

GREEN BONDS AND INTEGRATED LANDSCAPE MANAGEMENT

**OPTIONS FOR INNOVATIVE FINANCING
OF LANDSCAPE INITIATIVES**



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EXECUTIVE SUMMARY

The Netherlands Enterprise Agency and the Ministry of Economic Affairs commissioned IUCN NL to research how innovative financial instruments such as green bonds can help scaling up Integrated Landscape Management (ILM) initiatives in the Netherlands.

Over the past decades, the landscape approach has been put forward as a possible decision support solution for several development issues (often referred to as competing claims) that converge on a landscape level. Collaborative landscape approaches align stakeholders in a particular place to resolve complex issues such as water scarcity, biodiversity decline, deforestation, or farmer adaptation to climate change—because these challenges cannot be successfully resolved by actors working alone.

Green bonds are fixed-income instruments that enable capital-raising and investment for new and existing projects with environmental benefits. Compared to regular bonds, green bonds have the potential to deliver a range of additional benefits such as green impact (for example, reduction in carbon emissions or water used), clear fit within ESG (Environment, Social and Governance) mandates, and regulatory support. The green bond market has risen to USD155b in 2017.

This report shows that accessing capital markets through green bonds to finance landscape initiatives in the Netherlands is possible, but conditions apply. It is imperative that landscape initiatives build relationships with financial institutions that can help in raising capital through green bonds. We have selected three different landscapes in the Netherlands and analysed how the landscape organisers and financial institutions can cooperate. The IJsselmeer waterscape is a well organised initiative and benefits from the involvement of the central government in bringing together multiple stakeholders. The city of Rotterdam is facing the dual challenge of enhancing resilience while at the same time move towards a low-carbon economy. A third landscape concerns peatlands in the Netherlands. While there is not yet a clear ‘problem owner’, the issue is now entering the policy agenda. This report explores how an alternative financing mechanism based on Social Impact Bonds can provide a solution.

This report suggests several steps that public and private sector stakeholders can take to bring these actors together.

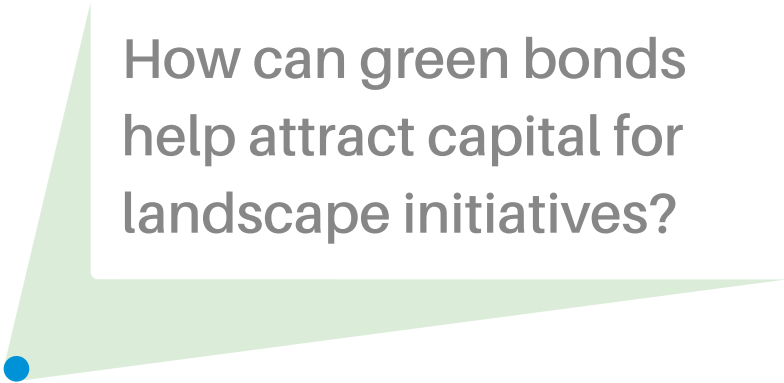
INTRODUCTION

The goal of this stock-taking paper is to explore how innovative financial instruments such as Green Bonds can help scaling up Integrated Landscape Management (ILM) initiatives¹.

This study was commissioned by the Netherlands Enterprise Agency (RVO - Caroline van Leenders) and the Ministry of Economic Affairs (Martin Lok). IUCN NL (Gerhard Mulder) was requested to write this study because of the multi-disciplinary nature of the research question. The Netherlands government sees ILM as one of the cornerstones for achieving the Sustainable Development Goals. The paper has been researched within the context of the Netherlands; however, it draws on experiences from several other countries and its lessons learned can be applied elsewhere.

The paper was written based on a combination of desk research and interviews with many public and private sector stakeholders, mostly located in the Netherlands. These include the Nederlandse Waterschapsbank (NWB), Bank Nederlandse Gemeenten (BNG Bank), Utrecht Economic Board, Aqua4All, Wetlands International, Commonland, Rotterdam Municipality, YES BANK, Rabobank, ABN AMRO Bank, Actiam, Ministry of Foreign Affairs, Ministry of Economic Affairs, and the Netherlands Enterprise Agency.

The first section describes what ILM is and why it is important to look at financing. The second section provides an overview of green bonds. Section 3 explores how green bonds can be applied in the context of landscape thinking. Furthermore, it highlights several other innovative financing mechanisms that are compatible with landscape initiatives. The fourth and last part describes how green bonds can be applied to three different landscapes in the Netherlands: a waterscape (IJsselmeer), a cityscape (Rotterdam), and a landscape (peatlands). Each of these landscapes is very different, but they all bring together different stakeholders within a certain geographical to jointly define projects that maximizes the net benefit to the landscape.



How can green bonds help attract capital for landscape initiatives?

SECTION 1. INTEGRATED LANDSCAPE MANAGEMENT

INTRODUCTION

Growing demand for land, water, natural resources and human-induced climate change put an increasing pressure on nature. Over the past decades, the landscape approach has been put forward as a possible decision support solution for several development issues (often referred to as competing claims) that converge on a landscape level. ILM aims to integrate the objectives of different stakeholders at landscape level in order to establish long-term sustainable growth. The pursued objectives are those of sustained economic and social development, combined with local biodiversity conservation.

Ecoagriculture Partners, an environmental thinktank located in Washington DC, emphasises that landscape partnerships are becoming a key strategy to achieve food and water security and other Sustainable Development Goals at sub-national scales, and to meet commitments like the Bonn Challenge, the Aichi biodiversity targets, the Paris Climate Agreement, land degradation neutrality, the Consumer Goods Forum sustainable sourcing goals, and the New York Declaration on Forests².

In particular, where resource challenges are inter-dependent across sectors, stakeholders are finding that they cannot be addressed effectively through conventional tools of government regulation, business supply chain sustainability initiatives or community management. Collaborative landscape approaches align stakeholders in a particular place to resolve complex issues such as water scarcity, biodiversity decline, deforestation, or farmer adaptation to climate change—because these challenges cannot be successfully resolved by actors working alone or through farm or supply chain interventions.

The landscape approach is often discussed in the context of developing countries. What is sometimes overlooked is that the Netherlands has applied the landscape approach for water management for centuries already. Dutch water authorities bring together different stakeholders to jointly decide on managing competing claims related to water issues. Water authorities are democratically elected, but a fixed number of seats are reserved for farmers and forestry & nature organisations. Water authorities are also able to raise taxes. And finally, they can rely on the Nederlandse Waterschapsbank (NWB) to access funding (we will discuss the NWB in more detail later). Thus, while Dutch water authorities focus on water only rather than a range of competing claims on a landscape's resources, the *approach* and *organisational structure* can serve as an example.

Overall, engaging multiple stakeholders to develop large scale projects, in particular infrastructural projects, is well embedded in the Netherlands. The Ministry of Economic Affairs and RVO have identified three landscapes in the Netherlands that have a high organisational structure that identifies and engages multiple stakeholders to participate. The three initiatives are:

- IJsselmeer waterscape
- Rotterdam cityscape
- Peatland landscape

Textbox 1. IJsselmeer waterscape

The IJsselmeer is a body of water where many different ambitions, goals, and investment projects come together. The Dutch government has taken the initiative to develop a joint agenda with partners in the region: regional governments, civil society, environmental groups, knowledge institutions, and the private sector. The joint agenda must create a shared vision for the area and guide different investments between now and 2050.



Figure 1. IJsselmeer

Textbox 2. Rotterdam cityscape

Rotterdam faces the dual challenge to increase its resilience against climate change while at the same time transition into a low carbon economy. Significant investments will be required to achieve these goals, including in renewable energy, energy efficiency, district heating, and climate adaptation. The municipality is actively exploring new alliances and financing options to address social and environmental issues.



Figure 2.

Textbox 3. Peatland landscapes

Peatland landscapes can be found across the Netherlands, although they are concentrated in the western part. Peatland is effectively condensed organic material. Peatlands must be kept wet, else the soil will subside and large amounts of carbon will be released. However, many peatlands in the Netherlands have been drained. The subsidence of the soil causes significant damage to public infrastructure. The rewetting of peatland is an effective intervention to prevent further damage.

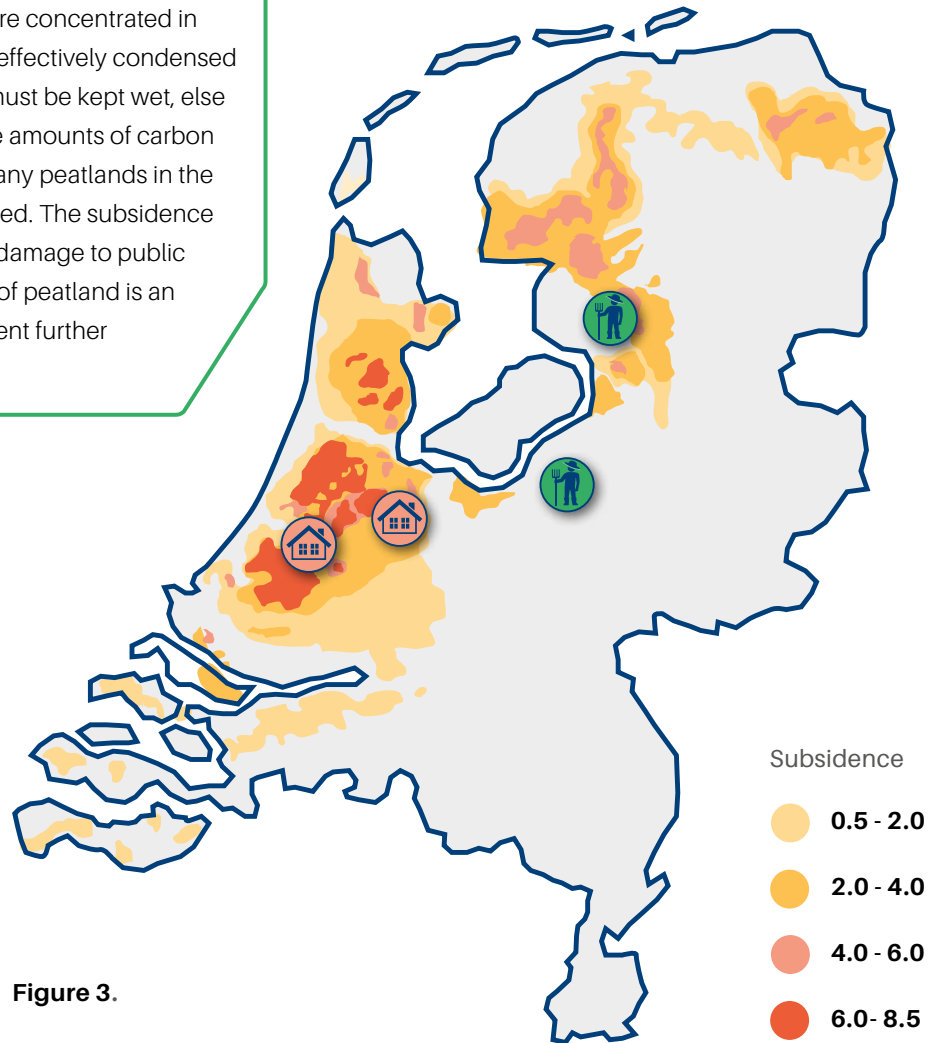


Figure 3.

Later in this paper we will explore the possibilities of issuing a green bond (or green bond like instruments) per landscape as a financing mechanism in further depth.

One explicit goal of ILM is that interventions identified by stakeholders and users in the landscape must have a net positive impact on the environment. One common problem is that the costs and benefits of investing in natural capital are often not equally distributed. For example: forest conservation to safeguard biodiversity and water availability is an expense for a forest manager. The benefits, however, are shared by multiple users of the landscape. For example, a reforestation project in a mountainous area will benefit a downstream cocoa plantation by enhancing its resilience, it will benefit the local water authority because the forest filtrates rainwater, and it will benefit downstream local communities because it prevents mudslides and flash floods. Then the question is, who pays?

INNOVATIVE FINANCING FOR ILM

There is a difference between landscape financing in a developing country context, and in the context of developed countries such as The Netherlands. In general, the underlying projects that provide value for a landscape are different in a developing country. Research³ has shown that landscape initiatives in low income countries tends to promote livelihood-oriented benefits, while landscape initiatives in high income countries is more focused on cultural and ecological values.

Furthermore, the availability of funding is different in developed countries versus developing countries. While there is ample experimentation with many sources of finance in developing countries, including Payment for Ecosystem Services (PES) schemes, REDD+, tourism, agroforestry, and the greening of value chains, there is not yet a widely accepted financing *strategy*. Currently, a Landscape Opportunities Financing Assessment Tool (LIFT) is

being developed by EcoAgriculture Partners and IUCN NL to allow for a harmonized approach in developing a financing strategy on the landscape level (<https://liftkit.info/>). The tool emphasises the importance of identifying local sources of financing, including both public and private finance. In some landscapes innovative financing mechanisms are being developed, often with the involvement of multilateral or bilateral financing institutions. However, such initiatives are not always born out of the landscape initiative itself. Rather, they are being developed in the normal course of business and financing activities.

In the Netherlands, financing landscape initiatives is largely within the domain of public authorities. There are several reasons for this. Firstly, the Netherlands has a highly capable and well-functioning civil service and a robust public finance system. Secondly, many landscape initiatives include an infrastructure component. Investments in infrastructure falls within the competence of the government. And lastly, it can be argued that the landscape approach is already embedded in public policy making as the government routinely works with local stakeholders to build consensus around projects. This does not preclude landscape initiatives to benefit from ideas and practices from developed countries. In fact, further in this report we will recommend that the IJsselmeer waterscape can apply the LIFT as a complementary tool to work with different stakeholders to identify financing options for proposed projects.

Also, the discussion around landscape financing in a developing country context often concentrates around “enabling” investments rather than “asset” investments. *Enabling* investments lay the institutional and policy foundation for asset investments by generating incentives to invest in a particular activity, usually with no immediate expectation of financial rewards. For landscape initiatives these are investments in stakeholder engagement and cooperation, appropriate legal

and regulatory framework, knowledge and capacity to plan and manage on a landscape scale, and the development of incentive mechanisms. Asset investments create tangible value that is returned back to the investor or land manager, ideally with a profit. Categories of asset investment include agricultural production practices that contribute to multiple landscape objectives, farm conservation or production, restoration or protection of natural assets on public or private lands, environmentally and socially responsible enterprise, and large-scale green infrastructure. Asset investments implies that there is an identifiable legal entity that acts as counterparty to the investor. As such, investors do not invest in 'landscapes', but rather invest in (or lend to) creditworthy companies or projects within a landscape context.

In general, in the Netherlands an enabling environment often already exists. In fact, consensus building (which is at the heart of landscape thinking) is a core aspect of policy making. For example, in the IJsselmeer case, the central government has taken the initiative to set up a multi-stakeholder platform and has provided resources to run it. This is not to say that enabling investments are not needed anymore. We recommend that the Netherlands government invests in setting up a multi-stakeholder platform to address the peatland issue.

CREATING VALUE

According to the World Resources Institute⁴, there is a clear business case for landscape investments. For example, studies estimate that every USD 1 invested in restoring degraded forests can yield between USD 7 and USD 30 in economic benefits. Although the economic case is clear, financing for restoration activities falls well short of the need. For example, only USD7b (about 5 percent of total climate finance) was used for financing land-use projects. One of the main reasons is that environmental and social benefits usually have no market value. Evaluated

strictly in terms of financial gains, most restoration projects generate returns that are too low to attract private investors.

But in those cases where projects create significant value for the public good, the landscape approach can provide additional insights. In the reforestation example mentioned before, organizing different beneficiaries and investors in a multi-stakeholder platform allows participants to recognize the value of certain interventions. The collaborative environment should lead beneficiaries to more readily acknowledge the value of such interventions. While this does not automatically lead to an exchange of funds, it does provide a nudge to a changing attitude towards value creation. For example, a pineapple company that has seen its plantation wiped out by mud slides caused by a tropical storm will be more enticed in a collaborative landscape context to acknowledge the value created by farmers that reforest mid-slope mountainsides that prevent these mudslides from destroying company property. Nevertheless, a business and financing proposition must be developed that will allow for the identification of such value creating activities. Multi-stakeholder platforms should be equipped to carry out or support such activities.

SECTION 2. GREEN BONDS

INTRODUCTION

Green bonds are fixed-income instruments that enable capital-raising and investment for new and existing projects with environmental benefits. To fixed income investors (for example, pension funds), one of the main advantages of green bonds is their simplicity. Unlike some of their more complex climate finance counterparts, green bonds have the same recourse to the issuer as traditional debt, no specialised cash flows, and no financial engineering. They also have the potential to deliver a range of additional benefits such as green impact (for example, reduction in carbon emissions or water used), clear fit within ESG (Environment, Social and Governance) mandates, and regulatory support. In short, they enable investor's exposure to lower carbon and more environmentally sustainable projects without taking any additional risk or costs.

Textbox 4. What is a bond?

A bond is a fixed-income financial instrument for raising capital from investors through the debt capital market. The bond issuer raises a fixed amount of capital from investors over a set period of time (the "maturity"), repaying the capital (the "principal") when the bond matures and paying an agreed amount of interest ("coupons") along the way.

DEFINING GREEN BONDS

There are many different types of green bonds. The OECD has identified seven types:

- 1. Corporate bond:** A "use of proceeds" bond issued by a corporate entity with recourse to the issuer in the case of default on interest payments or on return of principal. This category includes bonds issued by "YieldCo" vehicles to finance asset acquisitions.
- 2. Project bond:** A bond backed by single or multiple projects for which the investor has direct exposure to the risk of the project, with or without recourse to the bond issuer.

- 3. Asset-backed security (ABS):** A bond collateralised by one or more specific projects, usually providing recourse only to the assets, except in the case of covered bonds (included in this category). For covered bonds, the primary recourse is to the issuing entity, with secondary recourse to an underlying cover pool of assets, in the event of default of the issuer.

- 4. Supranational, sub-sovereign and agency (SSA) bond:** Bonds issued by international financial institutions (IFIs) such as the World Bank and the European Investment Bank (i.e. "supranational issuers"). SSA bonds have features similar to a corporate bond relating to "use of proceeds" and recourse to the issuer. Agency bonds are included in this category (e.g. issuance by export-import banks), as are sub-sovereign national development banks (e.g. the German KfW).

- 5. Municipal bond:** Bonds issued by a municipal government, region or city.

- 6. Sovereign bond:** Bonds issued by a national government. In December 2016, Poland issued the first sovereign green bond, followed by the launch of a sovereign green bond by France in January 2017. France will invest the proceeds to meet its obligations under the Paris climate agreement, protect biodiversity and fight pollution.

7. Financial sector bond: A type of corporate bond issued by a financial institution to raise capital specifically to finance “on-balance sheet lending” (i.e. to provide loans) to green activities (e.g. Rabobank or Agricultural Bank of China).

In principle, it is up to the issuer and buyer to determine the quality of the environmental benefit. There is no universally accepted definition of what should be considered green. The International Capital Market Association (ICMA) has brought together users, issuers and third-party verifiers to develop the Green Bond Principles. The Green Bond Principles (GBP) are a set of voluntary guidelines around the design and reporting characteristics of green bonds. To classify as a green bond under the GBP, the issuer must include four components:

1. Use of Proceeds: The issuer must clearly describe the project types in which it aims to invest. The GBP includes a list of eligible project categories; however, market participants are free to propose other project types. For example, under national guidelines the Chinese government includes ‘clean coal’ as an eligible project category. Eligible project types include renewable energy, energy efficiency, pollution prevention, biodiversity conservation, etc.. Landscape initiatives as such is not mentioned explicitly. This is not a surprise because it is an approach rather than an investable project or program. Asset and enabling investments identified in the context of a landscape initiative should qualify as green under the GBP.

2. Process for Project Evaluation and Selection: The issuer of a green bond should clearly communicate the process by which the issuer determines how the Projects fit within the eligible green projects categories. Furthermore, the issuer should communicate the related eligibility criteria, including, if applicable, exclusion criteria or any other process applied to identify and manage potentially material environmental and social risks associated with the Projects.

3. Management of Proceeds: The net proceeds of the green bond should be credited to a sub-account, moved to a sub-portfolio or otherwise tracked by the issuer in an appropriate manner. This should be part of a formal internal process linked to the issuer’s lending and investment operations for green projects. Creating a sub-account can be an issue if the issuer is a national government who issues debt for general purpose and is not allowed by law to earmark funding.

4. Reporting: Issuers should report up-to-date information on the use of proceeds to be renewed annually until full allocation, and as necessary thereafter in the event of material developments. Voluntary guidelines on reporting on some of the eligible project categories have been developed by the ICMA.

WHY GREEN BONDS APPEAL

Green bonds appeal to institutional investors for a number of reasons:

1. Investors prefer commoditised investment products with low due diligence costs
2. Investors can balance risk-adjusted financial returns with environmental benefits
3. Satisfies Environment, Social and Governance (ESG) requirements and green investment mandates
4. Improved risk assessment in an otherwise opaque fixed income market through use of proceeds reporting

Furthermore, it can be argued that investors can use green bonds as a hedge against climate policy risks in a portfolio that includes emissions intensive assets. As regulators such as central banks and stakeholders call for more transparency on climate risks in lending and investment portfolios, investors’ awareness on these risks are likely to increase. Such awareness may lead to a rebalancing of portfolios, including divesting from fossil fuels and increasing exposure to green assets.

Figure 4 below shows that in 2017, green bonds use of proceeds was split between 7 sectors. While the largest category remained Energy (a total of USD51bn investment in 2017), its share decreased from 38% in 2016 to 33% in 2017. Conversely, investment in Buildings and Energy Efficiency grew from 21% to 29%.

There is no separate category for 'landscape initiatives'. A landscape initiative can contain a diverse portfolio of projects, some of which will be included in these existing categories. If we assume that a green bond issued by the NWB is the product of a landscape initiative, the proceeds are spent on energy reduction, biogas production, waste water treatment, irrigation and drainage, dredging, etc. So a green bond issued by the NWB would probably be included in the category 'water'.

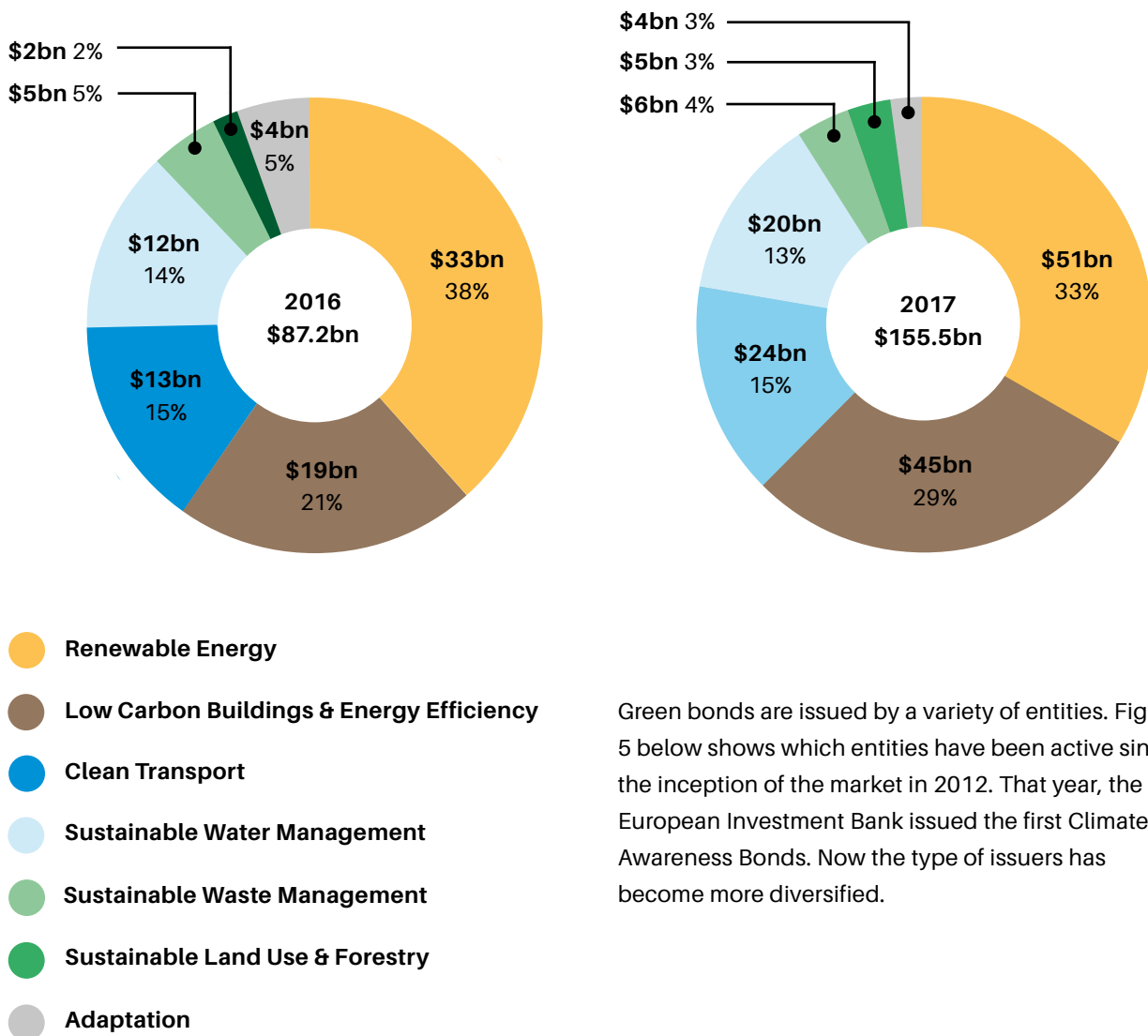


Figure 4.

Source: Climate Bond Initiative

Green bonds are issued by a variety of entities. Figure 5 below shows which entities have been active since the inception of the market in 2012. That year, the European Investment Bank issued the first Climate Awareness Bonds. Now the type of issuers has become more diversified.

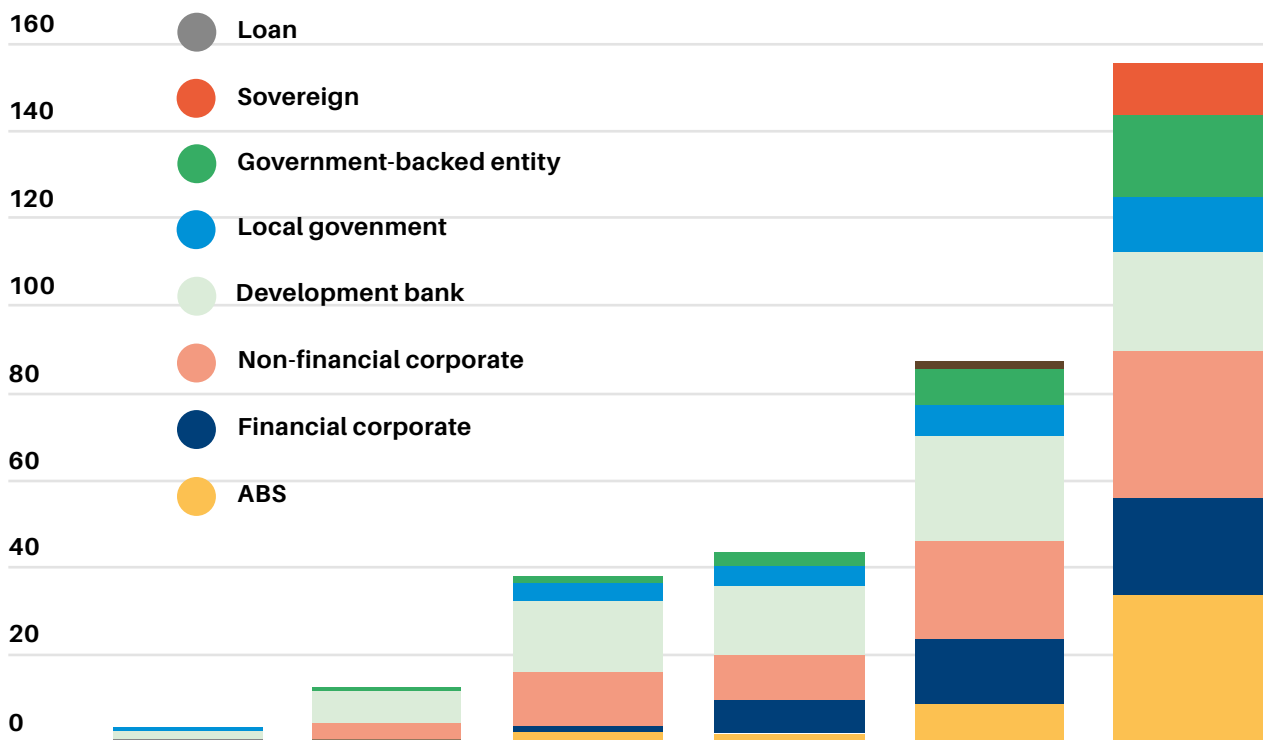


Figure 5. The labelled green bond market is growing rapidly

Source: Climate Bond Initiative
December 2017

Now commercial banks and corporates dominate the field. Furthermore, sub-national governments (states, provinces, municipalities) have become more active. Green bonds have been issued by cities and municipalities, growing from just USD4b in 2014 (10%) to USD31.5b (21%) in 2017. US municipalities continue to dominate the sub-sovereign space; however, green municipals and city bonds have come from all around the world, including Mexico, Sweden and Australia. Nordic municipality debt aggregators were important players, enabling small municipalities access to low cost capital through the bond market despite their small size.

To attract capital from institutional investors and to be included in a major index, a green bond must have a minimum issue size USD250m, and preferably larger. Furthermore, green bonds must be 'investment grade'. A bond that is investment grade has a credit rating of Baa or higher from Moody's Investors Service, a rating of BBB or higher from Standard & Poor's or both. A credit rating is an objective evaluation of a bond issuer's financial strength, or its ability to pay a bond's principal and interest in a timely fashion.

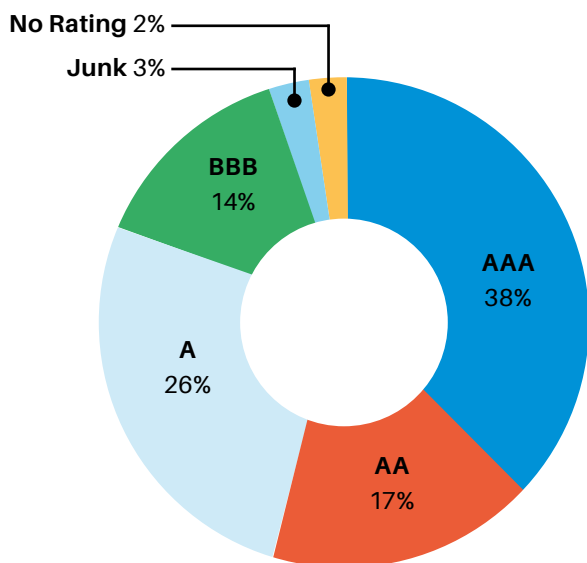


Figure 6.
Source: Climate Bond Initiative

Figure 6 shows that 95 percent of issued (and tracked) green bonds are investment grade. In case the issuer does not have the creditworthiness to issue an investment grade green bond, financial instruments exist that can improve the quality of the bond. For example, European Investment Bank has a facility called the Project Bond Credit Enhancement

(PBCE) initiative. In this case, the European Investment Bank provides risk capital to absorb possible first losses of a project bond. Later in this report we will discuss the possibility to apply such instruments for the city of Rotterdam.

GREEN IMPACT BONDS

Although easily confused with green bonds, green impact bonds are an entirely different financial instrument. The concept of impact bonds was first developed by banks to address certain social issues, for example youth unemployment. A social impact bond (SIB) is a contract with the public sector or governing authority, whereby it pays for better social outcomes in certain areas and passes on part of the savings achieved to investors.

Thus, a SIB is not a bond per se, since repayment and return on investment are contingent upon the achievement of desired social outcomes. If the objectives are not achieved, investors receive neither a return nor repayment of principal. They are risky investments since repayment is contingent on achieving certain social (or environmental) outcomes. Figure 7 shows a schematic overview of how a SIB is configured.

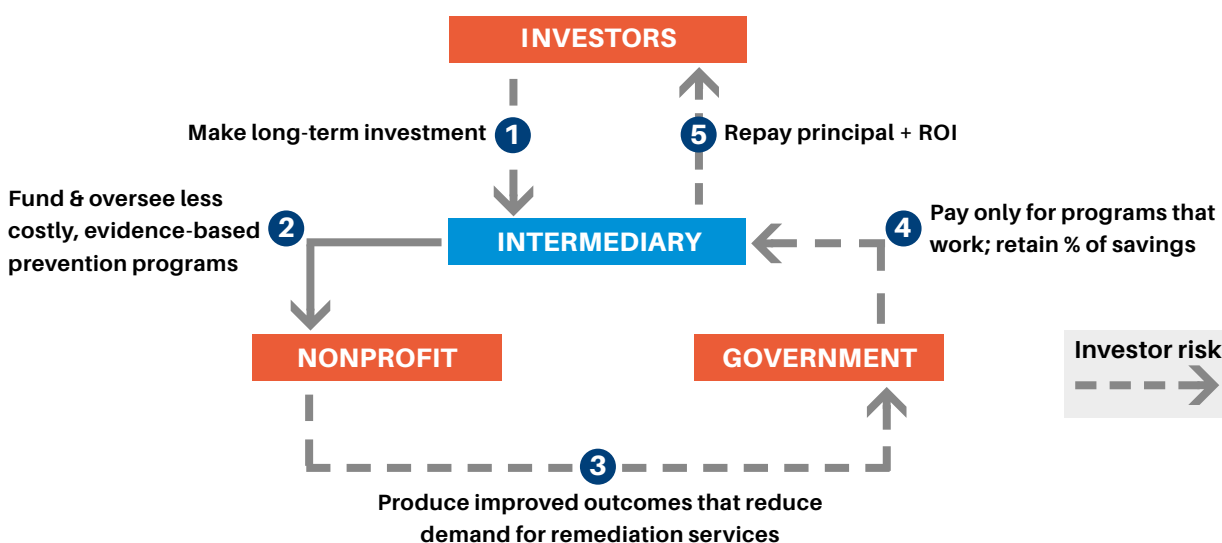


Figure 7.

To make an impact bond successful, two components must be considered:

1. Returns must be determined by outcome

Part of the project’s risk is transferred from the payor – typically a public entity or the government – to private investors such as commercial investors or philanthropies.

2. Performance metrics must be well-defined

The project’s performance metrics should represent a good proxy for environmental outcomes once the project has been completed.

SIBs/GIBs are thus based on a “pay-for-success” formula. The risk lies with the investors who will not get paid unless certain clearly defined parameters are met. SIBs/GIBs are not traded like green bonds. Instead, the intermediary (usually a bank) will find private investors who are interested in combining a financial return with a social/environmental return.

Table 1.
Difference Green Bond and Social Impact Bond

	GREEN BOND	SOCIAL IMPACT BOND
Size	Minimum USD250m	0.5 million to 20 million EUR
Counterparty risk	On the issuer	Pay for social (or green) outcomes
Can instrument be traded	Yes	No

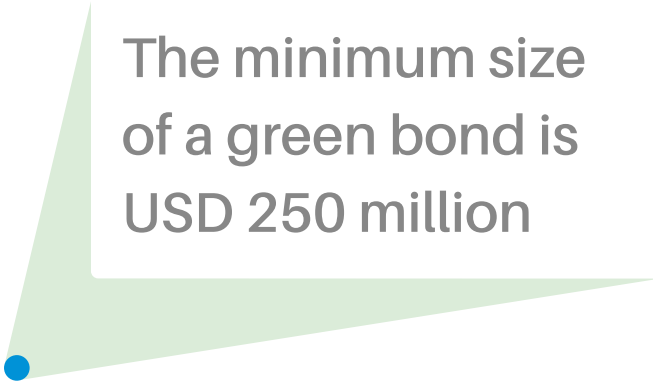
Thus far, there is limited experience with using impact bonds for environmental purposes. In 2016, DC Water, the water utility of Washington D.C., issued an USD25m GIB. The GIB was structured by Goldman Sachs and the Calvert Foundation. The money will initiate the Washington D.C.’s Clean Rivers Project, an USD2.6b program to control storm water runoff and improve local water quality using natural infrastructure. A federal grant from the Social Innovation Fund of USD 250.000 helped to develop and structure the GIB.

A key element is establishing measurable criteria that can be used as a basis for determining payment triggers. In the case of DC Water, these criteria related to a percentage in runoff reduction resulting from the green infrastructure intervention. An external party verifies whether the criteria have been met.

Textbox 5.

The Netherlands' first Social Impact Bond was created in Rotterdam in 2013, when the Start Foundation and ABN AMRO joined forces, both investing €680,000 in the Buzinezzclub. This organisation aims to help young people in Rotterdam who are on state benefits to find a job, enrol in training or start their own business. Participants work through an intensive process attending group training sessions and workshops, and doing work placement. This approach allows participants to get off benefits faster than the average person. The state pays investors from the money saved as a result of the programme.

There is no reason to believe that a SIB or GIB can only be designed for public entities. For example, a brewery that aims to develop a series of natural infrastructure interventions to manage water issues in a particular landscape can also design a GIB. The brewery would benefit from only having to “pay-for-performance”, for example if the water quality has reached a certain standard. It is conceivable that an impact investor would be interested in investing in a GIB for this purpose as the impact is measurable and if implemented correctly, the investor would earn a return on its investment. It would have the benefit for the company that it does not have to invest itself in a project. Rather, because it pays-for-performance, the company only needs to record an expense once certain criteria are met.



The minimum size
of a green bond is
USD 250 million

SECTION 3. DEVELOPING GREEN BONDS FOR LANDSCAPES

INTRODUCTION

There is some experience with bundling a portfolio of investments in a landscape context into a green bond in order to raise the capital needed to implement landscape-level investment packages⁵. The Global Canopy Program attempted to develop a green bond to finance a series of projects in Mato Grosso, Brazil. This experience shows that obstacles exist:

- **Green Bonds are not suitable for projects at proof of concept or early investment stages.** It is possible to develop a portfolio of projects and issue a green bond against the future revenues. But investors would not accept the risk of issues arising from developing and building the projects. Even just operational risk, for example of a portfolio of renewable energy projects, can be a problem, particularly in a developing country context. Further in the document we will provide an innovative solution proposed by YES BANK of India.
- **Projects must be bundled to achieve scale.** To access the capital market through a green bond, the portfolio should be at least USD250m (and preferably USD500m or more). A portfolio of projects that is developed in a landscape context is unlikely to achieve investment scale easily.

It should be emphasised that while this experience example was specific to the Mato Grosse case, the obstacles mentioned are universally applicable. A green bond issued in Europe or the United States has the same requirements as a green bond issued in Brazil or India.

What is different in the Netherlands is that a long history of financing landscape initiatives exists if you include the Water authorities and the NWB. The NWB is able to issue green bonds because its debt is guaranteed by the Netherlands government and is therefore AAA-rated. If a Dutch entity would try to finance an 'unsecured' portfolio of projects in the Netherlands, the same obstacles as described above would remain.

Textbox 6.

In 2017 Brazilian paper & pulp company Klabin issued a 10-year USD500m bond. The proceeds will be used for sustainable forest management, the restoration of native forests, and biodiversity conservation. Klabin is just below investment grade and therefore had to pay a 'high yield' of 5%. Nevertheless, investors judged Klabin sufficiently strong to buy this bond.

The landscape approach assumes that different stakeholders enter into a dialogue and jointly determine which interventions should be undertaken that have the maximum environmental benefit for the landscape as a whole. One does not invest in landscapes per se, but rather invests in projects within a landscape context. Behind every investment is an entity that must accept the loan or investment. Each entity will have to meet certain due diligence standards, including its creditworthiness, regulatory checks such as anti-money laundering legislation, and environmental, social and governance (ESG) criteria. It is therefore imperative that we examine which entity within the landscape is capable of issuing a green bond or structure a GIB.

MUNICIPALITIES AND PROVINCES

In the Netherlands municipalities and provinces are largely financed through the central government. In the United States municipalities and states issue their own debt. This explains why many municipalities in the United States have issued so many green bonds. But the situation in the Netherlands lends itself less for this. Rather, the central government issues general purpose bonds. Municipalities receive their funding through the “Gemeentefonds”. Approximately 50 percent of the total revenues of municipalities is drawn from the fund (EUR27,3b in 2016), the remaining from municipal taxes and other revenue generating activities such as selling land. Provinces face a similar situation. Their funding comes from the “Provinciefonds”, but their capacity to generate revenues is even further restricted.

Municipalities can borrow money from the BNG Bank. BNG Bank is a Dutch promotional bank of and for local authorities and public sector institutions. It has a credit rating of Aaa by Moody’s and AAA by Standard & Poor’s (i.e. the highest rating possible). Besides municipalities, the BNG Bank lends to housing associations, healthcare institutions, and public utilities.

The BNG Bank issues bonds on the capital market. In 2016, BNG Bank issued EUR18.1b equivalent with an average maturity of 6.3 years. Furthermore, it has issued a Sustainability Bond in 2014, 2015, and 2016. The proceeds are used to lend to municipalities that perform ‘best-in-class’ according to a set of sustainability criteria.

The NWB has issued three green bonds to date for a total of more than EUR2.5b. The proceeds from the Green Bonds are earmarked for lending to the Dutch water authorities. The Water authorities are governmental bodies, employing around 11,000 people, responsible for flood protection, water management and water quality. Climate change adaptation is an integrated part of their task. A large part of the future investments in flood control and in water management will be executed under the umbrella of the Dutch “Delta Plan,” a plan set up by the Dutch government to make the Dutch flood protection and water management schemes fit for the expected climate change in the coming decades. Both heavier rainfall patterns as well as longer periods of drought are taken into consideration.

PRIVATE COMPANIES

Private companies can issue a green bond if the size of the bond is large enough (USD250m or larger) and the company’s debt has an investment grade rating. Unilever issued a GBP250m green bond in 2014 to finance a series of investments in plant upgrades and new energy efficient plants. In 2016 Royal FrieslandCampina (RFC) issued a EUR300m ‘green’ promissory note. A promissory note is slightly different from a bond, but both are debt instruments. RFC will use the proceeds to fund a range of activities as part of their sustainability agenda. And Engie has raised EUR5.2b through green bonds since 2014. Financial institutions assist companies in structuring and selling the green bond. All major banks have ‘fixed income’ desks, and increasingly they are adding green bonds to their product offering. All

three major banks in the Netherlands are active in the green bond market and have structured several green bond transactions. Financial institutions can issue green bonds themselves as well. As noted earlier, the European Investment Bank kickstarted the market with their issuance of green bonds. And besides NWB and BNG Bank, Rabobank has issued a EUR500m green bond in 2016 to provide funding to renewable energy projects.

Textbox 7.

YES BANK, India's fifth largest private sector bank, has been one of the most innovative banks in the green bond space. In February 2015, YES BANK issued India's first ever Green Infrastructure Bonds for USD 160 million. In August 2015, the bank issued first Green Masala Bond of USD 50 million which was privately placed to International Finance Corporation (IFC). In September 2016, the bank issued its 3rd Green Bond raising 50 million USD from FMO Netherlands their 1st ever investment in a Green Bond issued by a bank in India. Beyond issuing green bonds, the bank has proactively released India's first ever Green Bond Impact report with the aim to strengthen the transparency among investors and stakeholders. Going forward, the bank is considering green asset backed securitization to channelize the mainstream finances towards small projects. For more information on green securitization, please see section below on Rotterdam.

SECTION 4. THREE LANDSCAPES AND A GREEN BOND

INTRODUCTION

The Ministry of Economic Affairs and RVO have selected three different landscape initiatives that could benefit from issuing a green bond or develop a green bond like instrument such as a Green Impact Bond. While each of the three landscapes are very different (see below), what unites them is that they work with multiple stakeholders in a complex policy environment. The three initiatives are:

- IJsselmeer waterscape
- Rotterdam cityscape
- Peatland landscape

We have interviewed the important stakeholders in each of these landscapes. This section will describe the individual initiatives, analyse how a green bond or GIB could be applied, and propose a way forward to capitalize on the possibilities. Furthermore, we will analyse the commonalities between these landscape bonds, and assess how a potential green bond would be different from a regular (either technology focused or issued by a AAA-rated public bank) bond.

1. IJSSELMEER WATERSCAPE

Introduction

The IJsselmeer area is a large geographical water area with many different stakeholders. There are competing claims on the resources of the IJsselmeer area, while at the same time there is an urgent need for water security, drinking water, climate adaptation, environment, water quality, energy production, fishing, tourism, and urbanisation. It is therefore imperative that a balance be found between these competing claims and still preserve the historical

and cultural value of the IJsselmeer. The existing set of policy measures provides a framework for interventions, but it was felt that more synergy and coherence was needed. This would require a more integrated approach, which is the essence of the landscape approach.

As a result, in September 2015 the central government, through the Ministry of Infrastructure and Water Management, initiated the Agenda IJsselmeergebied, a multi-stakeholder approach to develop an ecological and economical vision for 2050 and an adaptive implementation agenda for 2030.

In the first phase of the project, 3 regional dialogues were organized around different topics; these dialogues provided input to a first synthesis document. In this document, cross-over topics were identified. The current status is that the different stakeholders are gradually coming closer together and a common understanding and agenda is taking shape. This will pave the way for new administrative policies.

Thus far, the financial sector has been largely absent in the multi-stakeholder process. It is true that

financiers generally do not start evaluating potential investments until there is a business and financing plan. However, any multi-stakeholder process would benefit from the input from financing institutions. In general, we recommend to get representatives from the financial sector on board with landscape initiatives in an early stage. Many representatives from financial institutions are willing to contribute their expertise to advance the public debate about potential investments.

A GREEN BOND FOR THE IJSSELMEER

Stakeholders, both public and private, have developed a portfolio of interventions that span decades. Examples of concrete projects include housing developments, renewable energy projects, sea wall fortification, tourism, and investments in nature to meet Natura2000 regulation. Often, underlying projects are the result of local partnerships, for example the Marker Wadden. Here an archipelago of 800 hectares is being built; the central government, provincial government, private foundations and Natuurmonument, a nature conservation group, are involved. It is conceivable that a total of EUR900m will be spent on ecological measures until 2050.

As mentioned, green bonds are less useful for projects that yet need to be built, unless the green bond is issued by an investment grade rated entity (for example if government backed). As the multi-stakeholder process evolves, it is important to think about how the coordination of multiple projects financed through multiple financing stream can be organized. One possible organisational form could be an Investment Platform. An Investment Platform would coordinate different projects with relevant financing institutions and investors.

A green bond would not be issued by the Investment Platform, but rather by existing entities such as water boards, municipalities, provinces, central government. In theory, a green bond could be issued

against a portfolio of projects, but such a bond would require backing from government agencies.

Textbox 8.

Investment Platforms are a means to aggregate investment projects, reduce transaction and information costs and provide for more efficient risk allocation between various investors. They are currently promoted by the European Investment Bank to distribute funding of the European Fund for Strategic Investments (EFSI). The Food and Agriculture Organisation (FAO) and United Nations Convention to Combat Desertification (UNCCD) are currently developing Investment Platforms for forest and landscape investments in developing countries.

RECOMMENDATIONS FOR NEXT STEPS

The IJsselmeer is a textbook example of a well-organised landscape initiative. A multitude of stakeholders are involved. We recommend several steps. Firstly, it is important that banks and other financial institutions are becoming part of the multi-stakeholder process. They can offer expertise and networks, and can help developing ideas for financing. Secondly, the LIFT provides a step-wise process to developing a financing strategy for the multitude of projects ideas. The LIFT is not exclusively developed for landscape initiatives in developing countries. Well organised multi-stakeholder landscape initiatives such as the IJsselmeer can benefit as well. The LIFT helps landscape leaders develop and prioritise investment cases, pursue suitable investors and assemble an efficient finance strategy for their landscape priorities. Thirdly, we recommend that the landscape organiser starts thinking of what the appropriate organisational form would be to organize future investments. An Investment Platform may be suitable, but many details would still need to be worked out.

2. ROTTERDAM CITYSCAPE

Introduction

The city of Rotterdam has developed a strategy to increase its resilience to climate change. The city has more than a decade of experience in carrying out a climate change adaptation program. In fact, its leading position in climate adaptation has provided an example to New Orleans and New York in the aftermath of devastating storms. In addition to building resilience, Rotterdam and the surrounding region are facing a momentous task to transition into a low carbon economy. The new cabinet has set ambitious goals for energy efficiency, carbon capture and storage (CCS), district heating, renewable energy, etc. The Finance and Strategy department of the municipality has prepared a portfolio of projects that must be financed in the period until 2030. No figures are disclosed, but the investments will be substantial.

Currently, projects are generally financed from the general budget. This budget is largely financed through a mix of long term and medium terms loans. A question is whether green bonds can enhance the city's financing capacity without increasing an undue burden on its budget.

In general, as green bonds are currently structured there is no measurable financial advantage over regular bonds. Anecdotal evidence suggests that at issuance there may be a 2 - 3 basis points advantage (bps = 1/100 of a percentage, or 0.0001%). While this is not very large, for a USD1.0b green bond, this is still between USD 200.000 - 300.000. That is more than enough to recoup the additional cost of a green bond issuance.

The advantage cited by many issuers, as mentioned above, is that a green bond issuance attracts new investors. Investors have green investment mandates and green bonds are attractive instruments for

them because they are similar to regular bonds. Furthermore, issuers have gained positive public relations as a result of green bond issuance. However, unless there is explicit support from political leaders these arguments may carry less weight.

A GREEN BOND FOR ROTTERDAM

Therefore, a general question for financing a portfolio of green projects by municipalities is whether there is a financial advantage that can be explored. There are two possible ways in which a green bond might provide support.

Covered Green Bonds: a covered bond is usually issued by a bank and remains on the issuers balance sheet. The investor receives an extra level of security because they also have recourse to a pool of collateral (known as the "cover pool"). However, covered bonds are relatively expensive and given the already low borrowing cost of the city of Rotterdam, there may be little advantage for issuing a covered bond.

Green securitization: green securitization refers to any asset-backed security (ABS) with proceeds raised to finance loans for green infrastructure. The portfolio is moved off the issuer's balance sheet into a special purpose vehicle (SPV), which then issues asset-backed securities to investors. In 2017, approximately USD5.0b of green Asset Backed Security (ABS) was issued. Such an unsecured portfolio generally has a low credit rating (although better than unsecured bank lending). But the quality of the ABS can be improved, for example by providing credit enhancements. In this case, the debt will effectively be divided into two tranches: senior and subordinated. If a AAA-rated entity (in general a public bank) would provide a loan or a contingent credit line, the total credit rating can increase by several notches. This way, public funding is used to crowd in private capital.

The Ministry of Economic Affairs established the Netherlands Investment Agency, which in 2018 will become Invest-NL. Invest-NL will have EUR2,5b in capital that can be deployed to finance green investments (as well as providing finance to other sectors). Invest-NL intends to provide risk capital, guarantees, export credit insurance, and international co-financing programmes. It could be explored whether Invest-NL can provide credit enhancements like described above.

RECOMMENDATIONS FOR NEXT STEPS

The city of Rotterdam has the organisational and financial capacity to enhance the resilience of the city and its residents and manage the transition to a regional low carbon economy effectively.

Nevertheless, the financial implications are large and large cities such as Rotterdam would benefit from programmes that would preserve budgetary discipline while at the same time scale investments. New instruments may need to be developed to assist cities such as Rotterdam in managing these challenges.

We therefore recommend that the Strategy and Finance department and the Treasury department research the possibility of creating alternative financial strategies that would maintain the city's budgetary discipline. One such strategy could involve green securitization. Secondly, we recommend that the city starts a dialogue with representatives from the Netherlands Investment Agency/Invest -NL to explore the possibility to provide risk capital to various projects.

3. PEATLANDS LANDSCAPES

Introduction

A topic that was mentioned by several consulted organisations is the issue of subsidence of peat meadows in the Netherlands. A study by the Netherlands Environmental Assessment Agency⁶ (PBL) states that approximately 9 percent of the Netherlands is low lying peatland. A large part of this peatland is subsiding as a result of drainage. Particularly in rural areas, this drainage is closely connected with intensive dairy farming: farmers benefit from a lower water level because it allows access with large machinery, improves grass yields, and limits damage from trampling by cows.

Draining causes approximately 1 centimetre of subsidence per year. In the built environment the subsidence is further exacerbated by the weight of housing and infrastructure. There are significant negative consequences resulting from the subsidence: for water authorities who need to spend money on drainage (EUR200m over 40 years), impact on nature and biodiversity, and the release of CO₂. The costs associated with this damage to infrastructure runs in the billions of euro, according to PBL. Furthermore, the subsidence causes peatlands to emit significant amount of CO₂: according to the Wageningen University, one hectare releases 30 ton CO₂. In the Netherlands the emissions from peatlands is equal to the CO₂ emissions of two million cars⁷.

Techniques exist to counter this subsidence, but these cost money and have a large impact on stakeholders in the landscape. For example, rewetting of the peatland would counter some of the subsidence. However, such measures would impact local dairy farmers as they would not be able to continue their farm activities as usual. Therefore, the PBL calls upon public and private stakeholders, including the central government, to develop an integrated approach and search for innovative financing solutions.

At the moment, the issue of peatlands is starting to gain traction. There are a variety of local initiatives being launched, such as by Commonland in the Vechtplassen area and Wetlands International in several provinces. While some of the initiatives have led to cooperation with different stakeholders, this is largely on a bilateral level and not yet organised as a formal multi-stakeholder platform.

Furthermore, there is limited public money available. The new cabinet is allocating some funding to start addressing the peatland problem, but without significant private capital it is unlikely to be enough. However, there is a business case for addressing the problem. By avoiding significant damage to public infrastructure, countering subsidence can potentially avoid billions of euros in future costs. Furthermore, reducing CO₂ emissions from peatland would contribute to the governments' obligation under the Paris Climate Agreement.

A GREEN IMPACT BOND FOR PEATLANDS

To discuss innovative financing solutions in the absence of a clear policy agenda and a set of potential interventions may be slightly premature. Nevertheless, it is worth exploring what the financing options could be.

First of all, the stakeholders involved include water boards, regional government (province and municipalities), farmers, and environmental groups. The regular financing options available to these stakeholders are familiar: they can borrow from the NWB and BNG Bank. Thus, it can be argued that a green bond can be issued by the NWB and BNG Bank which would pay for the interventions. This would be a regular green bond issued by a AAA-rated public bank and therefore very low risk.

An alternative financing solution could be a Green Impact Bond. In fact, Wetlands International, an environmental non-profit, has been working with a local Rabobank branch to develop a pilot GIB for

one of the peatland landscapes in which they are active. A GIB could work because there is a strong business case to avoid subsidence: authorities could avoid costly damage to public infrastructure by, for example, rewetting of peatlands.

What would need to be developed in this case are measurable criteria that would serve as a basis for payments by public authorities. An investor would pay into a fund; the fund would pay for certain interventions. If these interventions indeed prevent damage to public infrastructure and the reduction of CO₂ emissions (based on objective and measurable criteria), then the government would pay back the investor.

The discussions with multiple actors in this field suggests that there are a number of public and non-profit organisations, including Wetlands, Commonland, PBL Netherlands Environmental Assessment Agency, Gebiedscommissie West, and the Utrecht Economic Board, that are ready to play a role in starting to address the issue. Furthermore, because the interventions will significantly impact dairy farmers, it is necessary that the Dutch agricultural organisation LTO is involved in the consultation process. Preliminary discussions between environmental groups and LTO about the peatland issue have already taken place.

RECOMMENDATIONS FOR NEXT STEPS

As mentioned, the issue of peatland subsidence is only recently on the policy agenda. We support PBL's call for an integrated approach in which all stakeholders, including the central government, get involved. The exact set-up of such a multi-stakeholder process is yet to be determined. Outstanding questions include whether there should be one central multi-stakeholder platform, or regional multi-stakeholder platforms. We therefore recommend that a first scoping meeting is organised which, if participants decide so, could lead to setting up a more formal multi-stakeholder platform.

CONCLUSION

General

Based on conversations with key players in the green bond market we conclude that accessing capital markets through green bonds to finance landscape initiatives in the Netherlands is possible, but conditions apply. Most importantly, the issuer must be investment grade and the size of the bond should be a minimum of USD250m and preferably USD500m.

Therefore, it requires careful crafting of a financing strategy for Dutch landscapes which should build on the strength of the balance sheet of public banks such as the NWB and the BNG Bank and tap into their knowledge about the green bond market. Furthermore, Invest-NL can play a key role in providing risk capital to public and private entities that would allow green securitizations to become investment grade.

But there is no one-size-fits-all. The three different landscapes are all different in scope, size, and underlying problems. The IJsselmeer waterscape is well organised and benefits from the involvement of the central government in bringing together different stakeholders. A next step could be a stronger involvement of the financial sector. Furthermore, future investments by different stakeholders need to be coordinated. An Investment Platform could be considered for this purpose.

The city of Rotterdam is facing the dual challenge of enhancing resilience while at the same time move towards a low-carbon economy. This requires large investments. A green bond could be issued by the municipality (or in cooperation with a financial institution), but this would increase the total debt of the city. Alternatively, the municipality could structure a green securitized bond where loans (for example, to invest in energy efficiency of school buildings) would be moved into a Special Purpose

Vehicle. Then a green bond could be issued against the portfolio. This would probably be perceived as risky by investors, but the bond could be de-risked through public guarantees by, for example, Invest-NL.

The peatland challenge is yet in the early stage of policy formation. Part of the solution could be a Green Impact Bond where the government pays for avoided damage to public infrastructure. One important element to make a GIB a success is that measurable criteria to assess the success of the interventions must be developed.

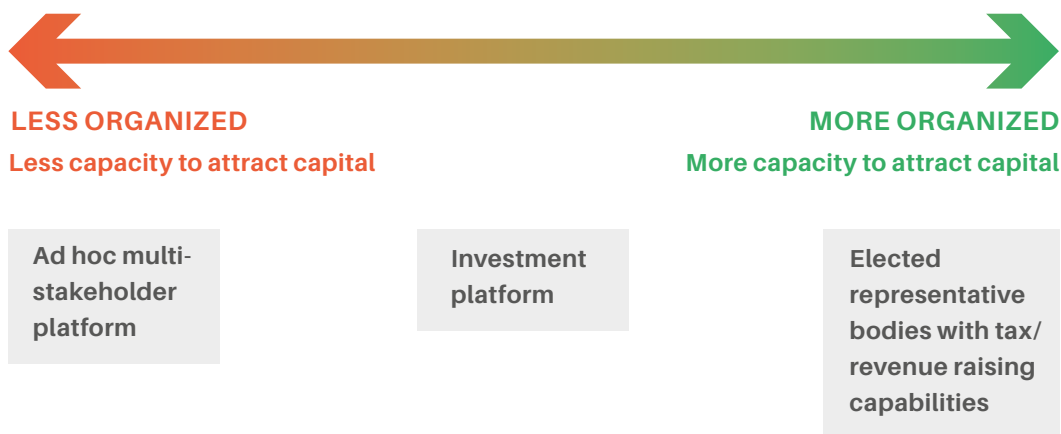
All three landscapes share that there are multiple stakeholders involved, that trade-offs must be identified, and that innovative financial structures can be developed and deployed. All three landscape initiatives would benefit from a greater involvement of financial institutions. This report suggests several steps that public and private sector stakeholders can take to bring these actors together. In our conversations there has been a remarkable willingness to listen and all parties have offered to continue the dialogue.

International comparison

There should be no difference between a green bond issued in the Netherlands and a green bond issued in a developing country. If a green bond based on a portfolio of unfinished projects without any government guarantees would be offered to the market in the Netherlands, it would fail just like a similar effort failed in Brazil. What is different between green bonds for landscape initiatives issued in the Netherlands and green bonds issued for landscape initiatives in developing countries, is the degree of organisation of the multi-stakeholder platforms and the credit worthiness of the participants. The water boards in the Netherlands are, in a way, the gold standard: a high degree of organisation and the ability to raise taxes. But also the IJsselmeer policy platform is well organised with active involvement of the central government.

Figure 8 below highlights the factors that determine landscape initiatives' ability to attract capital

Figure 8.



It can be argued that many landscape initiatives in developing countries are still ad-hoc and not yet institutionalised. Not until there are investments to create an 'enabling environment', the ad-hoc nature of many platforms will remain an obstacle to attract capital at scale.

In sum, green bonds are not a magic bullet, but they offer new avenues to attract capital also for landscape initiatives. As the three examples in this report show, each landscape initiative operates in its own context. But green bonds can be a bridge between investors and landscape initiatives when designed correctly.

Landscape initiatives can use green bonds to raise capital if they are well organised

NOTES

1 ILM initiatives and landscape initiatives, and ILM approach and landscape approach, are used interchangeably

2 Ecoagriculture Partners, Business for sustainable landscapes: An action agenda for sustainable development (2017)

3 PBL Netherlands Environmental Assessment Agency, The landscape approach (2015)

4 World Resources Institute, Roots of prosperity: The economics and finance of restoring land (2017)

5 The Global Canopy Program started the Unlocking Forest Finance (UFF) project in 2013 with the financial support of the German Government's International Climate Fund.

6 PBL Netherlands Environmental Assessment Agency, Dalende Bodems, Stijgende Kosten (2016)

7 Alterra/Wagening University, Veenweiden en klimaat (2010)

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