or the amount allocated to each task equivalent to at least 50% of the funds to be raised through the issue.

It is recommended as good practice that climate bond issuers have a sustainability management framework and system, implying a set of policies and procedures to identify, assess, and monitor social and environmental risks throughout the nature restoration project's course. With these systems and frameworks, issuers are also recommended to include their most relevant aspects in the prospectus, which may include the amount required, objectives, tasks, partners, and previous experience.

If a third party (consultant) is to carry out the selection and assessment process for eligible projects, it is recommended to specify the name of this external agent, along with the criteria certifying their independence and suitability.

Fund management

To assure investors that the proceeds of the issue are used to finance or refinance green-related projects or activities (and their related expenses, such as research and development), it is recommended to indicate in the prospectus the procedure, tools, and strategies adopted to raise, manage, and allocate the proceeds for nature restoration projects and assets, including those for refinancing and/or to assume/cover expenses, costs, and debts.

To enhance the traceability of the resources obtained, it is recommended to assign specific accounts or other reliable mechanisms for managing the funds and to provide the investor with certainty regarding the allocation and use of the resources during the compensation period, as outlined in the operations indicated in the prospectus documents.

Never forget the marketing opportunity: lenders can benefit from advertising that they are investors in the projects. This marketing opportunity can influence the investor's decision to invest or not.

Reporting

Regarding the structure most conducive to executing proper reporting: the report should be completed at least annually, and it should be up to date, implying a maximum of 400 days after issuance, as defined by the Climate Bond Standards. In fact, according to the Climate Bond Initiative, only 59% of reporting was up to date, using a 400-day definition. This indicates that 41% of all bonds with reporting requirements are failing to meet the basic requirements for annual reporting.

Additionally, the **reporting must be public and easily accessible**. The Climate Bond Initiative[4] reports that most issuers provide reporting by using a separate climate bond report or letter to investors, whereas few issuers include the reporting in the annual report alone. Indeed, a separate climate bond report is usually much easier to find, so it may be preferred. Nevertheless, since no hierarchy of reporting format or location is enforced in any of the market guidelines, reporting in annual reports, corporate social responsibility documentation, or sustainability reports would be sufficient.

A good reporting example can be found in the case of **Électricité de France** (EDF); in fact, the post-issuance report from EDF, either in French or English, is published as a separate, dedicated green bond summary piece located in the "Green Bond" section of the investor page of the website.

The report should include a list of bonds issued to date, along with the amount (or percentage) allocated to each bond. This can be accomplished in various ways. **DC Water**, for example, provides a table showing the amount raised per year from each bond as well as the amount drawn per year per bond.

It is also recommended to include information about the impact of the green bond throughout its life cycle. This practice will keep investors informed and allow them to monitor the projects financed, thereby validating whether the management of these projects aligns with the criteria defined in the prospectus. It is recommended that an independent external party validate this report.

1 Climate Bonds Initiative. (2019). Climate Bonds Standard Version 3.0. Climate Bonds Initiative. Retrieved from https://www.climatebonds.net/files/documents/Climate-Bonds_Climate-Bonds-Standard_V3_Dec-2019.pdf
2 International Capital Market Association. (2021). Green Bond Principles: Voluntary process guidelines for issuing green bonds [PDF]. ICMA. Retrieved from https://www.icmagroup.org/assets/documents/Sustainable-finance/2021-updates/Green-Bond-Principles-June-2021-140621.pdf
3 International Finance Corporation. (2017). Definitions and metrics for climate-related activities (Version 3.1) [PDF]. International Finance Corporation. Retrieved from https://www.ifc.org/content/dam/ifc/doc/2023/ifc-climate-definitions-v3-0.pdf
4 Climate Bonds Initiative. (2017). Post-Issuance Reporting in the Green Bond Market: Use of Proceeds Report [PDF]. Climate Bonds Initiative. Retrieved from https://greenfinancelac.org/resources/publications/post-issuance-reporting-in-the-green-bond-market/

Suggested Key Performance Indicators (KPIs)

We are splitting the suggested KPIs for investors and for issuers.

1. For investors

For investors to decide to invest in the issued bond, it must offer a profitable opportunity; in other words, **it must be an attractive investment opportunity** for them. As a result, approaching analysis of the green bond's performance from the investor's perspective would be a suitable option.

The most important characteristics for the analysis are the bond's price, its **interest rate and yield, its date to maturity, and its redemption features.** Analysing these key components will determine whether the bond is posing an opportunity to investors or not.

Interest rate and yield

The interest rate of a bond is closely linked to its yield. **The yield is the actual return on the bond, which is the sum of the price paid for the bond and the interest it earns.** The yield is the **primary factor that drives investors' decisions** to invest or not.

The yield can be calculated in two ways. The current yield is the annual return on the total amount paid for the bond. It is calculated by dividing the interest rate by the market price.

Yield to Maturity (YTM) **is the total amount you will receive if you hold the bond until maturity.** Yield to maturity allows comparing different bonds with different maturities and interest rates.

Price

The yield received by the investor on the bond affects the price. Bonds trade at a premium, discount, or face value. If a bond is trading at a premium with regard to its face value, it means that current interest rates are lower than the interest rate the bond pays. Therefore, the bond is trading at a premium to its face value because it is entitled to a higher interest rate than it could receive through comparable instruments, making it more profitable for the investor.

A bond trades at a discount if its price is lower than its face value. This means that the bond pays a lower interest rate than the market rate. Since a higher interest rate can be easily obtained by investing in other fixed-income securities, the demand for a bond with a lower interest rate is lower, making it less attractive to the investor.

Maturity

The maturity indicates the future date when the principal will be repaid. Bonds typically have maturities ranging **from one to 30 years**. The key point is that the maturity of a bond is crucial when evaluating interest rate risk, which refers to the degree to which a bond's price will fluctuate with changes in interest rates. **A bond with a longer maturity carries a higher interest rate risk.**

Redemption

Some bonds offer the issuer the option to redeem the bond before its maturity date, which allows them to refinance the debt if interest rates decrease. A **call provision** permits the issuer to redeem the bond at a specific price prior to maturity, while a **put provision** enables the investor to sell it back to the issuer at a set price prior to maturity.

A call provision generally offers a higher interest rate. Investors holding such a bond face the added risk that the bond might be redeemed, forcing them to reinvest the funds elsewhere, typically at a lower interest rate (a fall in interest rates usually triggers a call provision). To compensate for this risk, the bond offers a higher interest rate.

Apart from these features, the credit rating the issuer receives also shows the risk that the investor will bear. As a result, a higher-rated issuer will launch lower-priced bonds, given its lower risk. Although the price will be lower, the reduced risk will be attractive for the investor.

2. For the bond issuer

For green bonds to be successfully issued and attract a solid base of investors, the issuer must demonstrate financial credibility, environmental integrity, and operational reliability. Thus, analysing the performance and viability of the green bond from the issuer's perspective is equally important. **Evaluating these KPIs can help the issuer understand how their bond is perceived in the market and identify areas for improvement to enhance future issuances.**

Credit rating

A key indicator of the issuer's financial stability and repayment ability. Issuers with higher credit ratings (e.g., AAA or AA) are seen as less risky, which influences the bond's pricing and attractiveness to investors.

Green bond track record

If the issuer has previously issued green bonds, their past performance, timely reporting, and delivery of an environmental impact statement strengthen investor confidence. **Repeat issuance often signals organisational maturity in green finance.**

Debt-to-equity ratio

This financial ratio measures the issuer's leverage and financial health. A lower ratio typically indicates a more stable financial position and greater capacity to meet debt obligations.

Sustainability/ESG ratings

Provided by agencies such as Sustainalytics or MSCI, **these ratings assess the issuer's overall environmental, social, and governance performance**, a factor that is increasingly relevant in investor decisions.

Proceeds allocation efficiency

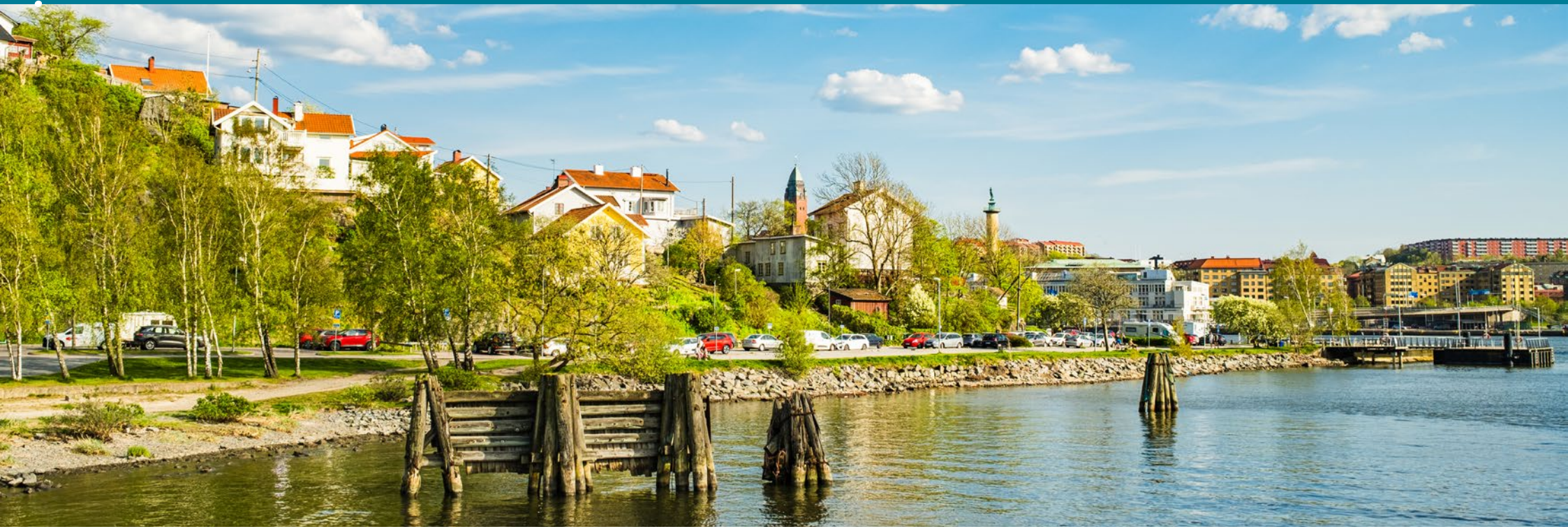
Investors may track **how quickly and effectively the issuer allocates proceeds to eligible green projects.** Delays or vague allocation reduce trust and investment appeal.

Impact reporting quality

Frequency, transparency, and rigour of environmental performance reporting can signal how seriously the issuer takes its green commitments. **High-quality impact reporting often correlates with stronger investor interest.**

Revenue dependency on high-emission activities

Investors are increasingly cautious of issuers whose core revenues come from environmentally harmful sectors. A declining share of such revenues is a positive sign, especially in transition or sustainability-linked bonds.



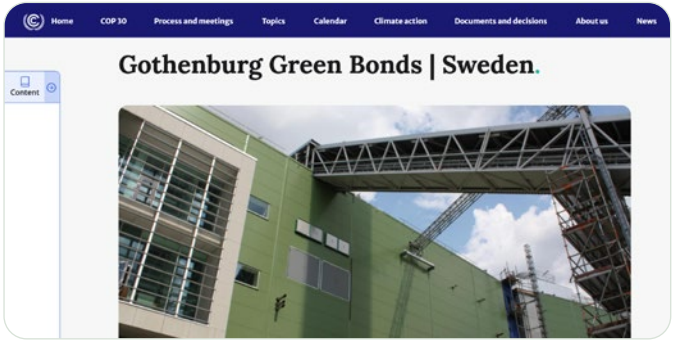
Case studies

Gothenburg Green Bonds, Sweden[1]

For many years, Gothenburg has committed to sustainability, and as a result, it has set strong environmental and climate goals. Since 2013, the city has chosen to incorporate its finances into the solution, and consequently, its green bonds have become a crucial part of its strategy to achieve its environmental and climate objectives.

Gothenburg became the first city in the world to issue green bonds, borrowing money for projects related to environmental improvement. The issuance of green bonds has taken place in several stages.

In 2013, Gothenburg issued its first green bonds for SEK 500 million (approx. €50 million). The city made a second foray into the green bond market in 2014 with a SEK 1.8 billion (approx. €180 million) issuance, followed by SEK 1 billion (approx. €100 million) in both 2015 and 2016. Over the years, further issuances have taken place, and by 2025, **the city has raised over SEK 10 billion** (approx. €900 million) **through green bonds**. This steady issuance reflects Gothenburg's long-term commitment to climate-smart investments and sustainable finance.[2]



Gothenburg Green Bonds

1 United Nations Framework Convention on Climate Change. (n.d.). Gothenburg Green Bonds [Momentum for Change: Financing for climate-friendly investment]. UNFCCC. Retrieved from https://unfccc.int/climate-action/momentum-for-change/financing-for-climate-friendly/gothenburg-green-bonds

2 City of Gothenburg. (2025). Green Bond Impact Report 2024. Retrieved from https://goteborg.se/wps/wcm/connect/c6131547-2034-4ccc-aec8-d0e99d670be9/Impact%2BReport%2B2024%2BCity%2Bof%2BGothenburg.pdf?CACHEID=ROOTWORKSPACE-c6131547-2034-4ccc-aec8-d0e99d670be9-puN9Uvo&CONVERT_TO=url&MOD=AJPERES&

The city's green bond programme has increased the awareness of new investors in global capital markets by offering a sustainable alternative without compromising returns. This benefits the entire green bond market, as investors are encouraged to support green projects and allocate the necessary funds to environmentally beneficial and climate-friendly initiatives, leveraging their financial capacity.

The City of Gothenburg uses its green bonds to fund projects that target:

- **Mitigation of climate change**, including investments in low-carbon and clean technologies, such as energy efficiency and renewable energy programs;
- **Adaptation to climate change**, including investments in climate-resilient growth;
- To a smaller extent (up to a maximum of 20%), **projects which are more broadly related to sustainability** rather than directly to climate change.

Some of the **projects** financed by green bonds in Gothenburg include:

- **Lackarebäck waterworks and cleaning filters** – water treatment using ultrafiltration, featuring the largest ultrafilter ever built in Scandinavia.
- **GoBiGas** – large-scale production of biogas through gasification.
- **Electric vehicles for the city's administrative offices and companies.**

In recent years, additional initiatives have been supported, including the expansion of electrified public transportation, energy-efficient renovations of public buildings, and projects aligned with the EU taxonomy for sustainable activities. These initiatives are crucial in supporting Gothenburg's goal of becoming climate-neutral by 2030 and further solidifying the role of green finance in facilitating ambitious local climate action.

Île-de-France Green Bonds, France[3, 4]

The Île-de-France Region, which includes Paris and is home to over 12 million people, has emerged as a European pioneer in sustainable finance at the subnational level. Since 2012, the regional government has issued annual green and socially responsible bonds to fund projects that align with both its environmental and social policy objectives. This makes Île-de-France the **first regional authority in Europe to adopt this financial instrument consistently and strategically.**

The region issued its first green bond in 2012, becoming the first local authority in Europe to do so. Since then, it has issued **11 green and sustainable bonds for a total of €5.2bn**. Funds have been directed to a **wide range of sustainable initiatives**, including the development of low-carbon public transportation systems, such as the expansion of the Grand Paris Express metro lines, as well as the construction and renovation of energy-efficient public buildings, especially high schools. Additionally, investments have supported renewable energy projects, ecological restoration, and the construction of green and socially inclusive housing.

A key feature of Île-de-France's green bond programme is its integration of both environmental and social dimensions. The bonds are issued under a framework that adheres to the Green Bond Principles and the Social Bond Principles. This allows the region to fund projects that not only reduce greenhouse gas emissions or enhance biodiversity, but also contribute to social cohesion and equality, such as improving access to services in underserved areas.

The region publishes annual reports detailing how the funds are used and the impacts achieved, with external reviewers verifying the data. More recently, the green bond framework has been updated to align with the EU Taxonomy for sustainable economic activities, further reinforcing its credibility and appeal to ESG-conscious investors. As a result, Île-de-France has become a reference point for other European regions and cities looking to mobilise capital for sustainability transitions through financial innovation.

3 Environmental Finance. (2023). Sustainability bond of the year – Region Île-de-France. Retrieved from https://www.environmental-finance.com/content/awards/environmental-finances-bond-awards-2023/winners/sustainability-bond-of-the-year-local-authority/municipality-award-for-innovation-use-of-proceeds-%28sustainability-bond%29-region-ile-de-france.html

4 CFI.co. (2023). Region Île-de-France: A region spearheading sustainable finance. CFI.co. Retrieved from https://cfi.co/europe/2023/08/region-ile-de-france-leading-role-on-sustainability/

Conclusion

Green bonds are playing an increasingly central role in the transition toward a low-carbon, sustainable economy. **Their ability to merge environmental impact with traditional financial instruments makes them uniquely positioned to channel private capital into public goods**, such as biodiversity protection, climate resilience, and nature restoration.

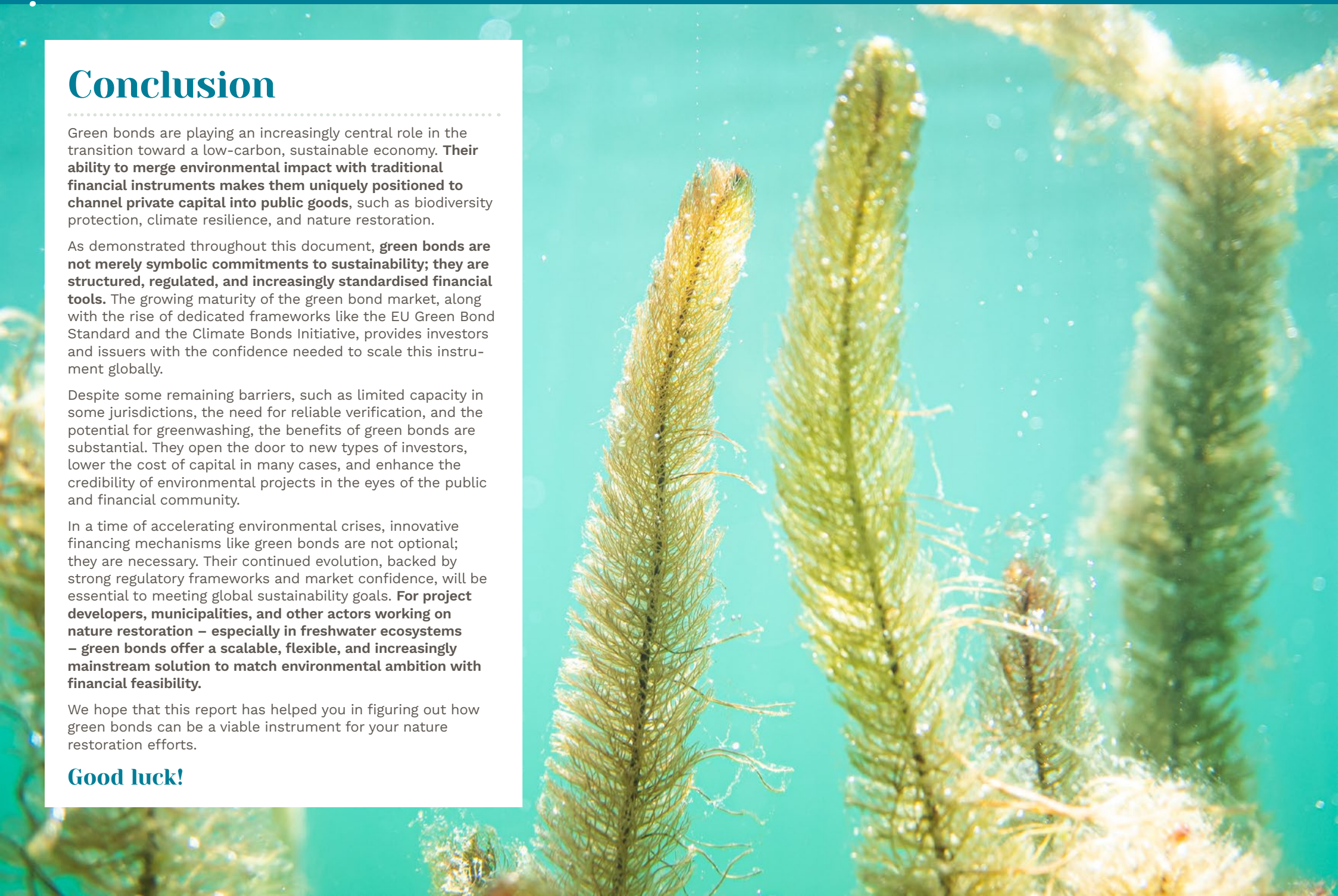
As demonstrated throughout this document, **green bonds are not merely symbolic commitments to sustainability; they are structured, regulated, and increasingly standardised financial tools.** The growing maturity of the green bond market, along with the rise of dedicated frameworks like the EU Green Bond Standard and the Climate Bonds Initiative, provides investors and issuers with the confidence needed to scale this instrument globally.

Despite some remaining barriers, such as limited capacity in some jurisdictions, the need for reliable verification, and the potential for greenwashing, the benefits of green bonds are substantial. They open the door to new types of investors, lower the cost of capital in many cases, and enhance the credibility of environmental projects in the eyes of the public and financial community.

In a time of accelerating environmental crises, innovative financing mechanisms like green bonds are not optional; they are necessary. Their continued evolution, backed by strong regulatory frameworks and market confidence, will be essential to meeting global sustainability goals. **For project developers, municipalities, and other actors working on nature restoration – especially in freshwater ecosystems – green bonds offer a scalable, flexible, and increasingly mainstream solution to match environmental ambition with financial feasibility.**

We hope that this report has helped you in figuring out how green bonds can be a viable instrument for your nature restoration efforts.

Good luck!



Glossary

Blue bond A type of debt instrument issued to finance projects that support the sustainable use of ocean and marine resources, as well as the development of the blue economy.

Bond certification (label) A formal verification that a bond meets specific sustainability or environmental standards, often provided by an independent third party.

Bond taxonomy A classification system that identifies which assets or projects contribute to climate or environmental goals. It helps issuers, investors, and policymakers identify sustainable investment opportunities.

Climate bond Bonds whose proceeds are allocated to climate-related projects but have not yet been officially labelled as green bonds.

Climate bond standard A set of criteria used to assess and certify whether a bond or other debt instrument meets climate-related objectives. Typically developed by recognised institutions such as the Climate Bonds Initiative.

Coupon The periodic interest payment made to bondholders, calculated as a percentage of the bond's nominal value, and distributed regularly from the issuance date until the bond's maturity.

Credit rating An estimate of the ability of the issuer to fulfil their financial commitments, based on previous dealings.

EU Green Bond Standard (EU GBS) A voluntary framework developed by the European Commission to ensure the credibility and comparability of green bonds aligned with the EU Taxonomy.

Fixed rate of return A guaranteed interest rate on an investment that remains constant over the entire period of the bond or instrument, regardless of market fluctuations.

Fixed-income financial instrument A type of debt instrument that pays a fixed amount of interest, in the form of coupon payments, to investors.

Green bond A bond specifically issued to raise funds for environmental or climate-related projects. These bonds are generally labelled as “green” and may follow specific principles or standards.

Green Bond Principle Voluntary guidelines developed by the International Capital Market Association (ICMA) that recommend best practice for transparency, disclosure, and project selection in green bond issuance.

Greenwashing The misrepresentation of a bond’s environmental benefits, leading to reputational or legal risks for issuers if claims are not backed by credible evidence.

Impact reporting Regular disclosure of environmental outcomes achieved with the green bond proceeds, often validated by third parties.

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