



Green Bonds – Key Facts and Findings

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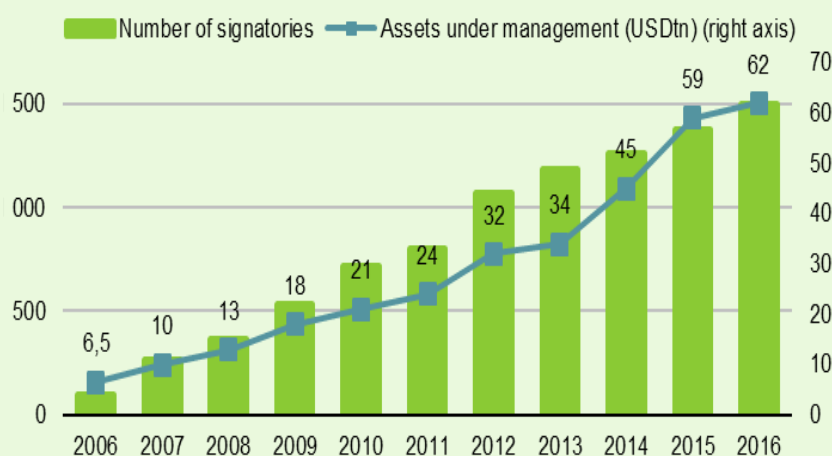
Green Bond drivers

DRIVERS			
Economic	Service	Regional benchmarks	International initiatives
<ul style="list-style-type: none"> Climate stress a financial risk Action vs. business as usual <ul style="list-style-type: none"> Allocation to resource efficiency 	<ul style="list-style-type: none"> Increasing focus on the need for green and climate financing <ul style="list-style-type: none"> Recognition of financial stability risk 	<ul style="list-style-type: none"> Challenges and opportunities differ Regions are at different stages in the transition 	<ul style="list-style-type: none"> ✓ UNPRI ✓ COP21 ✓ G20 Green Finance Study Group

CHALLENGES
<ul style="list-style-type: none"> Institutional decision Implementation may take time

Considerations by investor type	
Pension Funds	<ul style="list-style-type: none"> Long term investments require thorough risk assessment of climate stress Incentive to understand company long-term climate strategies
Insurance Companies	<ul style="list-style-type: none"> Directly exposed to climate stress through severe weather events and insurance liabilities <ul style="list-style-type: none"> Strong incentive towards adopting climate strategies
Banks	<ul style="list-style-type: none"> Bank treasuries a later adopter of Green strategies <ul style="list-style-type: none"> Several statement mandates announced Central banks are also becoming more active
Asset Managers	<ul style="list-style-type: none"> Responding to demand from asset owners Various types of investment strategies implemented <ul style="list-style-type: none"> Green Bond funds are on increase

Investor engagement continues to grow through UNPRI* signatories



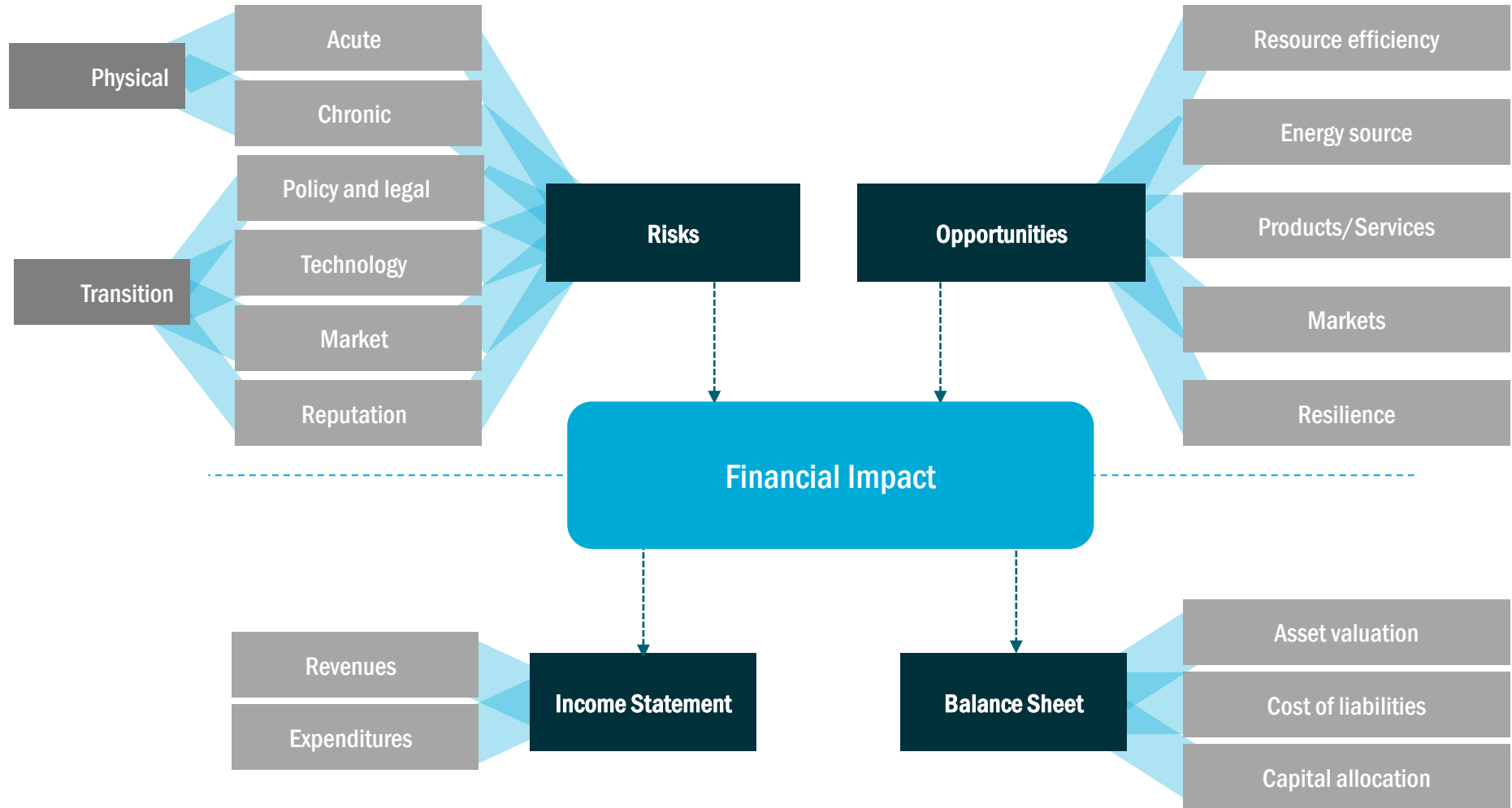
Source: www.unpri.org

At the **G20 Summit** in Hangzhou (2016), G20 Leaders have welcomed a set of voluntary options developed by the Green Finance Study Group where particular efforts could be made to:

1. Provide clear strategic policy signals and frameworks,
2. Promote voluntary principles for green finance,
3. Expand learning networks for capacity building,
4. Support the development of local green bond markets,
5. Promote collaboration to facilitate cross-border investment in green bonds,
6. Encourage and facilitate knowledge sharing on environmental and financial risks, and
7. Improve the measurement of green finance activities and their impacts.

FINANCIAL STABILITY BOARD TASK FORCE: EVALUATING FINANCIAL IMPACT

Climate-related risks and opportunities can impact organizations' financial performance.



Summarising the benefits of green bonds for green investment by the public and private sectors

Providing an additional source of green financing.

Enabling more long-term green financing by addressing maturity mismatch.

Enhancing issuers' reputation and clarifying environmental strategy.

Offering potential cost advantages.

Facilitating the “greening” of traditionally brown sectors.

Making new green financial products available to responsible and long-term investors.

Green Bonds – the market

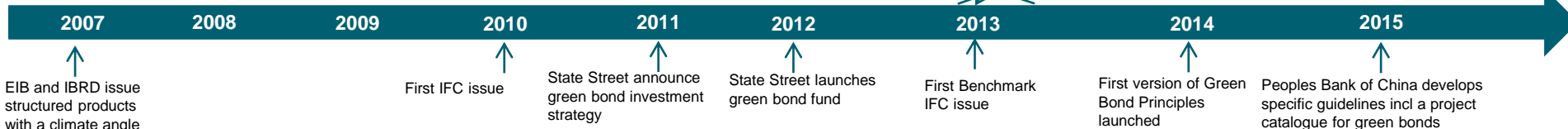
IBRD issues inaugural Green Bond placed with a handful of Swedish investors such as AP2, AP3, LF Liv and SEB Trygg Liv

Nikko Asset Management launches emerging market World Bank green bond fund

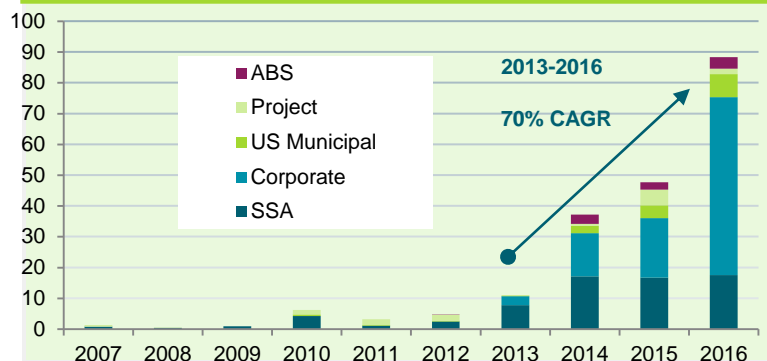
First:
Municipality: City of Gothenburg
Corporate: Vasakronan
Exp./Imp. Bank: KEXIM

Zürich Financial allocates USD 1bn to green bonds

BlackRock establishes strategy to manage allocation from Zürich



Amount issuance per year and sector (USDbn)



Source: Bloomberg and SEB

Green Bond Indices

- Solactive
- Barclays/MSCI
- S&P/Dow Jones
- BAML

Green Bond Funds (examples)

- SSgA
- Nikko AM World Bank
- Calvert
- Mirova
- Storebrand/SPP
- SEB

Green Bond Listings

- Oslo Stock Exchange
- Nasdaq Stockholm Sustainable Bond List
- London Stock Exchange
- Luxembourg Stock Exchange

Are there other green financial products in the market?

Yes!

✓ Green loans

✓ Green Bond Funds

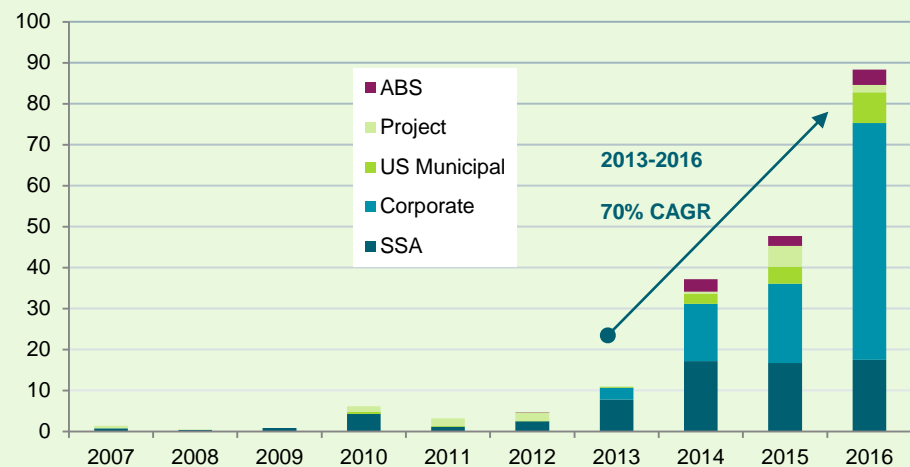
✓ Green Equities
✓ Investment Trusts

SEB's role in the Green Bond market - Examples of issuers SEB has worked with in developing Green Bond frameworks

Issuer		Issuer type	Region	Issuer		Issuer type	Country
World Bank (IBRD)	First Green Bond issuer	Supranational	Global	Korea Export Import Bank	First non-supra GB issuer	Export Import Agency	South Korea
Advanced Semiconductor Engineering	First Asian GB corp. issuer	Corporate	Asia	Latvenergo	First CEE IG GB issuer	Corporate	Central Europe
African Development Bank		Supranational	Africa	Nederlandse Waterschapsbank (NWB)		Water agency	Netherlands
Asian Development Bank		Supranational	Asia	Nordic Investment Bank		Supranational	Nordic
Aquafin		Corporate	Europe	Ontario		Province	Canada
BKK	First Norwegian corp. GB issuer	Corporate	Norway	Rikshem		Corporate	Sweden
City of Gothenburg	First municipal GB issuer	Municipality	Sweden	Swedish Export Cooperation (SEK)		Export Agency	Sweden
European Bank of Reconstruction and Development (EBRD)		Supranational	Central and Eastern Europe	Skanska		Corporate	Global
Export Development Canada (EDC)	First Canadian GB issuer	Export Agency	Canada	Stockholms County Council (SLL)		County	Sweden
European Investment Bank (EIB)		Supranational	Europe	Stångastaden		Corporate	Sweden
Fortum		Corporate	Sweden	Svenska Cellulosa AB (SCA)	First Nordic listed GB issuer	Corporate	Global
International Finance Corporation (IFC)		Supranational	Global	Vasakronan	First corporate GB issuer	Corporate	Sweden
Kommunalbanken, Norway	First Norwegian GB issuer	Municipality	Norway				
KfW		Regional Dev't Bank	Germany				

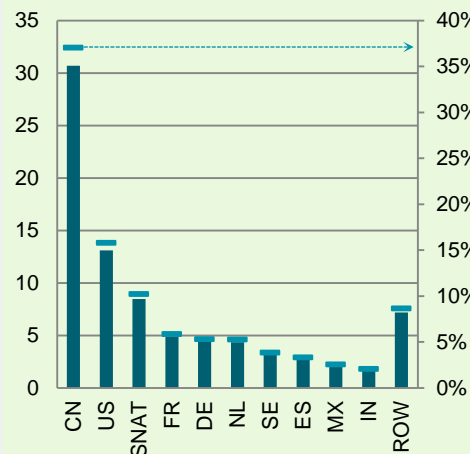
Green Bonds: Global Market Update

Amount issuance per year and sector (USDbn) (1)



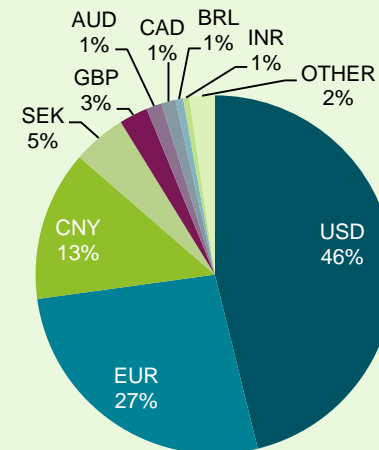
Regional issuance

Left: USDbn 2016 Right: Market share (2)

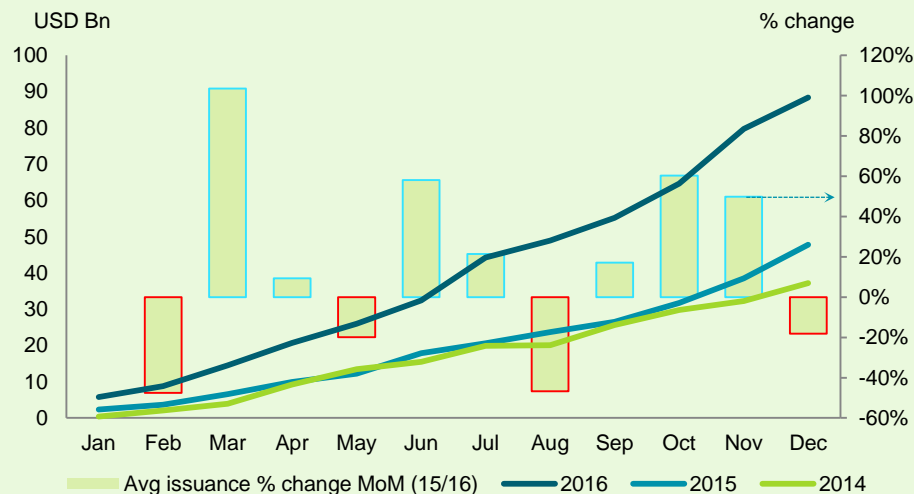


Amount issued by currency

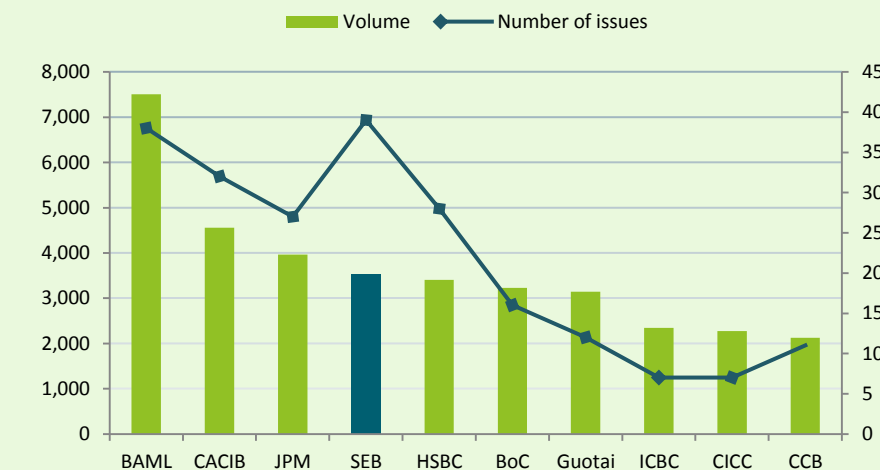
2007– 2016 (USDbn) (3)



Market growth 2014-16 / Average month-on-month issuance change



Top 10 underwriters 2016 (USDbn)



Source: SEB analysis based on Bloomberg data (See BNEF Bloomberg Terminal Guide (2016) for Green Bond definitions, methodology and inclusions/exclusions)

Notes: (1) ABS = Asset Backed Securities; SSA = Sovereign, Supranational and Agency (2) *Excludes USD 5bn of Bloomberg relabelled where currency N/A; SNAT = Supranational issuer; ROW = Korea, Poland, Norway, Japan, Australia, Canada, Brazil, Croatia, Finland, Turkey and Italy (3) OTHER in order of volume = NOK, ZAR, JPY, TRY, NZD, CHF, MXN, IDR, RUB, COP, PEN, HUF, PLN, MYR

SEB a reliable partner in the Green Bond market

Strengths in SEB's Green Bond offering

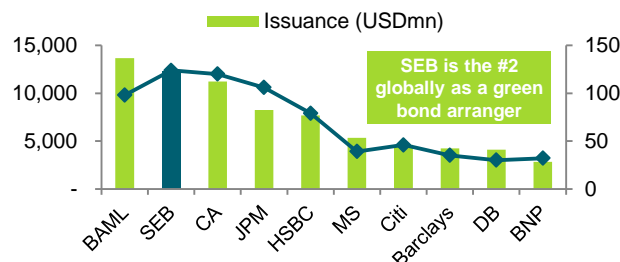
1

Distribution capacity to global key Green Investors

We have a strong global presence and deep knowledge of the investor base and would happily assist you in your work towards the Green Bond community

SEB has assisted many investors in setting up strategies around Green, including Blackrock, SSgA, State of California Treasury, the Nobel Fund etc.

Top 10 Green Bond underwriters 2008 – 2016 YTD (volume USDbn)



Recent Green Bond transactions

 4 tranches USD/EUR JLM SEB	 5y SEK 2bn Structuring Advisor & JLM SEB	 5y EUR500m JLM SEB	 6yEUR500m Joint Lead Manager SEB
 5 year EUR 1.5bn JLM SEB	 5 year EUR500m JLM SEB	 5y EUR / 3y USD 800m JLM SEB	 5y EU/IR 500m Joint Lead Structuring Advisor & JLM SEB

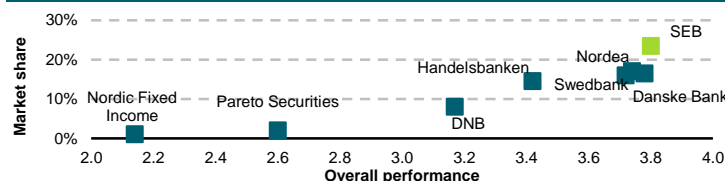
2

Strong relationships with investors and detailed product knowledge are key

Knowledge and regular dialogue with the entire green bond investor universe

Trust is key

Ranked #1 in Prospera IG Credits by institutions



Select areas in Prospera IG Credits

Select areas in Prospera IG Credits	Ranking
New issues (FIG, Corp, Covered and SSA)	#1
Client familiarity	#1
Credit research	#1
Company presentations	#1

3

Credit research to provide support to investors in their investment decision process

#1 Ranked Credit Research team. Detailed report on key transaction features will be produced



Top ranked research analysts



4

A partner bank that will have secondary market commitment

- A partner bank that will quote two way prices is important
- SEB is active in the secondary market for all transactions issued by the bank. SEB as a bank has throughout the years established long-lasting relationships with Green investors across North America, Europe and Asia since our creation of the Green bond in 2007.

Selected Green Bond transactions 2015 / 2016



3y FRN USD750m, 3y
1.875% USD 500m, 5y
2.25% USD1bn, 5y
0.75% EUR 500m
Senior Unsecured
Green Bond
Joint Lead Manager



EUR 500m 0.625%
due May 2022
Senior Unsecured
Green Bond
Joint Lead Manager



5 year SEK 1 billion
0.625%
January 2021
Sole Lead



5 yr EUR 500mm / 3 yr USD 800m
0.75% / 2.00%
Nov 2020/ Nov 2018
Joint Lead Manager



5 year EUR 500m , 0,625%
Dec 2020
Joint Green Structuring Advisor
Joint Lead Manager



5 year EUR 1.5 billion
0.125%
October 2020
Joint Lead



10 year EUR 1bn
1.000%
September 2025
Joint Lead



5 year EUR500 million
0,1255%
October 2021
Joint Lead



5 yr SEK 2bn
FRN / 1.048
June 2021
Sole Lead



5 year USD 500 million
1.875%
June 2020
Joint Lead



6 year SEK1.8bn Green Bond
1.000% / FRN
May 2021
Joint Bookrunner



BNP PARIBAS

EUR 500m 0.5% due Jun 2022
Senior Unsecured Green Bond
Joint Green Structuring Advisor
Joint Lead Manager



THE WORLD BANK
Working for a World Free of Poverty

10 year USD 600 million
2.125%
March 2025
Joint Lead



10 year USD 500 million
2.125%
March 2025
Joint Lead



EUR 500m 0.625% due
May 2022
Senior Unsecured
Green Bond
Joint Lead Manager



Green Bond indices, stock exchange listings and ratings

GREEN BOND INDICES

	Barclays Green Bond	BAML Green Bond	S&P Green Bond	S&P Project	Solactive Green Bond
Inception	1/1/2014	12/31/2010	7/21/2014	12/31/2013	03/10/2014
History	1/1/2014	12/31/2010	1/1/2009	1/1/2009	01/03/2012
Number of Issuers					
Number of Issues	51	58	189	29	
Market Value (\$M)	37,806	36,678	48,195	11,086	
Duration	5.81	5.35	4.91	7.06	
Yield	1.39	1.25	1.61	4.78	
Sector					
Corporate	Yes	Yes	Yes	Yes	Yes
Government-Related	Yes	Yes	Yes	No	Yes
Securitized	Yes	No	Yes	Yes	Yes
Ratings					
Investment Grade	Yes	Yes	Yes	Yes	Yes
High Yield	No	No	Yes	Yes	Yes
Minimum Issue Size (\$M)					
Developed	\$250-400	\$75-300	None	None	\$100
Emerging	\$170-600	\$50-100	None	None	\$100
Minimum Maturity					
At Issue	None	18 Months	1 Month	1 Month	6 Months
At Rebalance	None	1 Month	1 Month	1 Month	6 Months
Green Criteria					
Use of Proceeds	Yes	Yes	Yes	Yes	Yes
Evaluation	Yes	No	Yes	Yes	Yes
Mgmt of Proceeds	Yes	No	Yes	Yes	Yes
Ongoing Reporting	Yes	No	No	No	No
"Pure Play" / Revenue Threshold	Yes 90%	No	No	Yes 100%	No
Compliance with GBP	Yes MSCI	No	No CBI	No CBI	No CBI

Source: Blackrock and SEB joint-presentation to Columbia University March 2015

GREEN BOND STOCK EXCHANGES

	Nasdaq	London Stock Exchange	Oslo Stock Exchange	Shanghai Stock Exchange	Luxembourg Stock Exchange*
Inception	09/06/15	06/2015	29/01/2015	14/03/2016	27/09/2016
Number of Issues	27	35	5	24	97
Total Amount	SEK 12.6bn	USD 7.6bn	NOK 3.05bn		
Sector					
Corporate	Yes	Yes	Yes	Yes	Yes
Government-Related	No	Yes	Yes	Yes	Yes
Ratings					
Investment Grade	Yes	Yes	Yes	Yes	
High Yield				Yes	
Green Criteria					
Use of Proceeds	Yes	Yes	Yes	Yes	Yes
Evaluation	No	Yes	No		
Mgmt of Proceeds	No	Yes	No	Yes	Yes
Ongoing Reporting	Yes	Yes	Yes		Yes
Second Opinion	Yes	Yes	Yes	No	Yes
Compliance		GBP		PBoC approved	GBP / CBI or equivalent

Source: SEB and respective homepage as at 10 Oct 2016

* LuxSE will move 114 Green Bonds over to platform with value of EUR 45bn

GREEN BOND RATINGS

Rating agency	Inception	Comment
S&P	Under development	Currently in consultation period over Green Bond ratings
Moody's	30/03/2016	Adoption of methodology for Green Bond assessment with grading GB1 (excellent) to GB5 (poor)

Source: Moody's webpage and S&P consultation paper

The Green Bond Principles – a voluntary guideline

Overview

In efforts to develop standards for the green bond market, On January 13. 2014 a consortium of major banks developed a set of voluntary guidelines called the Green Bond Principles “GBP”.

1. Use of Proceeds:

- ▶ Issuer should declare the eligible green project categories upfront, providing clear environmental benefits.

2. Process for Project Evaluation and Selection:

- ▶ Issuer should outline the process of selection and work to establish impact objectives.

3. Management of Proceeds:

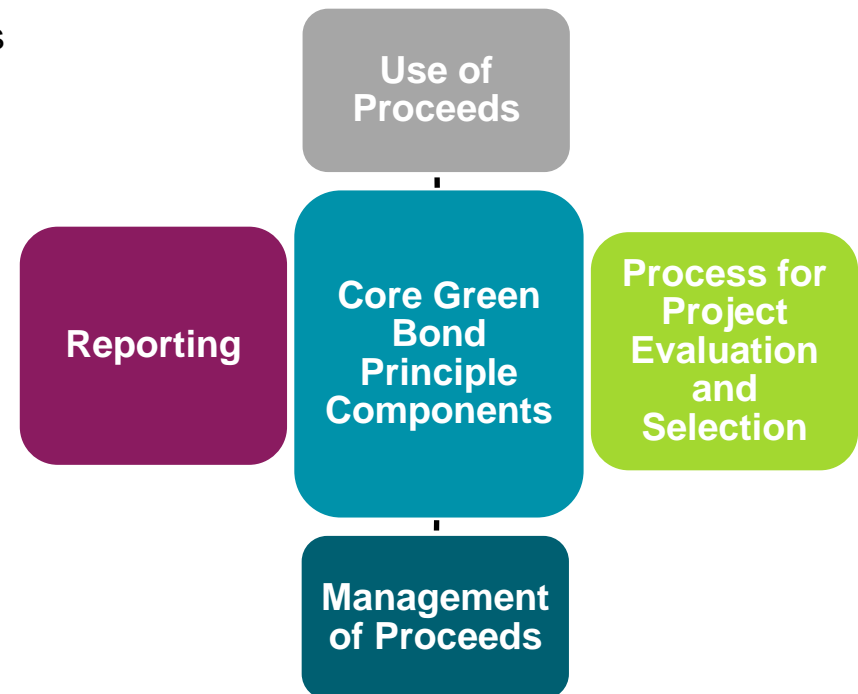
- ▶ Funds should be segregated or otherwise tracked.

4. Reporting:

- ▶ Issuers should report at least annually on projects and where feasible, the impact of the specific investment.

Recommendations - External Reviews:

- ▶ The GBP encourage a high level of transparency and recommended that issuers use an external review to verify the green definitions/criteria and the processes and systems applied



GBP 2016 Update

Highlights of the GBP 2016 Update

- ✓ Recommended online public disclosure of Green Bond issuer alignment with the GBP through GBP Resource Centre
- ✓ Updated and additional Green Project categories
- ✓ Clarifications on Green Bond issuer reporting obligations and disclosure, as well as resources for impact reporting
- ✓ External review definitions and public disclosure on the GBP Resource Centre
- ✓ Definition of Green Bonds vs pure play and climate/green themed bonds
- ✓ Release of Guidelines for Social Bond issuers

The Green Bond Principle guidelines: 2016 Update to Use of Proceeds Categories

Examples of the Green Bond universe*		
Mitigation & Environmental preservation	✓ Renewable Energy	<ul style="list-style-type: none"> ▪ Wind, solar etc. ▪ Related infrastructure
	✓ Energy Efficiency	<ul style="list-style-type: none"> ▪ Building efficiency incl. environmental certification systems such as LEED, BREEAM or equivalent ▪ SmartGrids
	✓ Pollution Prevention and Control	<ul style="list-style-type: none"> ▪ Waste water management ▪ Recycling and waste-to-energy
	✓ Sustainable Management of Living Natural Resources	<ul style="list-style-type: none"> ▪ Sustainable agriculture ▪ Sustainable forest management
	✓ Terrestrial and Aquatic Biodiversity Conservation	<ul style="list-style-type: none"> ▪ Protection of coastal, marine and watershed management ▪ Nature reserve management
	✓ Clean transportation	<ul style="list-style-type: none"> ▪ Public transportation and related infrastructure ▪ Alternative fuel vehicles
	✓ Sustainable Water Management	<ul style="list-style-type: none"> ▪ Infrastructure for clean and / or drinking water ▪ Energy recovery from waste water
	✓ Eco-efficient Products, Production Technologies and Processes	<ul style="list-style-type: none"> ▪ Eco labelled and certified products ▪ Resource efficient packaging and distribution
Adaptation	✓ Climate Change Adaptation	<ul style="list-style-type: none"> ▪ Flood protection ▪ Disaster early warning systems

* As outlined in the Green Bond Principle updated 16 June 2016

Identifying barriers and challenges to scaling green bond markets



Source: OECD et al (2016)

http://www.oecd.org/environment/cc/Green_Bonds_Country_Experiences_Barriers_and_Options.pdf

Policy actions currently underway by governments globally to overcome challenges to bond market access for green infrastructure

Barriers

1. Lack of bankable projects
2. Instrument-related
3. Demand side (investor)
4. Supply side (issuer)
5. Definitions and standards

1. Enabling environment
2. Project-related

Policy actions

Building the market

Regulatory enablers

Cornerstone stakes and anchor investors

Public sector issuance

Definitions and standards

Local Currency Bond Markets Agenda

Green Investment Policy Framework

Inaugural World Bank Green Bond in 2008





Launches its first Green Bonds
SEK 2,325,000,000
6-year 3.5% Green Bonds
Investing to reduce global warming

Sole Lead Manager
SEB

Key Investors

 **Länsförsäkringar**
Bank & Försäkring

 **Andra AP-fonden**
Second Swedish National Pension Fund - AP2

skandia :

Senior Co-Manager
CREDIT SUISSE

Co-Manager
LB&BW

SEB



Why do Green Bonds work - What's in it for You?

Investors

- **Achieve intelligence on climate related issues inside existing management structure**
 - Risk management
 - Climate stress
 - Regulations
 - Technology transition
- **Live your values - competitiveness**


Issuers

- **Strengthen the financial position:**
 - Investor diversification
 - Deepened dialogue
- **Establish a targeted dialogue between operations (projects), Finance and Management**
- **Live your values - competitiveness**

Society

- **Activate (mobilize) human capital inside finance for society goals**

The five pillars of Green Bonds

- 
- 1 **Define** – What is Green
 - 2 **Select** – Who decides
 - 3 **Verify** – Credibility from external, independent environmental experts
 - 4 **Monitor** – Keep track of proceed with an earmarked account
 - 5 **Communicate** – Transparency through annual reporting to investors

Strengths and weaknesses in the Green Bond market

Strengths

- **Mobilizes human capital** necessary to generate financial capital needed for green investments
- Helps **optimize resource allocation** in the longer term
- Enhances **competence building** to the mutual benefit of financial and environmental experts
- Improves **risk management** skills among investors as well as issuers to allow for:
 - avoiding risks
 - ceasing opportunities
 - adjusting to changing regulations

Weaknesses

- Adds **additional work for issuers and investors** alike compared to regular bond transactions (the price for higher awareness and understanding)
- Risk of **green washing** – may backfire at the expense of goodwill for
 - issuers
 - investors and
 - underwriters

A typical Green Bond issuance process

1. **Internal decision** to finance Green Projects with Green Money
 - Who is the internal driver: treasury – sustainability – management?
2. Prepare a **Green Bond Framework - define what is green**
 - Can/will financial and environmental divisions must join forces?
 - Volume vs. quality, broad and comprehensive or narrow and quick, level of specification?
3. Establish a **process for selecting** eligible projects
 - Integrate environmental competence in the decision process
 - If needed, in-source adequate environmental competence
4. Secure **verification** - get a **Second Opinion**
 - Choice of Second Opinion provider – most demanding/quickest/cheapest?
 - Chance to adjust Framework based on critical feedback from external, environmental experts
5. Safeguard monitoring by establishing an **earmarked account** for proceeds/allocation
 - Practical but prudent
6. Commit to **transparency** with regards to use of proceeds
 - How much impact reporting can the issuer comit to?
 - Additional work or synergies with other reporting and communication?
7. Coordinate **communication**, internal as well as external
 - Press release, web page and intra net, add in business paper, conferences and events
8. Prepare the **transaction** to maximize beneficial impact
 - Maximize investor diversification, road show, maturity etc.

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