



Introduction to Green Bonds

February 2020
London

Agenda - 25 February

Day 1 – Morning Session

08.30-09.00	Registration
09.00 - 09.15	Course Agenda and Discussion of Participants' Priorities for the Day <i>by Stephanie Sfakianos and Simone Utermarck</i>
09.15 - 09.45	Sustainable Finance and Green Bond Market Context - Mainstreaming of Sustainable Finance - Trends in the Green Bond Market
09.45 - 09.55	Green Bond Product Snapshot
09.55 - 10.55	Analysis of GBP's Core Pillars - Pillar 1: Use-of-Proceeds - Pillar 2: Process for Project Evaluation and Selection - Pillar 3: Management of Proceeds - Pillar 4: Reporting (Note: introduced very briefly here – detailed session later in the agenda)
10.55 - 11.10	Coffee Break
11.10 - 11.35	Introducing External Reviews
11.35 - 12.35	Case Study 1 – Evaluating a Green Bond Framework – External Reviewer perspective <i>by Federico Pezzolato, ISS Corporate Solutions</i>
12.35 - 13.35	Lunch

Agenda - 25 February

Day 1 – Afternoon Session

12.35 - 13.35	Lunch
13.35 - 14.20	Special Session on Reporting, GBP's 4 th Pillar
14.20 - 14.50	Market Participants, Service Providers & Data / Resources – overview - Investors - Underwriters - Index Providers - Data providers - Exchanges
14.50 - 15.05	Coffee Break
15.05 - 15.45	Preparing for market
15.45 - 16.10	Market Governance & Regulation
16.10 - 16.30	Q&A
16.30	Close and networking drinks

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Day 2

08.30	Registration
09.00 - 09.50	Case Study 2 – Investor Perspective <i>by Christopher J Wigley, formerly of Mirova</i>
09.50 - 11.00	Case Study 3 – the Issuer Experience <i>by Isabelle Laurent, Deputy Treasurer & Head of Funding, EBRD</i>
11.00- 11.10	Coffee break
11.10 - 11.30	Other Instruments in Sustainable Bond Markets - Social and sustainability bonds - Emerging products
11.30 - 12.15	Opportunities & Challenges <i>by Jonathan Gardiner, Sustainable Finance, Bloomberg</i>
12.15 - 12.30	ICMA / GBP Resources & Community benefits
12.30 - 12.50	Closing Q&A
12.50 - 13.50	Lunch

Sustainable Finance and Green Bond Market Context and Trends



Sustainable finance and green bond market context – Mainstreaming of sustainable finance

UN SDGs adopted in 2015

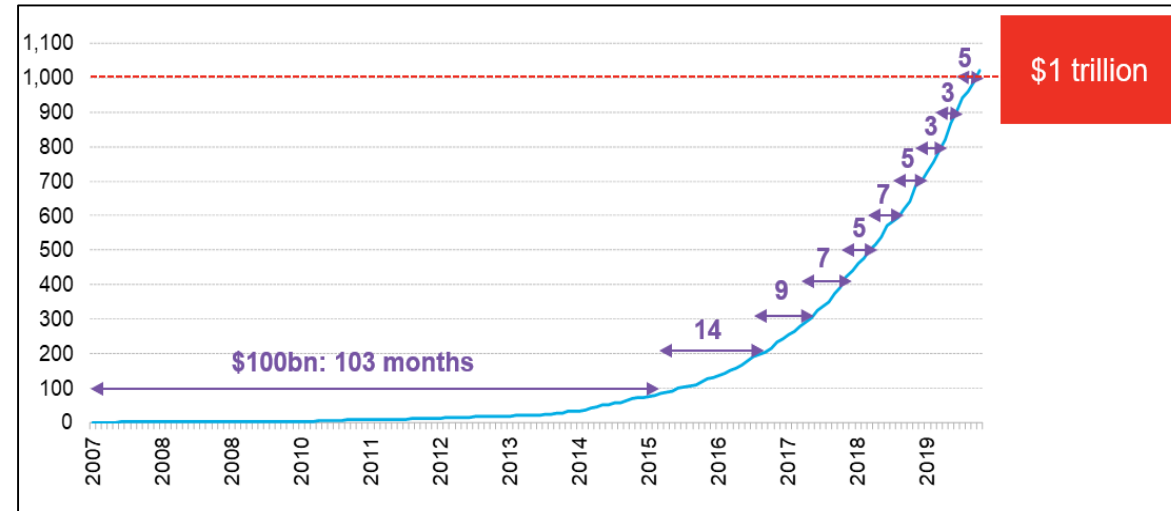
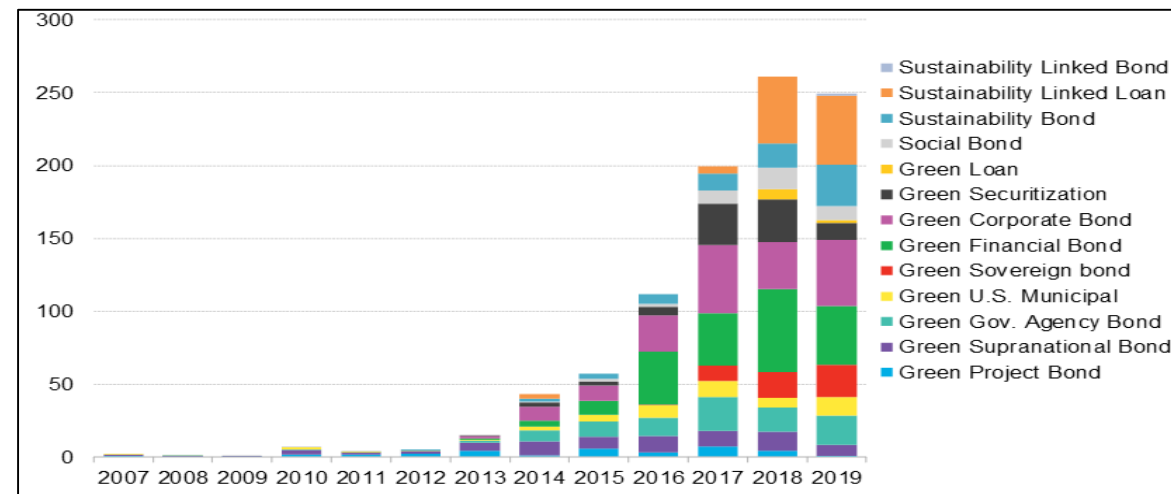


The UN Sustainable Development Goals – helping codify sustainability

- Initial mapping to Principles published June 2018 by GBP Executive Committee
- Substantial share of green, social and sustainability bonds explicitly aligned with SDGs
- In 2019, GSS bonds aligned with SDGs amounted to USD120.4bn (Source: EF). Most common SDG-links were:
 - Goal 7: Affordable & Clean energy
 - Goal 11: Sustainable cities and communities
 - Goal 13: Climate Action

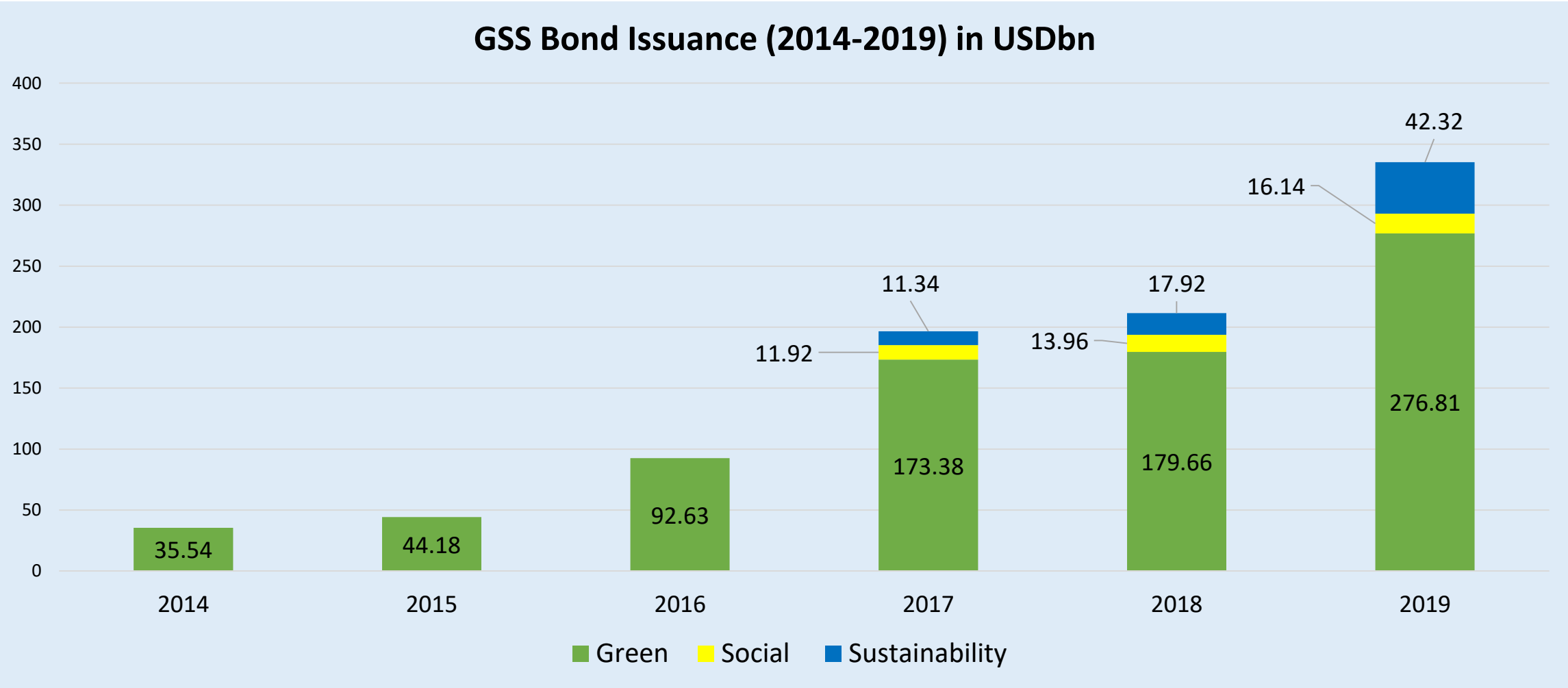
Sustainable Debt Momentum

- **Cumulative sustainable debt issuance exceeded USD 1trn benchmark in October 2019.**
Sustainability-linked loans volumes in 2018 and 2019 played key role in carrying the market over this threshold
- **Sustainable debt issuance took 103 months to hit the cumulative number of USD 100bn for the first time in 2015 while that number is now reached every 3-5 months since 2018**
- **Sustainable Debt** includes Green, Social and Sustainability Bonds, as well as Green Loans and Sustainability Linked Loans



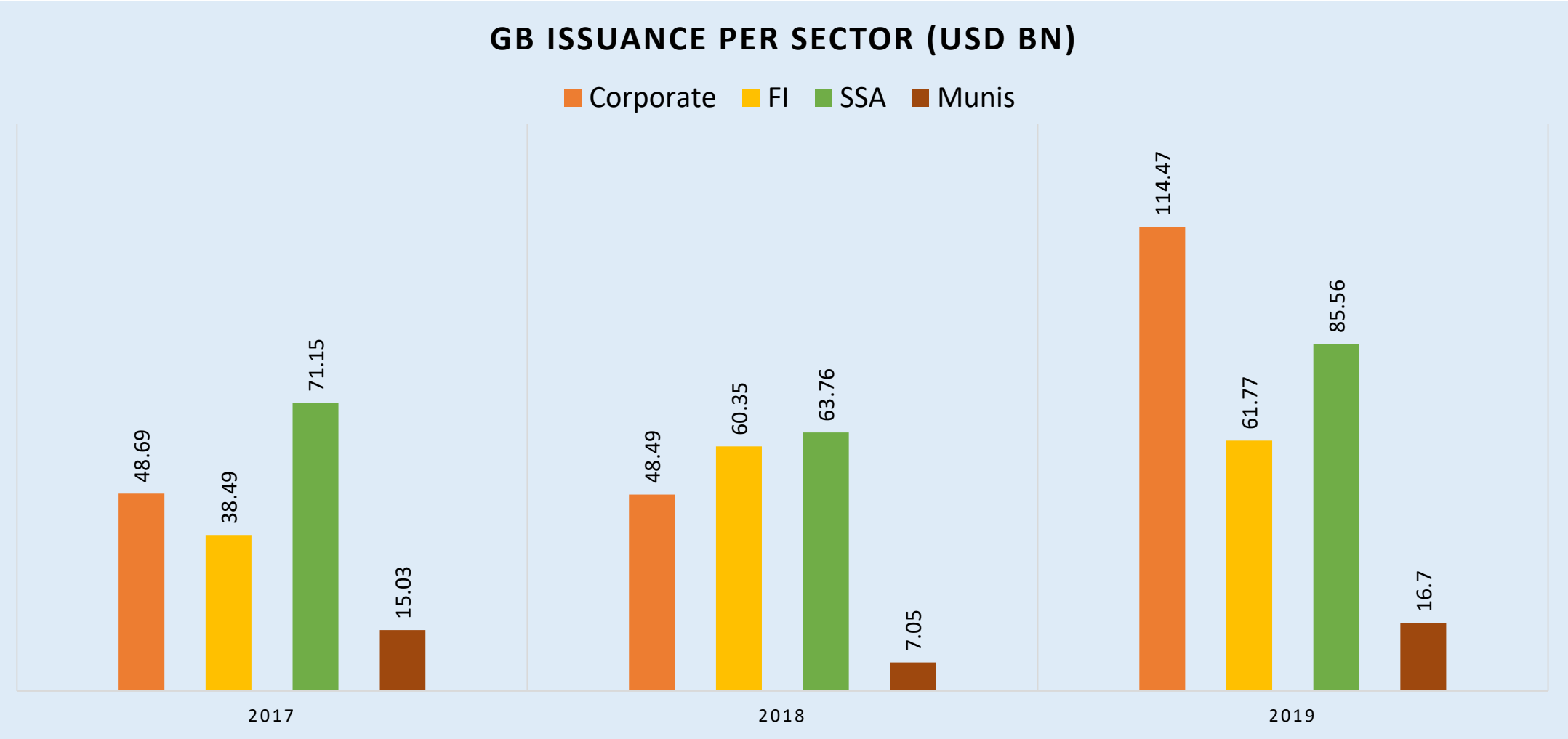
Source: Bloomberg NEF

Sustainable finance and green bond market context – Trends in the GB Market



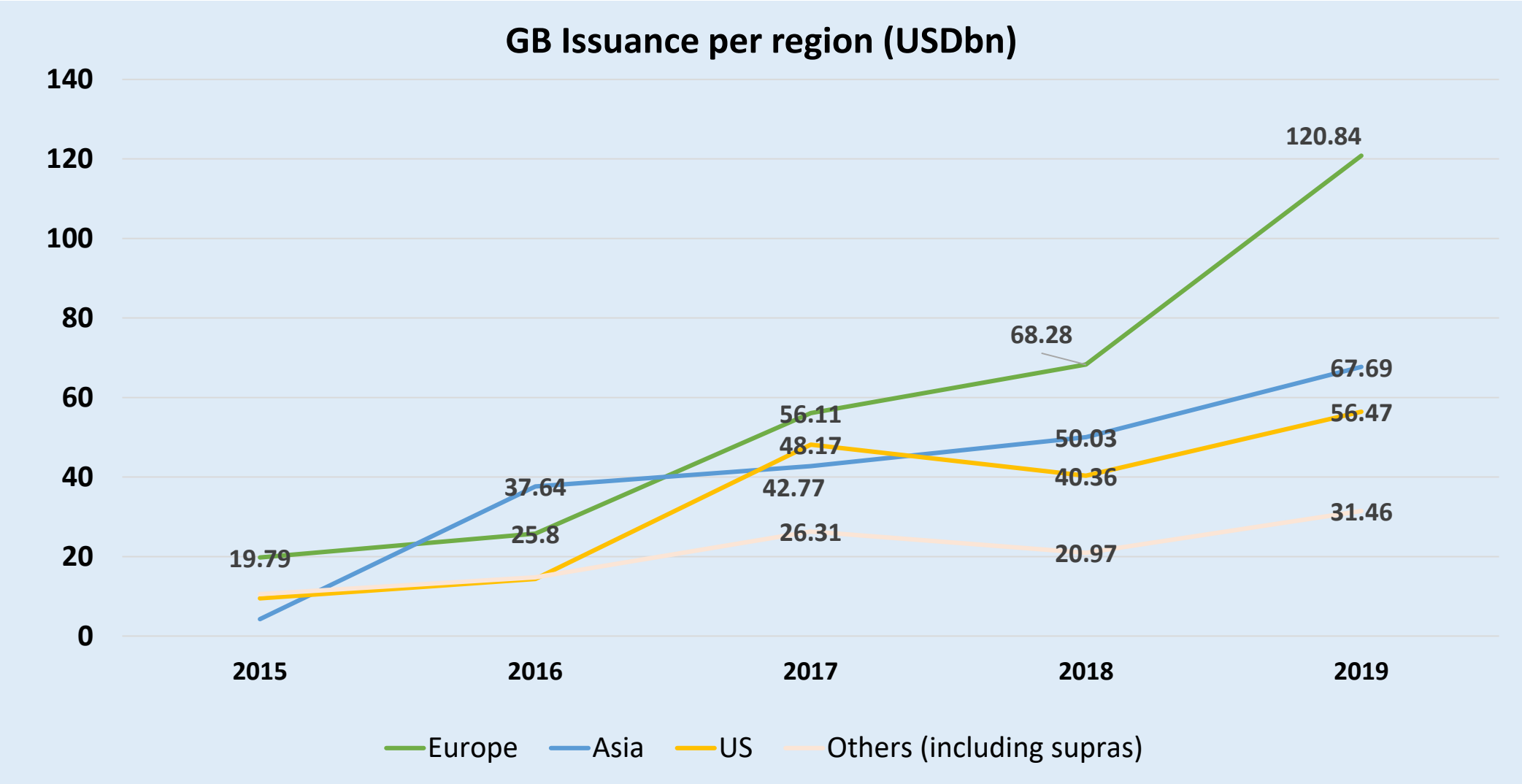
Source: ICMA based on Environmental Finance Database

Sustainable finance and green bond market context – Trends in the GB Market



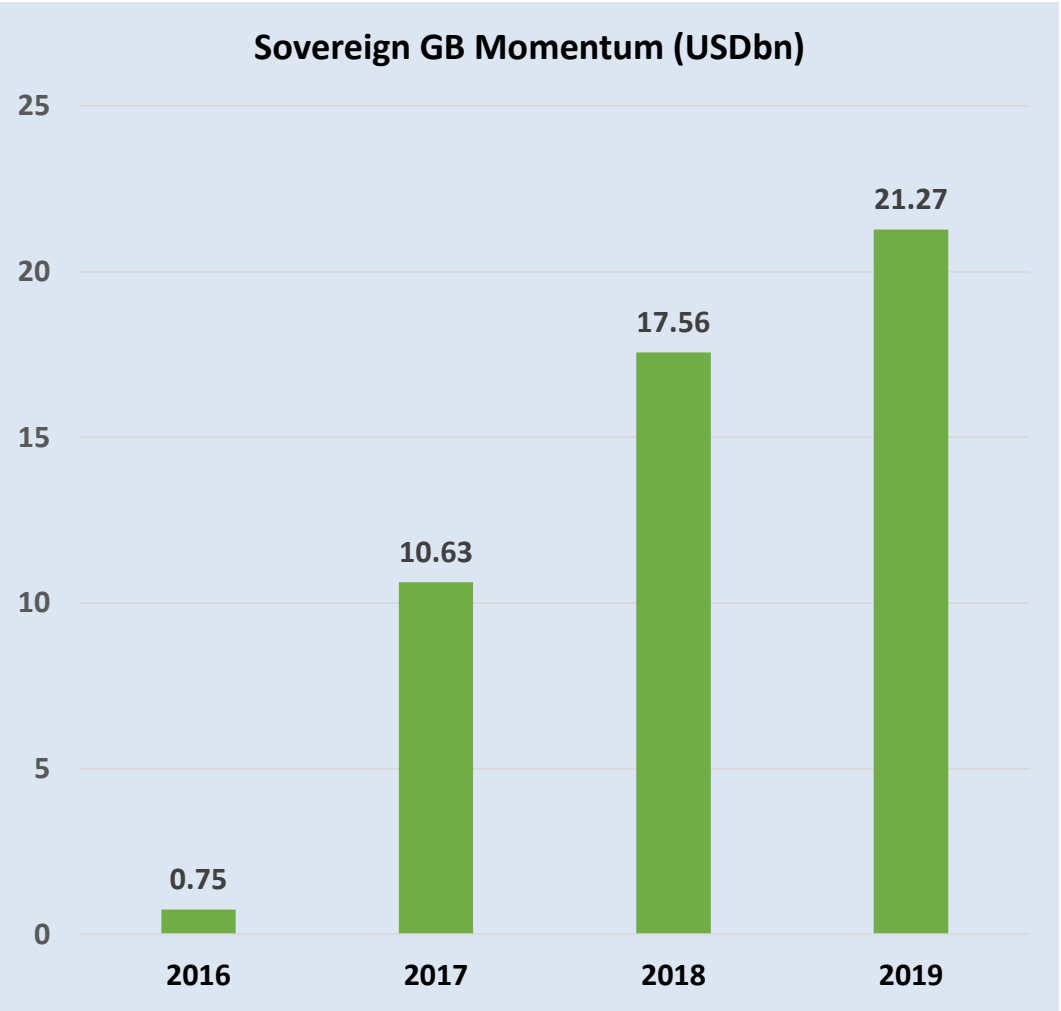
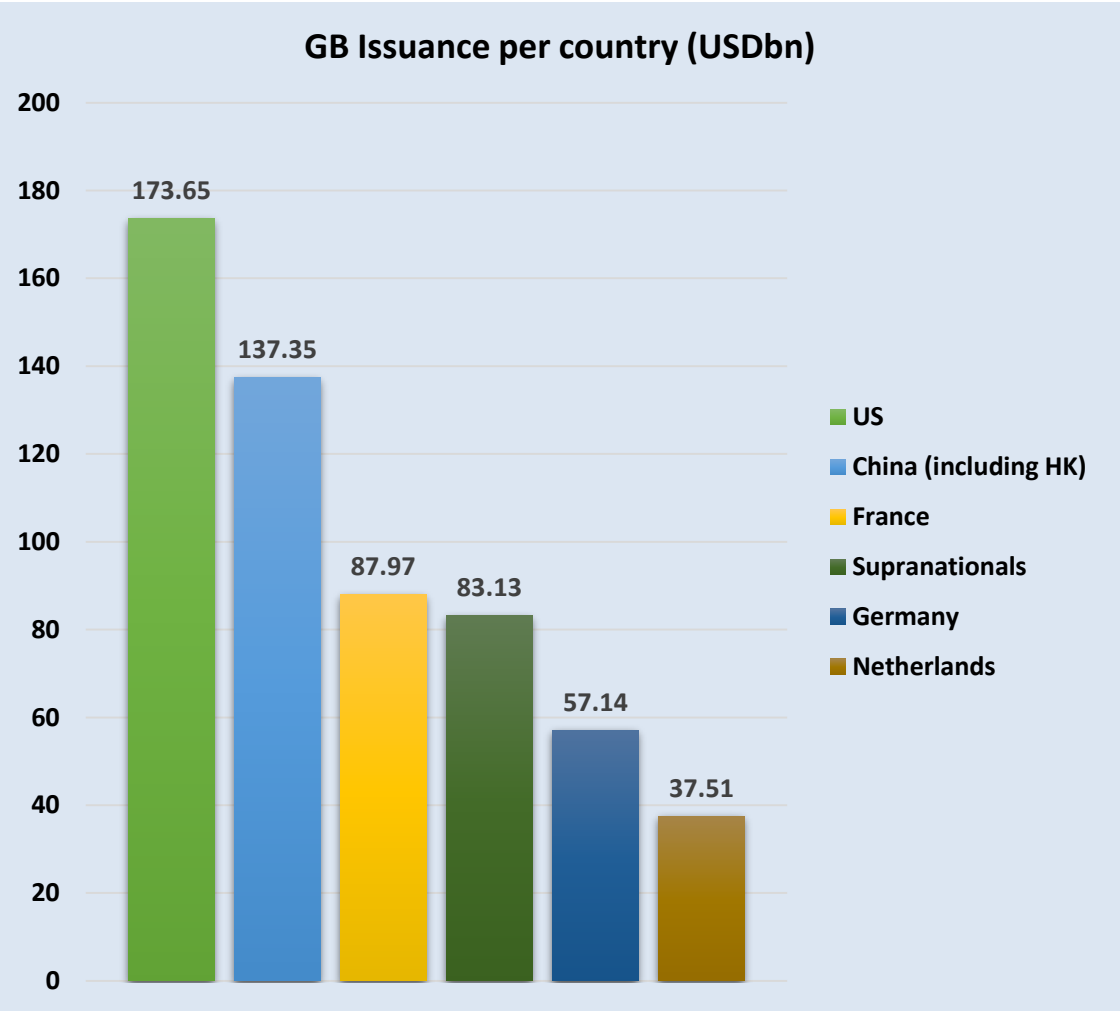
Source: ICMA based on Environmental Finance Database

Sustainable finance and green bond market context – Trends in the GB Market



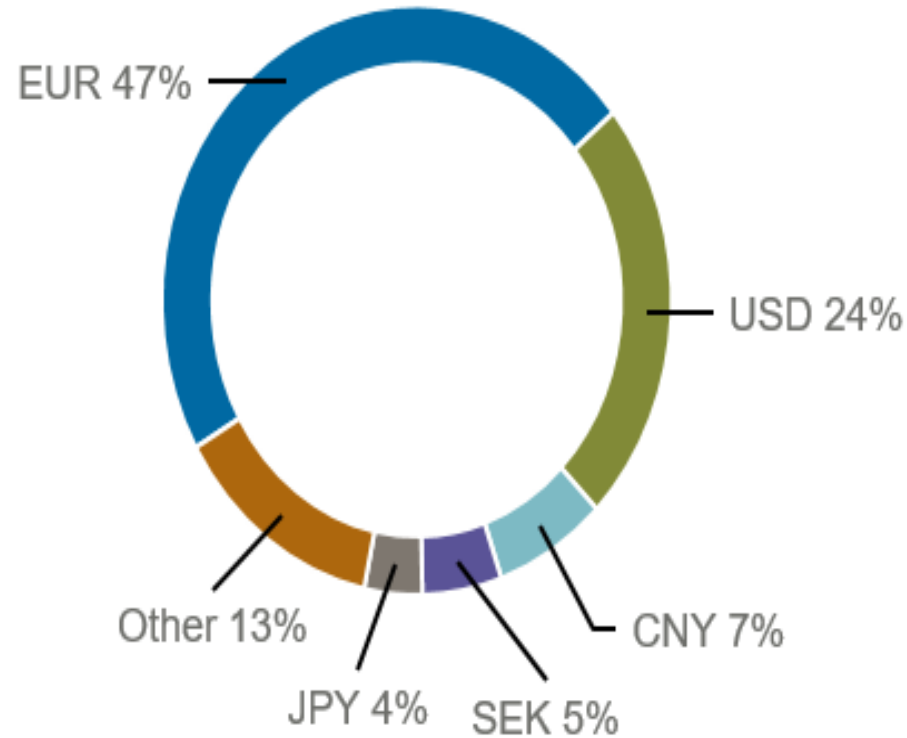
Source: ICMA Based on Environmental Finance Database

Sustainable finance and green bond market context – Trends in the GB Market



Source: ICMA Based on Environmental Finance Database

Sustainable finance and green bond market context – Trends in the GB Market



EUR total issuance up **68%**
YoY from 2018 to 2019

USD total issuance up **102%**
YoY from 2018 to 2019

30 different currencies
represented

Source: Bloomberg and J.P. Morgan as of 31.12.2019

Sustainable finance and green bond market context – The Role of Credit Rating Agencies

		
ESG has been considered in mainly corporate credit ratings for many years 2019: ESG Evaluation (separate from credit ratings) ->” for companies looking to help their investors gain a better understanding of their strategy, purpose and management quality”	ESG has been considered in mainly corporate credit ratings for many years 2019: Moody’s Investment Service Assessments (MISA) -> non-credit risk assessments for disciplines such as ESG and cyber risk	2019: Integrated Scoring System -> shows how ESG factors impact individual credit rating decisions
2017: Green Bond Evaluation	2016: Green Bond Assessment (GBA)	
2016: acquired Trucost (carbon and environmental data and risk analysis)	2019: acquired Vigeo-Eiris (ESG Research & Green Bond External Reviews) as well as Four Twenty Seven (climate risk analytics) Heat Map: Environmental Global Risks	

Other Green Bond External Reviewers with ESG roots: e.g. Oekom, Sustainalytics – routinely consider issuer ESG profile in green bond context.

Sustainable finance and green bond market context – Mainstreaming of sustainable finance

Issuers & ESG: Strategic / mainstreaming

- 48% of companies globally have an environment, social and governance (ESG) strategy (source: HSBC / Environmental Finance, 2018)
- Strategic relevance => C-Suite attention & responsibility

Formal Link to Green Bond Principles - Pillar 2: Project evaluation and selection



Coherence of green bond with sustainability strategy

- Clarify strategy and benchmarks and if use of proceeds is coherent
- Relevant for ESG Issuer-Level evaluation by external reviewers and investors
 - Many external reviewers and vast majority of investors apply ESG integration
 - Environmental or Social Risks a source of commentary and Materiality test
- Market concern about reputational risk for investments that lack coherence

Sustainability objectives – does use of proceeds carry related objectives?

- What are the main aims, transition pathway and metrics or impact indicators?
- Markets increasingly seek quantitative targets, notably for Green-House Gas (GHG)

Materiality: Do assets for green bond carry material environmental risk (see TCFD)

- **Fit with strategy**, policy or process for environmental sustainability
- Specific **environmental sustainability objectives**
- Material **environmental and social risk factors** of target projects

Sustainable finance and green bond market context – Mainstreaming of sustainable finance

Task Force on Climate Related Financial Disclosure (TCFD)

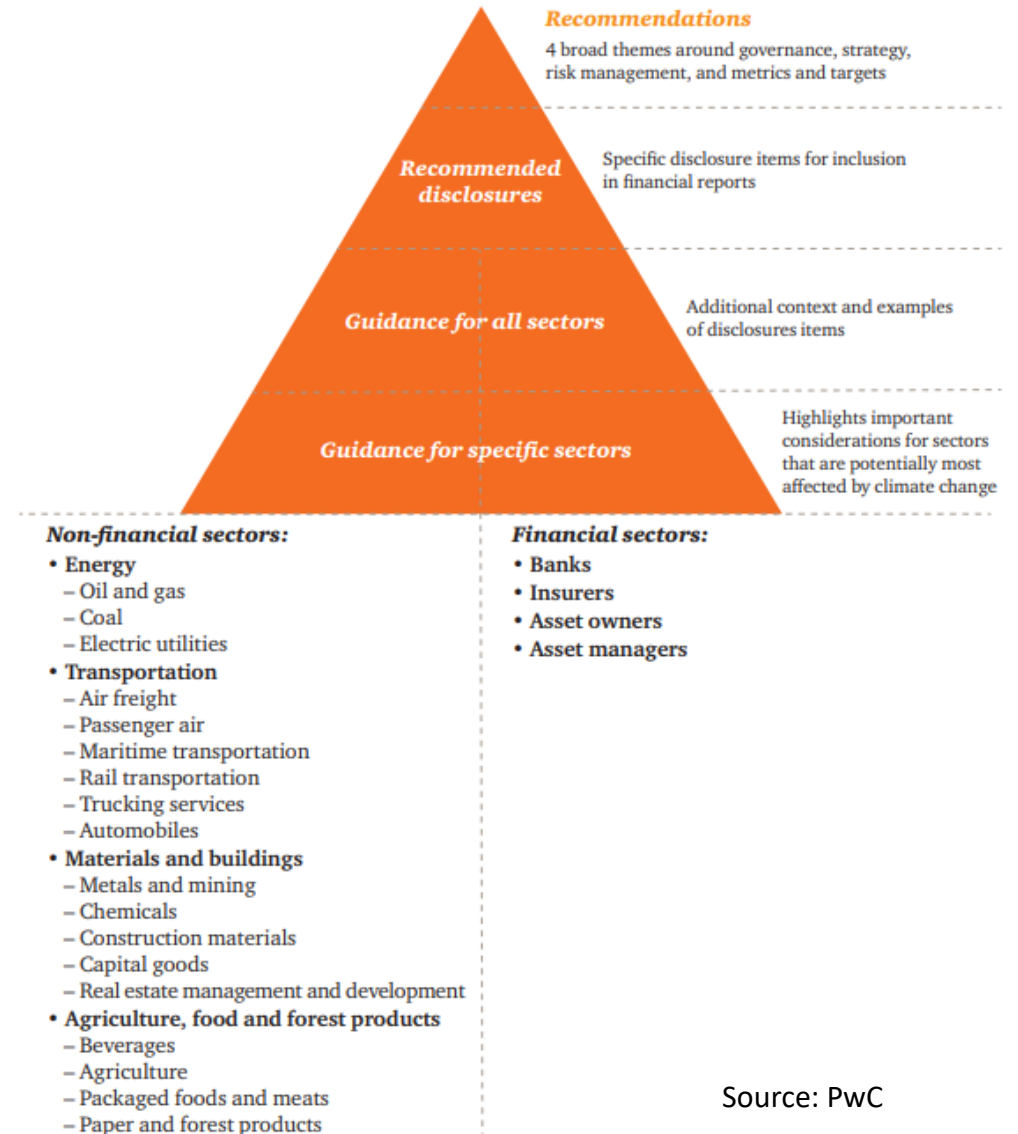
- Final report published in June 2017
- Identification of the information needed by investors, lenders, and insurance underwriters to appropriately assess and price climate-related risks and opportunities (physical and transition risk)
- Voluntary nature
- Goes beyond existing exposures and incorporates scenario planning
- Scenario analysis promoted
- 2019 Status Report: Disclosure of climate related information has increased since 2016 but still insufficient for investors

Figure 2

Core Elements of Recommended Climate-Related Financial Disclosures



Source: TCFD Final Report



Source: PwC

Sustainable finance and green bond market context – Mainstreaming of sustainable finance

Increasing central bank and prudential focus on climate-related issues

Central banks and prudential regulators are increasingly looking at the potential risks and opportunities of the climate change from a financial stability and perspective.

NGFS

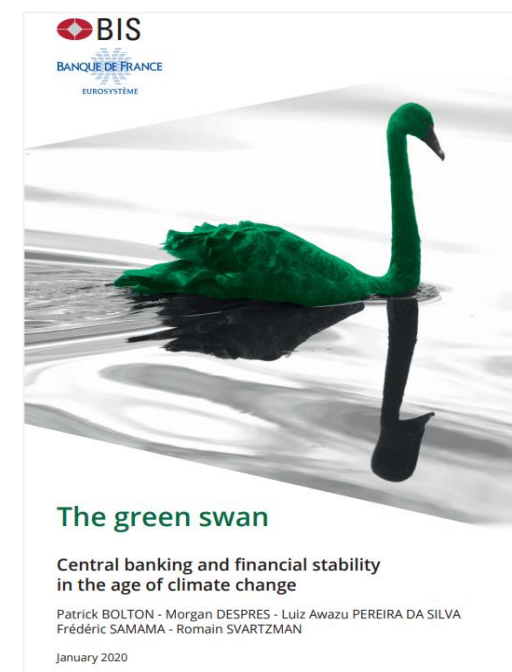
- NGFS, “the Coalition of the Willing”, established in Dec 2017 by 8 central banks and supervisors. It has not 42 Members and 8 Observers from 5 continents.
- NGFS’ goals: help strengthening the global response required to meet the goals of the Paris Agreement and to enhance the role of the financial system to manage risks and to mobilize capital for green and low-carbon investments in the broader context of environmentally sustainable development.
- Published its [first comprehensive report “A call for action”](#) which proposes first recommendations aiming at facilitating the role of the financial sector in achieving the objectives of the 2015 Paris Agreement.
- 3 workstreams: “Microprudential/Supervision”, “Macrofinancial”, and “Scaling up green finance”

ECB:

- Political debates whether ECB should treat green assets preferentially in its asset purchases programmes.

EBA:

- Published its Action Plan on Sustainable Finance in December 2019
- EBA’s mandates on sustainable finance include; (i) monitoring system to assess material ESG risks and considering ESG factors in EBA work; (ii) developing regulatory technical standards for the implementation of the EU Sustainability Disclosures Regulation; (iii) disclosure of ESG risks and assessment of prudential treatment of exposures associated with environmental or social objectives; etc.



Green Bond Product Snapshot

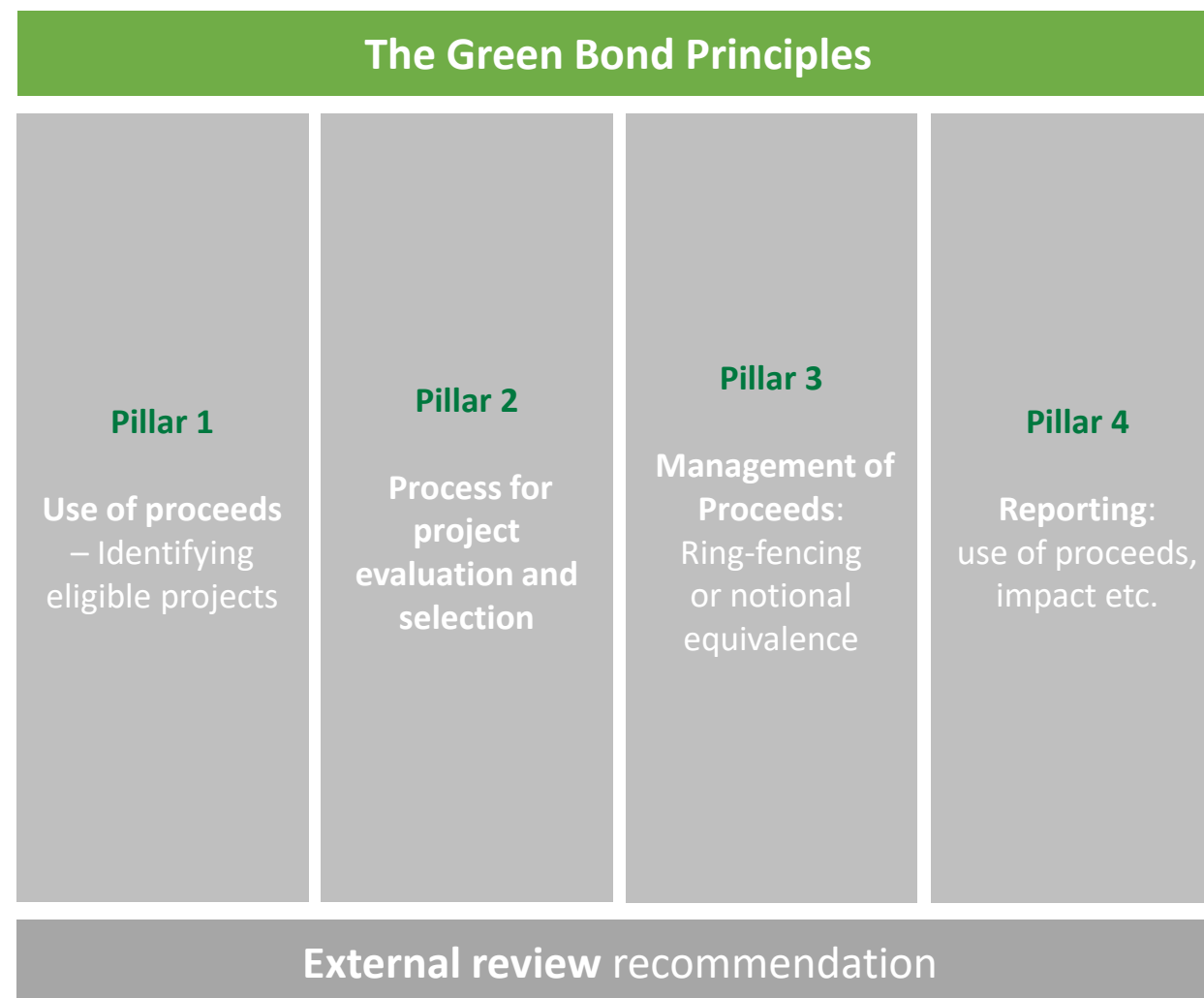


How are Green Bonds structured? – Overview

- Green Bonds: Aligned with Green Bond Principles (GBP) – **“use of proceeds” is foundation:**

“Green Bonds are any type of bond instrument where the proceeds will be exclusively applied to finance or re-finance... new and / or existing eligible Green Projects” (GBP 2018)

- Green Bonds tied to projects / activities with environmental benefits
- **Others offer greater detail on green classification** – mapping evolves



Green Bond Product Snapshot

Total market outstanding above USD 780bn as in Jan.2020

2019-2020: Discussions on emerging products

- Launch of **Green Loan Principles (GLP)** and **Sustainability-Linked Loan Principles (SLLP)** in 2018 and 2019, respectively.
- GBP WG on **Climate Transition Finance**
- GBP WG on **Sustainability/KPI-linked bonds**

2015-2018: Market takes off

- **Surge of Asian issuance** – first China then ASEAN & Japan, Exchanges launch green segments: LGX, LSE., etc.
- **Data providers** tag green/social/sustainability bonds: Bloomberg, CBI, Dealogic, Environmental Finance etc.
- **First sovereign issuers**: Poland and France

GBP Launched in 2014

2014: GBP Launch Spurs Ecosystem & Growth

- **GBP launched in 2014 with ICMA support**
- **First GB Indices**: BAML, MSCI Barclays, S&P, Solactive
- **Green Bond volumes rise dramatically**

2013: The Green Bond Market institutionalises

- Green Bonds had been mainly a product for select institutional and retail investors until 2013
- **Larger deals** start coming to market
- **Institutional investor interest increases**

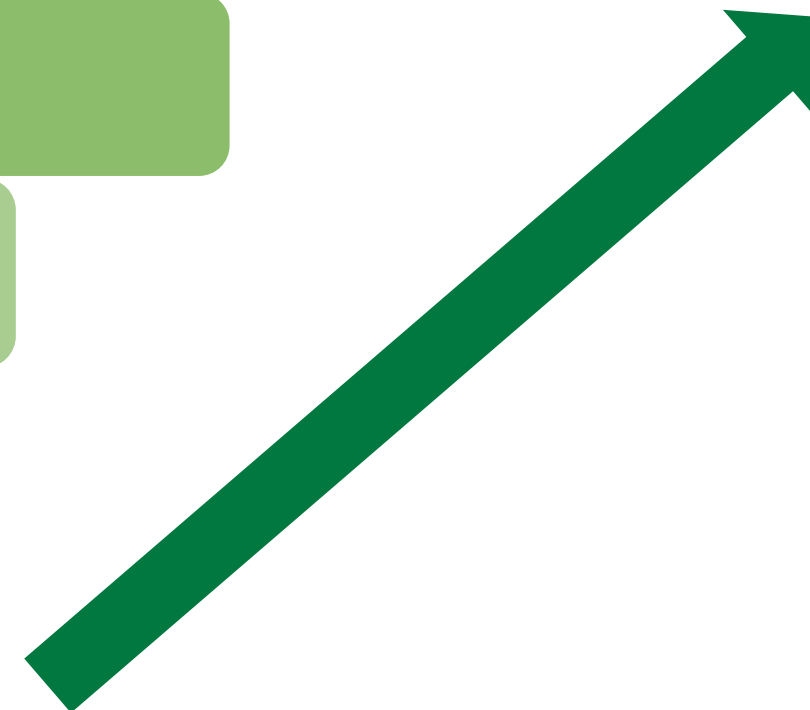
2012: Launch of Climate Bond Standard galvanizes interest

- **Start to define green** (selected sectors)
- **Verification / external review** promoted
- Clear **labelling** process

2007/8: EIB and IBRD issue first Green Bonds

Establish now familiar pillars

- **Proceeds linked to green projects**
- **Reporting** on use of proceeds



Green Bond Framework

- Single document setting out approach to alignment with Principles, related factors
- Focus of pre-issuance evaluations by external reviewers
- Offers roadmap for investors

Purpose

ICBC Example

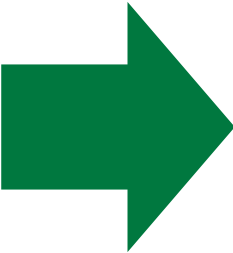
This green bond framework (the “Green Bond Framework”) has been developed to demonstrate how Industrial and Commercial Bank of China (“ICBC” or the “Bank”) environmental benefits with reference to: will issue Green Bonds to fund new and existing projects with

- *The Green Bond Principles 2019 (GBP 2019), International Capital Market Association*
- *Guidelines for Establishing the Green Financial System (Yinfa 2016 Doc No. 228) (PBoC, Ministry of Finance, NDRC, Ministry of Environmental Protection, CBRC, CSRC and CIRC)*
- *Green Bond Categories, the People’s Bank of China (PBoC)”*

Document Scope: Rationale, Alignment with 4 Pillars + External Review

Building the Green Bond Market

Market needs
Credible green fixed income solution
Clear-cut green investment
Environmental benefits - evidence
Environmental expertise, accountability, due diligence
Standardised / comparable reporting
Strategic consistency / risk mitigation



ICMA Green Bond Principles (GBP)
Broad buy & sell-side consensus + balanced governance
Use of proceeds for green/social uses, mapping to aims & taxonomies
Transparency - regular reporting
External reviews
Reporting templates – focus on green impact
Disclose alignment of corp / green / social strategy with green / social bond

Issuers: Why issue? – Preview of Business Case

- **Strategic & Managerial**
 - Alignment with corporate / environmental strategy; signalling management quality
 - Increased awareness
 - Increased interaction between different teams on sustainability
 - Creation of a Green / Social Bond **Committee** becoming commonplace – coordinate and achieve synergies - leverage other corporate sustainability reporting
- **Financing**
 - Growing demand, investor diversification; improving pricing
- **Reputation**
 - Capital markets and wider corporate reputation and branding.
 - Potential synergies with Corporate Responsibility strategy.
- **Regulatory**
 - Contributing towards reporting developments:
 - Align with growing statutory and investor pressure

Green Bond Product Snapshot - GBP – CBI comparison

	Green Bond Principles	Climate Bonds Initiative
Recognition	- Global self-regulatory reference for international GB market - Recognised and reflected in markets that have or are considering regulation e.g. China, EU, India and ASEAN countries - Member of EU TEG, Observer of prior EU HLEG	- CBI standard and taxonomy is widely looked to by the official sector and the market - CBI has played key role in advising China on set-up of its GB market and was a full member of the EU's HLEG and TEG on Sustainable Finance
Output	GBP provides high level principles for GB issuers focused on transparency and reporting	CBI produces (i) a standard for GB certification, (ii) a green taxonomy, (iii) a GB list, (iv) valuable research, (v) active outreach
Representation	Represents a consensus based on input of market via GBP and its 300+ members and observers	CBI represents a broad range of interests, including many buy-side firms but also sell-side; as reflected by the composition of its Climate Bond Standard Board (CBSB)
Defining Green	Provides only high level guidance on green through its Eligible Project Categories and High Level Objectives	Detailed guidance through a green taxonomy for selected sectors (ongoing buildout), climate focus
Market Guidance	- The GBP is not involved in vetting individual GB issues - Provides broad market guidance through a mix of specialised guidance documents, and Q&A	- Manages certification scheme that can also cover post issuance, uses "accredited verifiers" - CBI's GB list is largely used by the market and is a reference point for indices & database providers

Analysis of the GBP's Core Pillars

- Pillar 1: Use-of-Proceeds



Analysis of the GBP's Core Pillars – Pillar 1: Use of Proceeds

- **Alignment** of Projects **with GBP eligible categories** subject to **External Review** of conformity
- **5 environmental objectives** : climate change mitigation, climate change adaptation, natural resource conservation, and pollution prevention and control
- **Capex + other related and supporting expenditures** such as R&D
- GBP: *“Green Projects should provide **clear environmental benefits**, which will be assessed and, where feasible, quantified...”*
- **Non-exhaustive high-level list of eligible Green Project categories:**
 - Renewable energy;
 - Energy Efficiency;
 - Pollution prevention and control;
 - Environmentally sustainable management of living natural resources and land use;
 - Terrestrial and aquatic biodiversity conservation;
 - Clean transportation;
 - Sustainable water and wastewater management;
 - Climate change adaptation;
 - Eco-efficient and/or circular economy adapted products, production techs and processes; and
 - Green buildings
- NB: Template for issuer disclosure “Green Bond Information Template” on GBP Resource Centre

Analysis of the GBP's Core Pillars – Pillar 1: Use of Proceeds

GBP open architecture - high-level categories

- Leaves room for differing expert opinions

Example: Green Buildings

- GBP Use of Proceeds description: “Green buildings which meet regional, national or internationally recognised standards or certifications.”
- Recognises influence of international standards and national labels

No position on green techs, standards, claims and declarations and the look-back period

- Investor opinion varied

Official sector next steps

- Further leverage GBP, guidance on classifications / taxonomies and reporting

GBP Next Steps

- Helping markets to navigate activities, objectives and multiple taxonomies

Other criteria – complement GBP

- SDGs (UN Sustainable Development Goals) – see GBP mapping
- National / Regional – e.g. China Green Bond Catalogue, Japan MoE guide, upcoming EU Taxonomy
- CBI taxonomy
- External reviewer's benchmarks
- Sectoral – e.g. Real Estate Standards

Analysis of the GBP's Core Pillars – Pillar 1: Use of Proceeds

GBP Use of Proceeds category – inspires and leaves room for official guidance

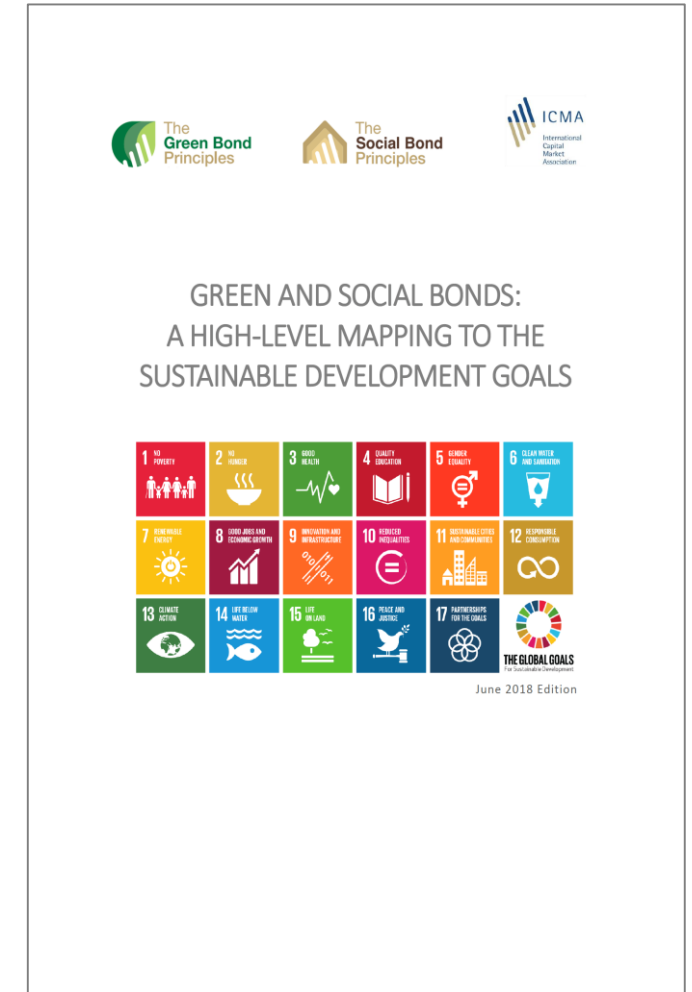
E.g. Japan MoE guidance, also referring to industry labels

GBP (2018)	Japan MoE (based on GBP 2017 edition)
Energy efficiency (such as in new and refurbished buildings, energy storage, district heating, smart grids, appliances and products);	Projects for energy efficiency [Reiterates GBP] (such as in new and refurbished energy efficient buildings, energy storage, district heating, smart grids, appliances and products) [and Elaborates] ▪ Projects for the construction of highly energy efficient buildings, including the net zero energy house (ZEH) and net zero energy building (ZEB) ▪ Projects to renovate offices, plants, and houses for better energy efficiency to gain high-energy performance certifications such as the LEED (Leadership in Energy and Environmental Design), CASBEE (Comprehensive Assessment System for Built Environment Efficiency), or BELS (Building-Housing Energy-efficiency Labeling System) certifications ▪ Projects to introduce highly energy efficient equipment and facilities into offices, plants, and houses ▪ Projects to develop and introduce smart grid-related appliances

Analysis of the GBP's Core Pillars – Pillar 1: Use of Proceeds

Pillar 1 – Use of proceeds – SDG mapping published in June 2018

- Separate publication, update in progress
- High-Level Mapping of eligible project categories to UN's SDGs
- Responds to demand from the market
- Approach
 - High level review of 169 targets associated with the 17 goals
 - Identify goals that may be relevant to GBP or SBP project categories
- Thus far, 15 SDGs identified as being relevant to the Principles
- Alignment with SDGs does not automatically ensure alignment with the Principles
- Mapping is complex: ongoing debate



In June 2019, the GBP Green Project Eligibility WG published Green Project Mapping

Mapping Green Projects to the five environmental objectives (i.e. climate change mitigation, climate change adaptation, natural resource conservation, biodiversity conservation, and pollution prevention and control) in the Principles as well as providing a basis for comparison to other green taxonomies and classification systems (China Green Bond Catalogue, CBI, MDB/IDFC - climate change mitigation only, and in the future the EU Taxonomy).



Analysis of the GBP's Core Pillars – Pillar 1: Use of Proceeds

Table I: Mapping of the GBP-project categories to environmental objectives

Environmental objectives					
GBP-project categories	Climate change mitigation	Climate change adaptation	Biodiversity	Natural resource conservation	Pollution prevention and control
Renewable energy	● ● ●			●	●
Energy efficiency	● ● ●				●
Pollution prevention and control				●	● ● ●
Environmentally sustainable management of living natural resources and land use	●	● ●	● ● ●	● ● ●	
Terrestrial and aquatic biodiversity conservation		●	● ● ●	● ● ●	
Clean transportation	● ● ●			●	● ● ●
Sustainable water and wastewater management		● ●	● ●	● ●	● ● ●
Climate change adaptation		● ● ●			
Eco-efficient and/or circular economy adapted products, production technologies and processes	● ●		●	● ● ●	●
Green buildings	● ● ●	●		● ● ●	●

Table II: High level equivalence across classification standards

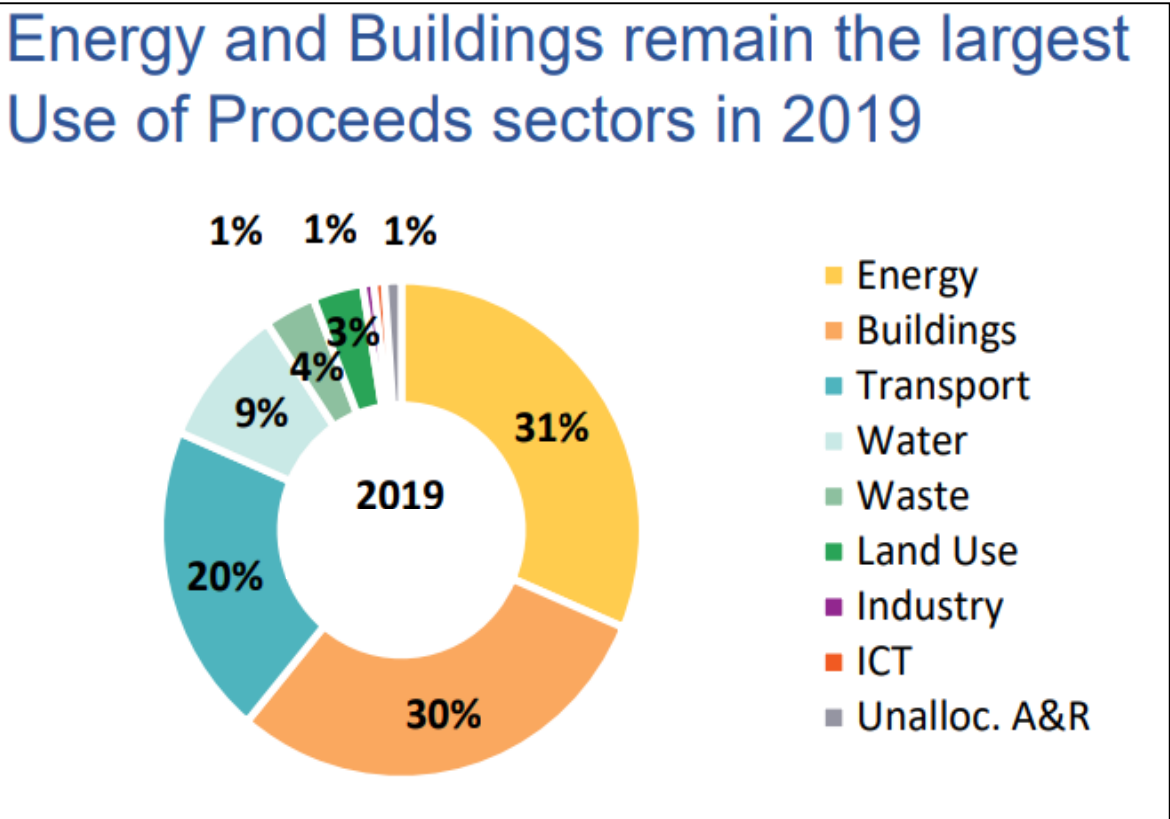
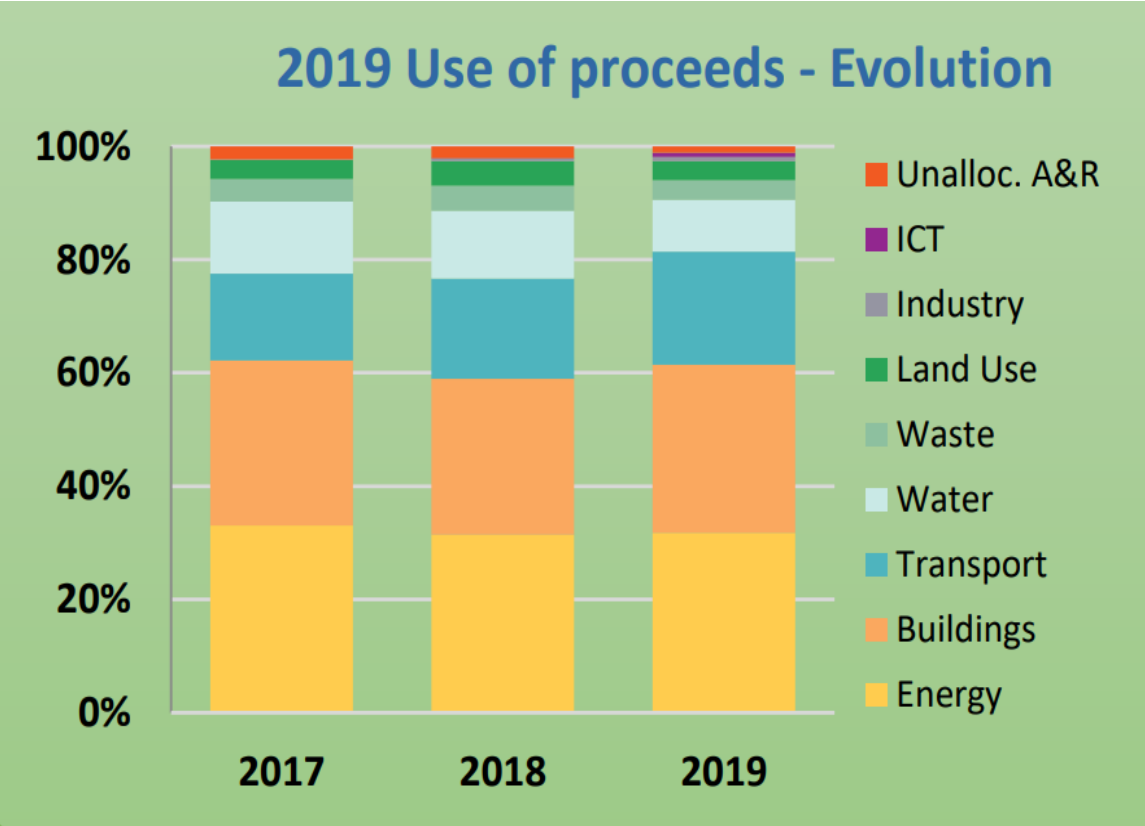
GBP-project categories	China Green Bond Catalogue		CBI	MDB-IDFC (climate change mitigation only)	EU Taxonomy
Renewable energy	Clean energy		Energy	Renewable energy	TBD
Energy efficiency	Energy saving			Energy efficient transmission and distribution systems	
Pollution prevention and control	Pollution prevention and control		Waste and pollution control	Waste	
Environmentally sustainable management of living natural resources and land use	Ecological protection and climate change adaption		Nature based assets	Agriculture, forestry and land use	
Terrestrial and aquatic biodiversity conservation				Afforestation and reforestation, and biosphere conservation	
Clean transportation	Clean transportation		Transport	Transport	
Sustainable water and wastewater management	Resource conservation and recycling		Water	Wastewater	
Climate change adaptation	Ecological protection and climate change adaption		No relevant category	No relevant category	
Eco-efficient and/or circular economy adapted products, production technologies and processes	Energy saving	Resource conservation and recycling	Industry and energy intensive commercial	Low carbon technologies, energy efficiency in industry	
Green buildings			Low carbon buildings	Energy efficiency in buildings	

Contribution to objective:

primary ● ● ● secondary ● ● tertiary ●

Analysis of the GBP's Core Pillars – Pillar 1: Use of Proceeds

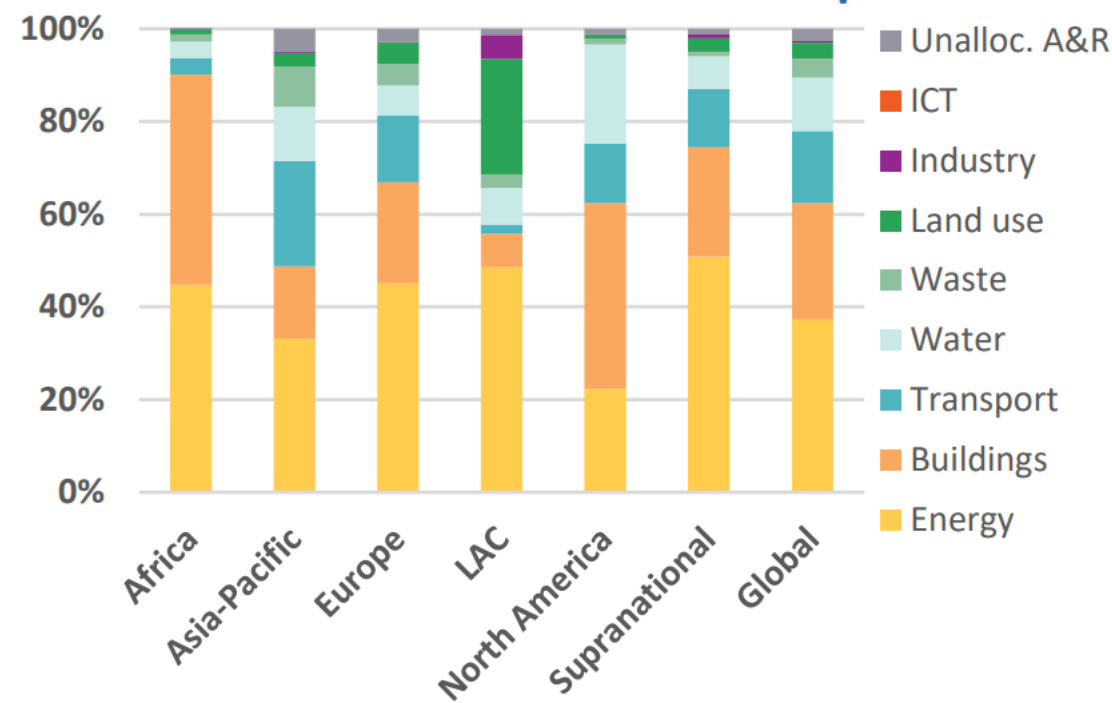
Green Bond Use-of-Proceeds in 2019



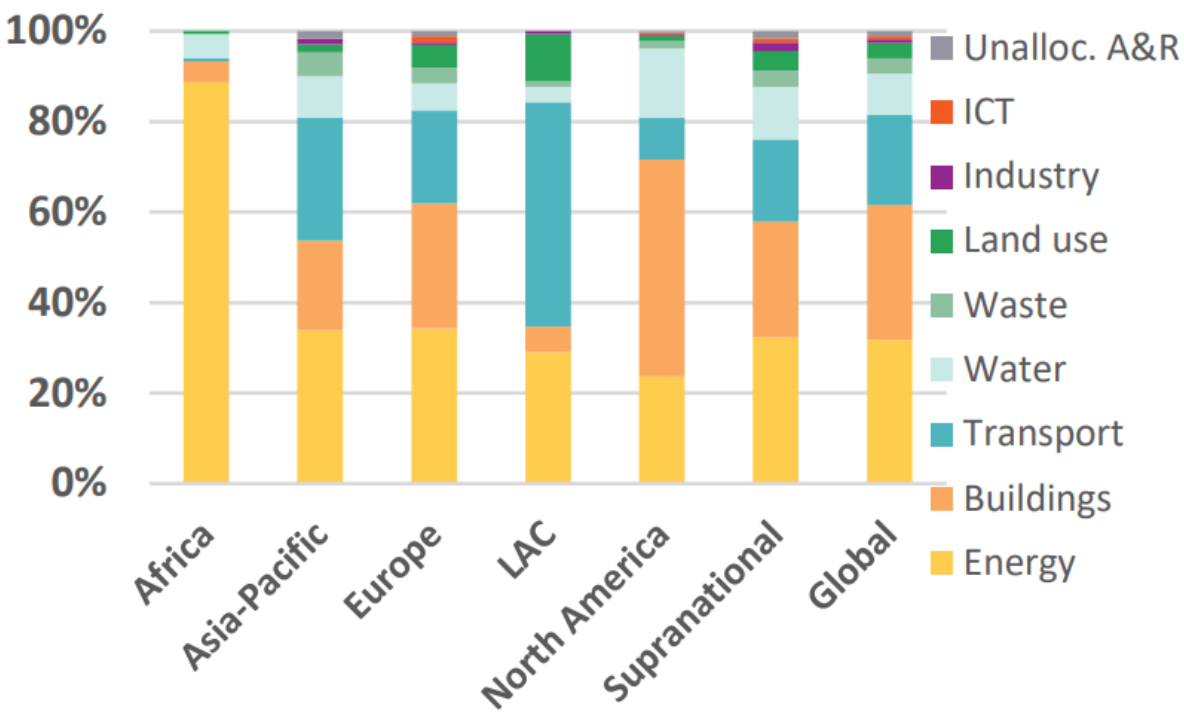
Source: CBI

Green Bond Use-of-Proceeds in 2019 / Regional YoY Change

UoP allocation up to 2018



UoP allocation in 2019



Source: CBI

Analysis of the GBP's Core Pillars – Pillar 1: Use of Proceeds

Example of Use-of-Proceeds Language – K-Bank

Extract: Oct 2018, prior to e.g. EU draft guidance. Closer to IFC Edge guidance



Energy Efficiency

Projects or investments that aim to improve energy efficiency of buildings or manufacturing factories by more than 15% compared to the baseline



Green Buildings

Purchasing, construction or retrofitting building that meet national/international green building standards, such as TREES (Silver and above), LEED (Silver and above), BREEAM (Good and above) and DGNB (Silver and above).

Analysis of the GBP’s Core Pillars – Pillar 1: Use of Proceeds

Example of Use-of-Proceeds Language – ICBC

Extract:

“Note: Assets in all eligible categories shall at least reach the threshold of relevant official standards of environmental impacts recognized in the local jurisdictions. In case of no official standards locally recognized, corresponding international standards shall apply.”

Energy Efficiency	?	Energy efficiency	• Development of products or technology and their implementation that reduces energy consumption of underlying asset, technology, product or system(s) - Examples include LED lights, improved chillers, improved lighting technology, and reduced power usage in manufacturing operations • Improved efficiency in the delivery of bulk energy services Examples include district heating/ cooling systems, smart grids, energy recovery technology, and the storage, transmission and distribution of energy that results in reduced energy losses
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Analysis of the GBP's Core Pillars – Pillar 1: Use of Proceeds

Example of Use-of-Proceeds Language - ABN

An amount equivalent to the net proceeds of the bonds will be used exclusively to finance or refinance, in whole or in part, green bond eligible assets ("Eligible Assets") in the following categories:

1. Energy Efficiency
2. Renewable Energy
3. Eco-efficient and/or circular economy adapted products

In order to qualify as Eligible Assets, the assets are required to meet the below green bond eligibility criteria ("Eligibility Criteria"):

Category	Eligibility Criteria
1. Energy Efficiency	
<i>Green Buildings - Residential mortgage loans for energy efficient buildings</i>	▪ Mortgage loans to finance new Residential buildings, which comply with the Dutch Building Decree 2012¹ (Bouwbesluit 2012: Chapter 5 and NEN 7120) and for which the first drawdown has occurred after 1-1-2015
<i>Green Buildings - Commercial Real Estate loans for energy efficient and/or sustainable buildings</i>	▪ Loans or investments to finance new and existing commercial real estate building projects that comply with energy efficiency requirements and/or green building certification schemes as further defined in Annex I
<i>Energy Efficiency – Residential and commercial real estate loans for energy efficiency upgrades</i>	▪ Loans or investments to finance existing residential and commercial real estate building projects where energy efficiency improvements of at least 30% have been - or will be – made as further defined in Annex I

Analysis of the GBP's Core Pillars – Pillar 1: Use of Proceeds

Example of Use-of-Proceeds Language - BBVA

Green eligible categories

Category - SDG	Description*
Energy efficiency 	- Measures which reduce energy consumption by at least 30%. Includes the financing of retrofitting/improving/upgrading existing assets, as well as of new technology development and manufacture. - Energy recovery (waste to energy). - Green buildings. In order for green building financing to be included the asset must possess environmental certifications such as LEED (minimum silver), BREEAM (minimum good), HQE (minimum good), DGNB (minimum silver), or GBC España - VERDE among others. Other rigorous green building rating systems may be included and taken into consideration in the criteria
Sustainable transport 	- Rail infrastructure and public mass transportation systems which contribute to reducing the circulation of cars. Examples include metro, light rails, buses, etc. - Development, operation and upgrade of rail transports for goods. - Transportation infrastructure. - Manufacture of above components.
Water 	Water collection, treatment, recycling, re-use, upgrades, technologies and related infrastructure.
Waste management 	Non-conventional waste management and disposal activities which include: source reduction, in-process recycling, reuse, resource recovery, and treatment.
Renewable energy 	- Generation of energy from renewable sources: wind, solar, biogas, biomass, thermal, waste to energy, small hydro (20MW and under). - Manufacture of components of renewable energy technology: wind turbines, solar panels, etc. - Transmission and distribution projects when connecting to defined renewable energy assets.

* Green Eligible Categories may include other projects in accordance with any update of the ICMA Green Bond Principles at any time.

Analysis of the GBP's Core Pillars – Pillar 1: Use of Proceeds

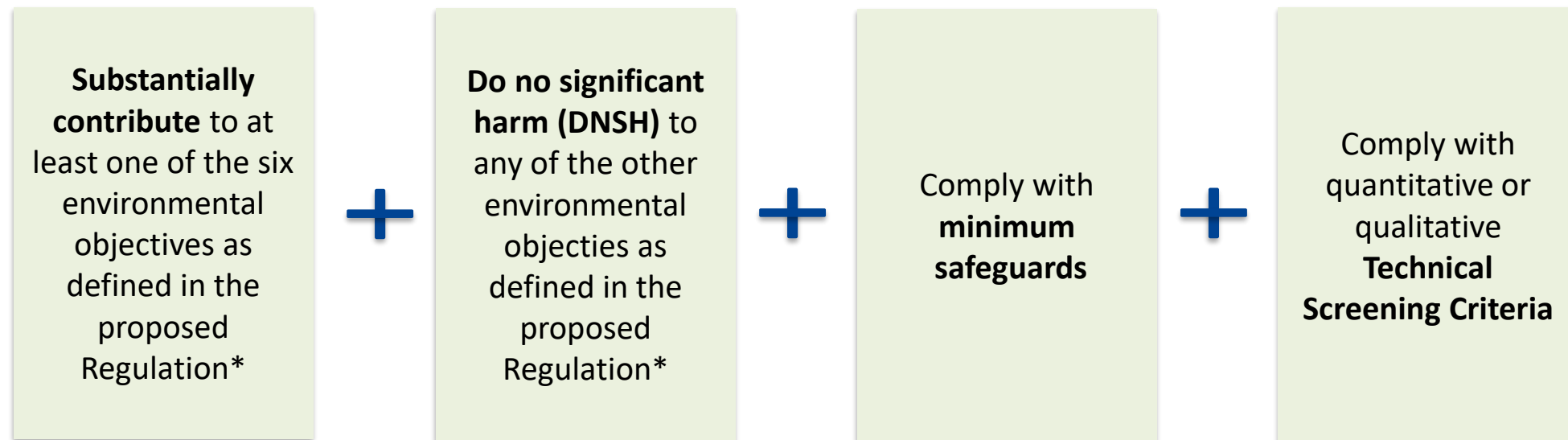
EU's Approach on green identification:

What is the Taxonomy?

A list of economic activities that are considered environmentally sustainable for investment purposes.

What is set out in the Proposal?

The framework to develop the taxonomy. For an economic activity to be on the list, it has to comply with four conditions:



*The six environmental objectives as defined in the proposed Regulation are: (1) climate change mitigation; (2) climate change adaptation; (3) sustainable use and protection of water and marine resources; (4) transition to a circular economy, waste prevention and recycling; (5) pollution prevention and control; (6) protection of healthy ecosystems.

Source: *European Commission: Proposal on the establishment of a framework to facilitate sustainable investment (2018).*

Analysis of the GBP's Core Pillars – Pillar 1: Use of Proceeds

EU's Approach on green identification

Already low carbon Very low, zero or net negative emissions. Compatible with net zero CO2 economy by 2050	Likely to be stable and long term	• Renewable energy • Zero emissions transport • Afforestation
Transition activities ...to a net zero emissions economy in 2050	Likely to be revised regularly and tightened over time	• Building renovation • Electricity generation up to 100g CO2/kWh • Cars <50g CO2/km
Enabling activities ...in the first two types of activities.	Consistent with those activities being enabled	• Manufacture of wind turbines • Installing efficient boilers in buildings

Analysis of the GBP's Core Pillars

- Pillar 2: Process for Project Evaluation and Selection



Recommendations of the GBP:

- **Communication to investors:**
 - Environmental sustainability objectives;
 - Process by which the issuers determines how the projects within the eligible Green Projects categories;
 - The related eligibility criteria – including transparency on exclusion criteria if any and management of potentially material environmental and social risks associated with projects.
- GBP encouraging the link between project evaluation and selection process and **issuer's overarching objectives, strategy, policy and/or overall environmental sustainability processes.**
- Disclosure of any green standards or certifications encouraged.
- External review approach encouraged.

Analysis of the GBP’s Core Pillars – Pillar 2: Project Evaluation and selection

ABN Example

Potential Eligible Assets are expected to comply with local laws and regulations, including any applicable regulatory environmental and social requirements. As part of the regular credit approval process, potential Eligible Assets are furthermore assessed against the environmental, social and ethical (ESE) criteria of [ABN AMRO’s Sustainability Risk Management Framework](#) where applicable.

The process for evaluation and selection is set up as follows:

- On at least a quarterly basis the business lines, as owners of the assets, will make a selection based on the Eligibility Criteria as described in paragraph 2.1. After selection each business line will provide a pre-defined report to Global Treasury Support
- Based on the information provided by the business lines, Treasury officers will review whether existing and new assets qualify as Eligible Assets
- Management of Treasury will review and approve allocations of bond proceeds to Eligible Assets on at least a quarterly basis

BBVA Example

Summary



Analysis of the GBP's Core Pillars – Pillar 2: Project Evaluation and selection

ICBC Example

Eligible Green Assets will firstly be identified and proposed by ICBC business units globally, including its subsidiaries and branches. They will then be reviewed by a dedicated green bond working group at ICBC Head Office (the “**Green Bond Working Group**”) which comprises representatives of:

- Asset & Liability Management Department
- International Banking Department
- Credit and Investment Management Department
- Finance & Accounting Department
- Corporate Strategy and Investor Relations Department
- Urban Finance Research Institute
- Other departments if relevant

Prior to the issuance, the Green Bond Working Group will review all proposed Eligible Green Assets to determine their compliance with the ICBC Green Bond Framework for approval as “Eligible Green Asset” and form an eligible green asset list (each “Eligible Green Asset”, collectively the “**Eligible Green Asset Lists**”).

In the Green Bond Working Group, representatives shall be nominated if they have environmental experience and knowledge. The experts with environmental experience and knowledge enjoy a veto power to the final decision on the selection. The assets vetoed by them shall be excluded from the Eligible Green Asset List.

Annually, the Green Bond Working Group will review the allocation of the proceeds to the Eligible Green Asset List and determine if any changes are necessary (for example, if a project has amortized, been prepaid, sold or otherwise become ineligible) and facilitate ongoing reporting. The Green Bond Working Group will decide any necessary update of the Eligible Green Asset List (such as replacement, deletion, or addition of projects) to maintain the eligibility of the Use of Proceeds.

Analysis of the GBP's Core Pillars – Pillar 2: Project Evaluation and selection

This topic de facto straddles the two pillars. The following Issuers report under Pillar 1 in their frameworks

Exclusions

BBVA:

- Nuclear power generation
- Large scale (above 20 MW) dams
- Defense
- Mining
- Carbon related
- Oil & Gas

ICBC:

For the avoidance of doubt, in any case, the Eligible Green Assets shall exclude below

- fossil fuel related assets
- Large scale hydropower plants
- Nuclear and nuclear–related assets

Analysis of the GBP's Core Pillars

- Pillar 3: Management of Proceeds



Recommendations of the GBP:

- “Net Proceeds” or “an amount equal to these net proceeds”
- Degree of ring-fencing: Sub-account/sub-portfolio or tracked in appropriate manner
- Amount allocated vs. amount raised: At full allocation reconcile “equivalence” of volumes raised and volumes spent
- Transparency towards investors on the intended temporary placements for unallocated proceeds
- GBP encouraging auditor or other 3rd party verification of tracking method and allocation

Analysis of the GBP's Core Pillars – Pillar 3: Management of Proceeds: Issues to be considered

- **Allocations & treasury residual**
 - Timeframe to deploy proceeds vs. **investor expectations**?
 - Annual reporting naturally raises expectations of deployment
 - CBI has historically favoured a finite timeframe to allocate
 - Bond lifetime sets ultimate boundary – but consider prudential time buffer, even if long term investment
- **Replacement of non-conforming assets**
- **Choice of temporary investments**
 - Liquidity constraints for banks (HQLA)?
 - Evidence that green / ESG filters (ABN) or tilt (KfW) can work
- **Attribution:**
 - notional annual reconciliation (common)
 - some prefer process semi-automation/accounting linkage
 - aggregation simplifies and retains client confidentiality, project list or at least examples add to transparency / authenticity, but impractical if too many
- **Verification:** Added cost, but used by some environmentally sophisticated and accountable issuers (e.g. MDB) if no second opinion on framework

Analysis of the GBP's Core Pillars – Pillar 3: Management of Proceeds

Factor	Iberdrola https://www.iberdrola.com/wcorp/gc/prod/en_US/inversores/docs/Iberdrola_Framework_for_Green_Financing.pdf	BBVA
Tracking: Approach and Time-frame	No separate management of proceeds in the case of refinancing operating projects + for projects under development depends on whether the costs of development already disbursed (for future project costs, proceeds are managed through a dedicated tracking process) lifetime of bonds	Portfolio basis: proceeds matched to project volume in aggregate lifetime of bonds
Amount & timing of decision	Net Proceeds	Net proceeds Effort to dedicate a percentage in year of issuance.
Temporary allocation – target	<i>Until full allocation, Iberdrola will disclose the amount equal to the net proceeds unallocated to an Eligible Green Project which will be held temporarily in any form of cash, time deposit with banks or other form of available short term liquid funding sources which will not include GHG intensive or controversial activities.</i>	Liquidity portfolio
Eligible asset buffer and non-compliance	N/A	Buffer: beyond the proceeds amount to cater for the unexpected “Shall substitute” projects that cease or fail to comply

Analysis of the GBP's Core Pillars

- Pillar 4: Reporting



Analysis of the GBP's Core Pillars – Pillar 4: Reporting

- **GB Framework:** Summarise alignment with 4 pillars and external review
- **Use of Proceeds reporting:**
 - Annually until full allocation, or in case of material developments, timely reporting
 - Annual report should include a list of the projects to which GB proceeds have been allocated, brief description of these projects and the amounts allocated, and their expected impacts.
 - Confidentiality and competition issues or large number underlying projects: generic or portfolio basis allocation information
- **Impact reporting:**
 - Forward-looking and if possible backward-looking; qualitative and if possible quantitative; disclose methodology and assumptions used
 - Monitoring of actual impacts encouraged for issuers with the ability of monitoring those.
- **Templates** on Resource Centre
 - Green Bond Information Template
 - Green Bond External Review Form

Special Session on “Reporting, GBP’s 4th Pillar” will take place after the presentation from ISS

Introducing External Reviews



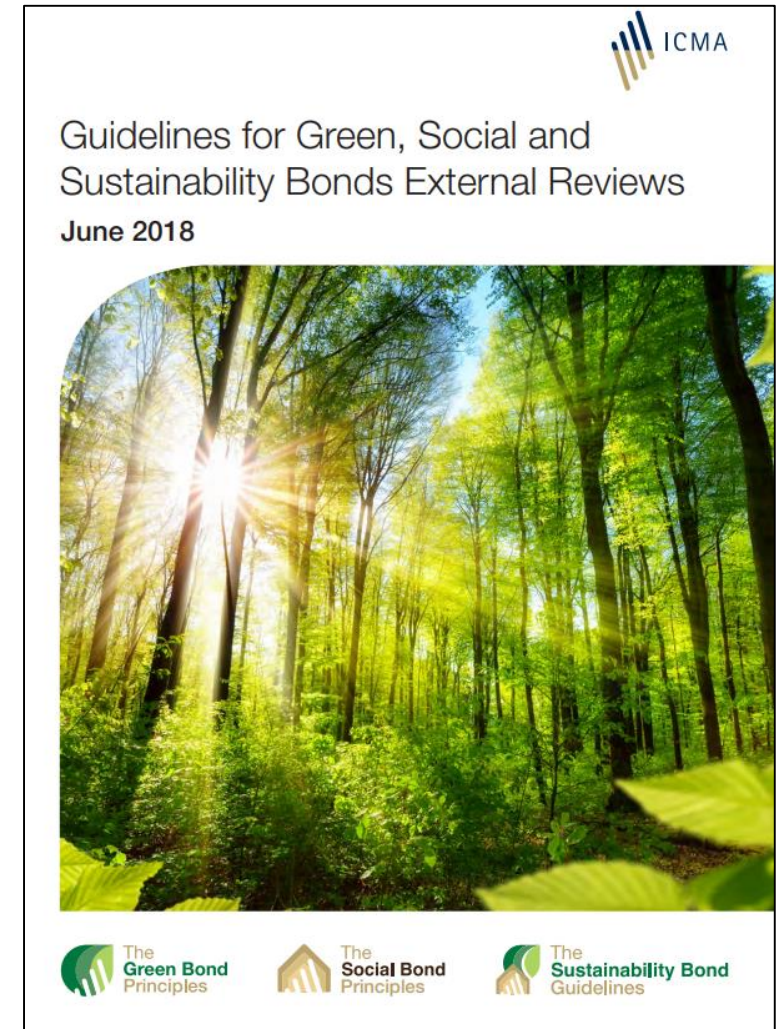
GBP's recommendations and existing considerations:

- Partial or Full coverage of **GBP alignment / conformity with 4 Pillars** in connection
- **Subject:** GB bond framework/programme, individual GB issuance; or, underlying assets and/or procedures.
- GBP recommends **public disclosure of external review**, or at least executive summary
- **Pre-issuance** focus on plans / green bond framework
- **Post-issuance** verify results vs. plan
- **Template** for external review summary on Resource Centre

Introducing External Reviews

Guidelines for External Reviews

- **Broad input:** Produced in consultation with over 30 external reviewers
- **Content:**
 - Updated typology of External Reviews
 - Ethical and professional standards
 - Guidance on Organisation and Content
- **Designed to** contribute to integrity of market and to provide further clarity on the role of External Reviews
- **Evidence of effective self-regulation:** market cooperation to promote quality standards



Introducing External Reviews

Classification

Second Party Opinion

- **Independence:** should be independent from adviser for Green Bond framework
- **GBP alignment:** normally part of assessment
- **Can include:** assessment of overall **environmental sustainability approach** and **evaluation of projects' environmental features**

Verification

- **Against designated criteria:** checking business processes (e.g. UoP allocation) or environmental

Certification

- **Standard or label** defines criteria e.g. Climate Bond Standard, or official standard
- **Independent checks:** Alignment with criteria normally tested by qualified, accredited third parties

Scoring/Rating

- “Evaluation or assessment”
- **Potential scope:** environmental performance data, process relative to GBP, another benchmark such as 2-degree scenario
- **Distinct from credit ratings**, which may nonetheless reflect material E&S risks

External reviewers – by Type

- **Academic**
 - e.g. Cicero
- **Audit & Consulting**
 - e.g. EY, KPMG, PwC
- **Credit rating agencies**
 - Moody's, R&I (Japan), S&P
- **Environmental Consulting**
 - e.g. DNV, Bureau Veritas
- **ESG Research pedigree**
 - e.g. oekom, Sustainalytics, Vigeo Eiris

DETAILS: See section 5 on External Review



Introducing External Reviews

CBI Classification

Pre-issuance review	Scope	Providers
Assurance	Positive or negative assurance on compliance with the Green Bond Principles (GBP) or the Green Loan Principles (GLP)	EY, Deloitte, KPMG, etc
Second Party Opinion	Confirm compliance with GBP / GLP. Provide assessment of issuer's green bond framework, analysing the "greenness" of eligible assets	CICERO, Sustainalytics, DNV GL, Vigeo Eiris, ISS-Oekom, etc
Green bond rating	Rating agencies assess the bond's alignment with the Green Bond Principles and the integrity of its green credentials	Moody's, S&P, RAM (Malaysia), R&I (Japan)
Pre-issuance verification	Third party verification confirms that the use of proceeds adheres to the Climate Bonds Standard and sector specific criteria	Approved verifiers under the Climate Bonds Standard
Post-issuance review	Scope	Providers
Assurance or SPO	Assurance of allocation of proceeds to eligible green projects	Audit firms, ESG service providers, scientific experts
Impact report	Reporting that seeks to quantify the climate or environmental impact of a project/asset numerically	As above
Post-issuance verification	Assurance against the Climate Bonds Standard, including allocation of proceeds to eligible green projects and types of green projects	Approved verifiers

Introducing External Reviews

External Reviews in practice

- **When to appoint: the earlier the better**
- **Cost:** estimated to vary between c. GBP10,000 – GBP40,000
- **Time required:** est. **2-6 weeks** depending on the Reviewer and circumstances

Structural questions to resolve

- **Pre-/post-issuance?**
- **Independence:** Potential conflict of interest for service provider (if setting criteria and evaluating – Chinese Walls?)
- Issuer **ESG profile** considered or not? (GBP recommend consistency with overall environmental strategy under its second pillar)

External review: post-issuance

- Review reporting and potentially sample basis of reporting
- Hence focus on **Verification and Assurance**
 - Confirm allocations, alignment with issuer's criteria, reporting integrity including impact reporting
 - Green “conformity” & KPIs: review project allocations vs. green criteria.

Introducing External Reviews

Reference Material - Overview of Review Types in this section

- A selection of reviewers and types of issuer, methodologies
- The examples / extracts serve to provide an initial flavor of different review types
 - Review in more detail after the course

SPO

- E.g: Sustainalytics on the Netherlands

Verification

- E.g.: KPMG on EIB

“Rating” / Scoring

- E.g: S&P

Certification

- CBI’s Certification process

Second Party Opinion scope: The Netherlands

Conclusion

The State of the Netherlands Green Bond framework will contribute to important sustainability goals for renewable energy, energy efficiency, clean transportation, climate change adaptation and sustainable water management. The proceeds will be used to finance a range of budget expenditures, including those supporting wind and solar energy generation; subsidies for the improvement of residential buildings' energy profiles; new national and regional railway infrastructure and improvements to existing infrastructure and flood defenses.

The use of proceeds, project selection and evaluation, management of proceeds and reporting processes are all aligned with market practice. Additionally, the Dutch State will seek CBI verification for its first issuance and all future issuances under this framework, a step that will help to ensure that all future financing of budget expenditures through green bond proceeds are aligned with, at most, a 2-degree global warming scenario, in alignment with the Paris Agreement. Based on the above, Sustainalytics is of the opinion that the State of the Netherlands is well-positioned to issue green bonds and that the State of the Netherlands Green Bond Framework is credible, impactful and aligned with the GBP principles.

Second-Party Opinion State of the Netherlands Green Bond Framework

Evaluation Summary

Sustainalytics is of the opinion that the State of the Netherlands Green Bond Framework is credible and impactful and aligns with the four core components of the Green Bond Principles 2018. This assessment is based on the following:



USE OF PROCEEDS The eligible categories for the use of proceeds are aligned with those recognized by the Green Bond Principles. Sustainalytics considers that expenditures related to renewable energy, energy efficiency, clean transportation, climate change adaptation & sustainable water management will lead to positive environmental impacts and advance the UN Sustainable Development Goals (7) Affordable and Clean Energy, (9) Industry, Innovation and Infrastructure, (11) Sustainable Cities and Communities and (13) Climate Action.



PROJECT EVALUATION / SELECTION The State of the Netherlands' internal process for evaluating and selecting expenditures is aligned with market practice. Potential expenditures are initially screened by the Dutch State Treasury Agency (DSTA) before being evaluated and selected during the annual review carried out by the Green Bond Working Group, which is comprised of representatives from the DSTA, Ministry of Finance, Ministry of Economic Affairs and Climate Policy, and Ministry of Infrastructure and Water Management.



MANAGEMENT OF PROCEEDS The State of the Netherlands will annually review the expenditure level of eligible expenditures and will decide how proceeds are allocated to these expenditures. The State of the Netherlands intends to allocate at least 50% of net proceeds to eligible expenditures in the budget year of issuance or future years, while up to 50% of an issuance could be allocated to government expenditures realized in the budget year preceding issuance. Expenditures are tracked based on the National Financial Annual Reporting. Unallocated proceeds will be managed according to the treasury policy of the Dutch State and proceeds will be tracked and reviewed until full allocation. The Dutch State's processes for management of proceeds are aligned with market practice.



REPORTING The State of the Netherlands intends to publish an allocation report annually, within three months following the publication of the National Financial Annual Report. The report will include an overview of the allocation of Green bond proceeds to the eligible expenditure categories, a breakdown of allocation per expenditure category and the unallocated proceeds (if any). Impact reporting will be published annually in an impact report and will provide information on the relevant impact categories. Sustainalytics views the State of the Netherlands' allocation and impact reporting as aligned with market practice.



Evaluation date	18 March 2019
Issuer Location	The Hague, Netherlands

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Sustainalytics' Opinion	3
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Introducing External Reviews

EIB: Reasonable Assurance highlights (Verification)

- KPMG provided an Independent Reasonable Assurance Report on the EIB's CAB.
- “Reasonable Assurance”: the highest degree of assurance so far given by auditors in this area. In accordance with assurance and quality standards (ISAE 3000, ISQC 1) used by audit firms.
- The CAB Statement describes:
 - management responsibilities
 - operational criteria
 - reports on allocation
 - impact report (incl. GHG figures)
 - alignment with the Green Bond Principles

Introducing External Reviews

Example of GB Scoring – S&P

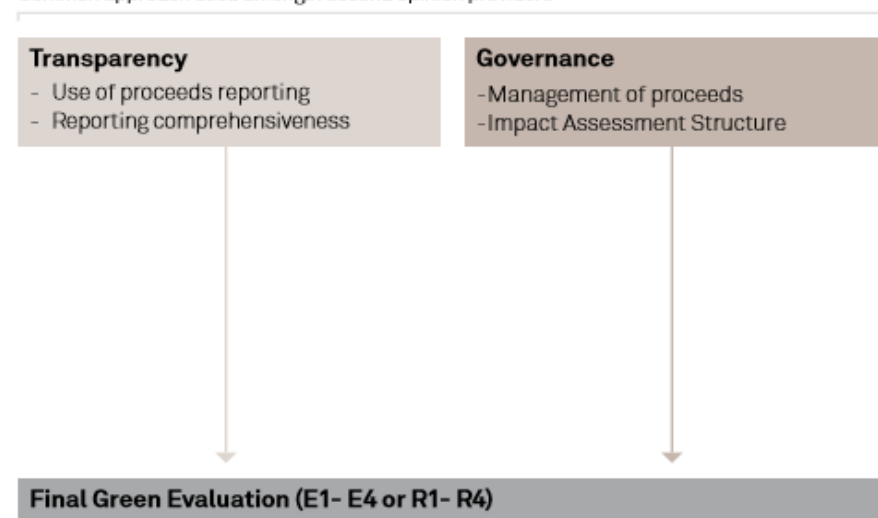
S&P Global Ratings Green Evaluation is an asset-level environmental credential which builds upon today's existing frameworks of governance and transparency (e.g. Green Bond Principles) and considers approaches for climate resilience and environmental impact. The Green Evaluation, which aims to provide investors with a more comprehensive picture of the green impact and climate risk attributes of their portfolios, can be applied to any type of financing, in part or in full. These attributes put S&P Global Ratings in a unique and unrivalled position to help drive transparency and restore supply/demand equilibrium in today's fragmented green marketplace.

Our Green Evaluation Approach

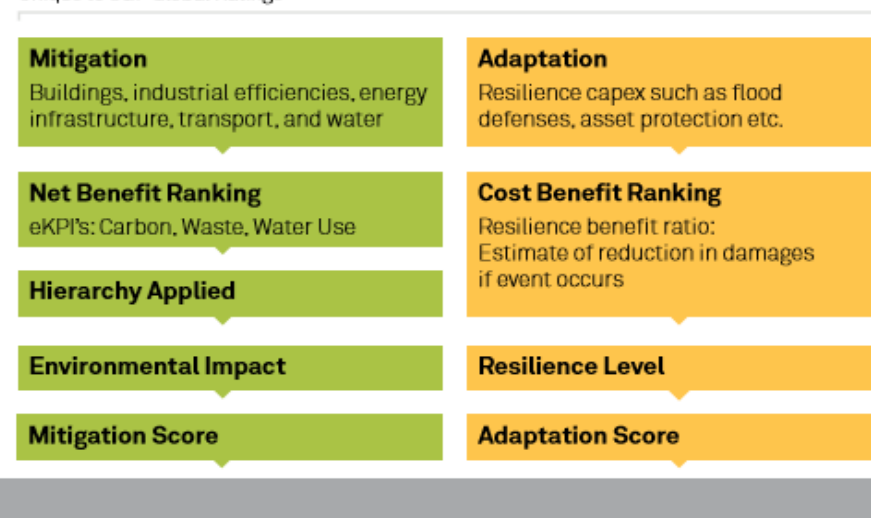
Weighted aggregate of three:



Common approach used amongst second opinion providers



Unique to S&P Global Ratings



Introducing External Reviews

Climate Bond Initiative (CBI) – complementary to GBP

- Provide **green bond certification**
 - **GBP + green definitions + external reviewer accreditation and guidance**
- **Extensive info resources** including data, market reports and blog

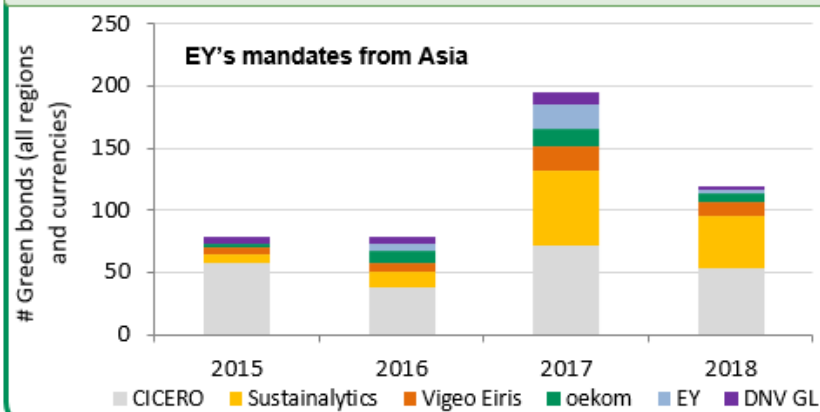


“What is the Climate Bonds Standard? The Climate Bonds Standard and Certification Scheme is a FairTrade-like labeling scheme for bonds. It is designed as an easy-to-use tool for investors and issuers to assist them in prioritising investments that truly contribute to addressing climate change.” Source: CBI

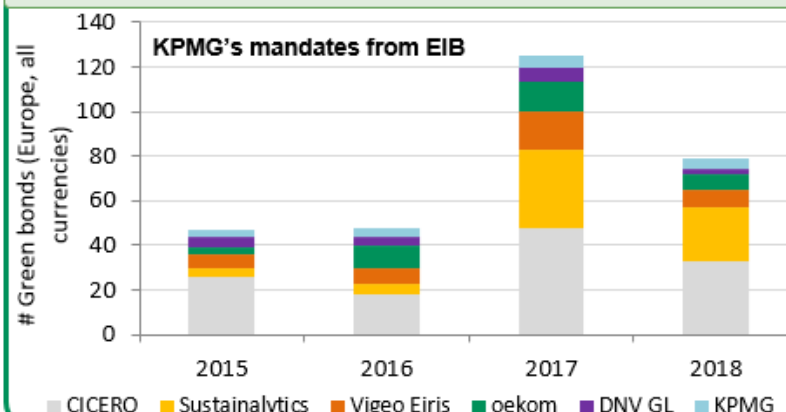
Introducing External Reviews

Choosing a provider – BNP Paribas Example

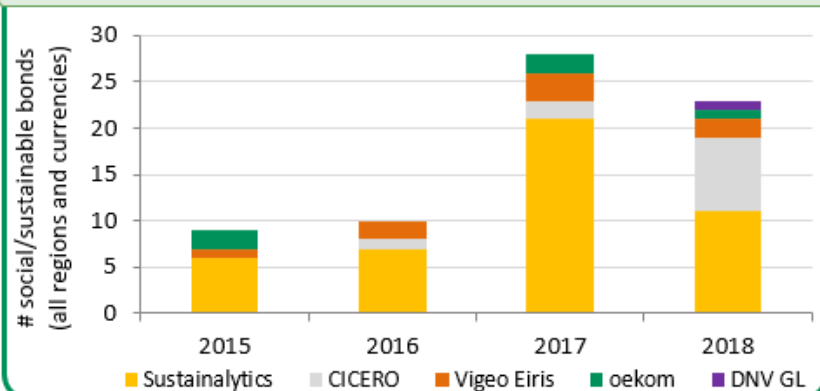
SPO Provider Market Share (All regions)–Green Bonds



SPO Provider Market Share (Europe)–Green Bonds



SPO Provider Market Share (All regions)–Social Bonds*



BNPP chose the second party opinion provider based on a number of factors:

- General credentials
- Specific strengths (i.e. a strong provider for Green or Social bonds)
- Experience providing the verification service for comparable issuers
- What added extra can the second opinion provider offer BNPP on the transaction
- Capability to complete annual reporting on use of proceeds, if chosen
- The second opinion provider's commitment to the sustainability space. Are interests aligned?

*Social bonds include sustainable bonds

Case Study 1 – Evaluating a Green Bond Framework – External Reviewer Perspective

*(Federico Pezzolato, ISS
Corporate Solutions)*



Special Focus on Reporting, GBP's 4th Pillar



Reminder Slide on Pillar 4

- **GB Framework:** Summarise alignment with 4 pillars and external review
- **Allocation Reporting:**
 - Annually until full allocation, or in case of material developments, timely reporting
 - Annual report should include a list of the projects to which GB proceeds have been allocated, brief description of these projects and the amounts allocated, and their expected impacts.
 - Confidentiality and competition issues or large number underlying projects: generic or portfolio basis allocation information
- **Impact reporting:**
 - Forward-looking and if possible backward-looking; qualitative and if possible quantitative; disclose methodology and assumptions used
 - Monitoring of actual impacts encouraged for issuers with the ability of monitoring those.
 - GBP SBP Impact Reporting WG: Handbook on Harmonised Impact Reporting, June 2019 Publication
- **Templates** on Resource Centre
 - Green Bond Information Template
 - Green Bond External Review Form

Pre- vs. Post-Issuance Reporting

- **Pre-issuance:** Up front description of GB Framework (i.e. UoP/types of project, project evaluation process, approach to tracking funds, reporting and external review plans)
- **Post-issuance: Use of Proceeds** – where money was used, conformity with evaluation criteria, management of Proceeds – **allocations & residual, impact reporting**
- In the cases of **GB issuance for refinancing**, pre-issuance reporting may also include details of projects already funded as well as their estimated or actual impacts
- **CBI:** More detailed guidance

Special Focus on Reporting, GBP's 4th Pillar

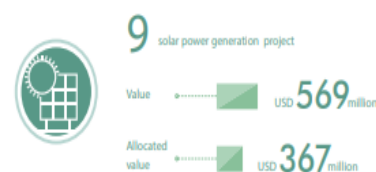
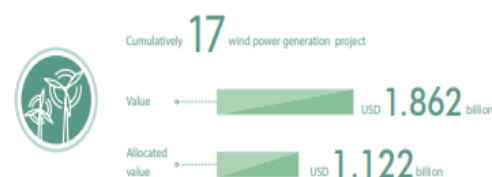
ICBC GB Report – Allocations according to Use of Proceeds

- Approach: Breakdown by sector, geography and project
- here have been no environmental defaults, breaches or alerts in the Eligible Green Assets selected as use of proceeds by the end of 2018. No project has expired or been replaced.

Breakdown by Region				
Countries and regions		No. of projects	Value (US\$ million)	Amount of proceeds allocated (US\$ million)
Outside China	Morocco	1	132	132
	Thailand	3	11	11
Within China	Northwest	3	370	276
	East	3	281	210
	Central South	1	644	480
	Southwest	1	1396	1041

Breakdown by Sector

The Eligible Green Assets funded fall into two categories, namely renewable energy (wind and solar) and clean transportation (railway and metro).



Breakdown by Category

Issuer	Asset Categories	No. of projects	Value (US\$ million)	Amount of proceeds allocated (US\$ million)	Proceeds from green bonds as a percentage of the project value (%)
Luxembourg Branch	Renewable energy				
	Wind power	4	508	371	73.03
	Solar power	6	286	258	90.21
London Branch	Low carbon and low emission transportation				
	Railway	2	2040	1521	74.56
	Total	12	2834	2150	75.86
ICBC Asia	Renewable energy				
	Wind power	13	1354	751	55.47
	Solar power	3	283	109	38.52
ICBC Asia	Low carbon and low emission transportation				
	Railway	3	2051	740	36.08
	Total	19	3688	1600	43.38
ICBC Asia	Low carbon and low emission transportation				
	Metro	1	50	50	100.00
	Railway	1	954	680	71.28
	Total	2	1004	730	72.71

Example of Alignment with 4 Pillars - Extract ABN Impact / GB Report

– Pillar 1 / Use of Proceeds (type)

Approach:

- Summarise GB Framework
- Highlight Updates
- Focus on impact

I. Use of proceeds

The proceeds of the green bonds issued by ABN AMRO are exclusively used to (re)finance loans related to **Energy Efficiency and Renewable Energy**. In 2016 ABN AMRO has expanded its green bond framework by adding energy efficiency improvements for existing buildings as use of proceeds category. The framework currently covers the following use of proceeds categories:

- a) Mortgage Loans for recently built energy efficient residential houses
- b) Recent commercial real estate loans for energy efficient buildings
- c) Energy efficiency improvements for existing commercial real estate buildings that achieve emission reductions of 30% to 50% (depending on bond maturity)
- d) GreenLoans² for the energy efficiency measures (2016 bond) including the installation of solar panels on existing residential houses (2015 bond)

Example of Alignment with 4 Pillars - Extract ICBC GB Report

– Pillar 1 / Use of Proceeds (type)

Approach: Summary of GB Framework for Pillar 1 (UoP), similar for Pillar 2

Use of Proceeds

ICBC has developed the Green Bond Framework (hereinafter short as “the Framework”) under which it plans to issue green bonds, to finance and refinance, in whole or in part, eligible green assets promoting the transition to low-carbon and sustainable economy with clear environmental sustainability and climate change benefits. The eligible green asset categories are described with examples below.

“Eligible Green Asset Categories “for ICBC	Description and Examples
	• Generation and transmission of energy from renewable energy sources. — Renewable energy sources include offshore and onshore wind, solar, tidal, hydropower subject to conditions, biomass and geothermal 
	• Low energy or emission transportation assets, systems, infrastructure, components and services excluding any infrastructure or rolling stock assets used for the transportation of fossil fuel products — Examples include Rail Tram, Metro, Bus Rapid Transit Systems, Electric Vehicles 

ABN “Impact” Report – Allocations

Approach:

Portfolio and
bond perspective

Green bond allocation on portfolio level (31-12-2016)

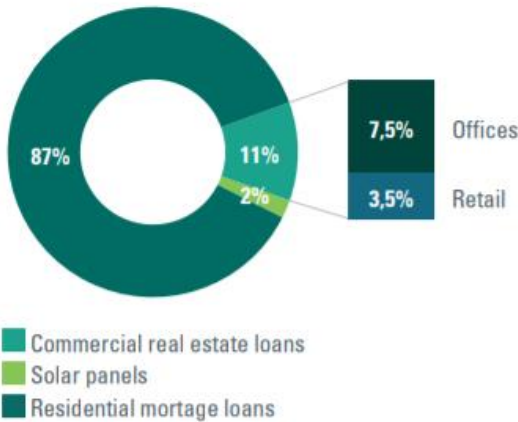


Table 2.

ABN AMRO Bank 0.75% notes due 9 June 2020, ISIN: XS1244060486
Allocation 31-12-2016

Asset area	Asset category	Allocated & outstanding in EUR million	Allocated & outstanding in percentages
Energy efficiency	Residential mortgages	437.2	87.4%
Energy efficiency	Commercial real estate	52.8	10.6%
Renewable energy	Solar panels	10.0	2.0%
Total		500	100

Special Focus on Reporting, GBP's 4th Pillar

Examples – allocation report - EIB

Reporting of aggregate data is typical.

3.1.2. Report on unallocated balances, aggregate issuance and aggregate allocations¹³

	EUR million
Balance at 1 January 2017	1,228
CAB issues	4,253
CAB allocations	-4,400
CAB portfolio interest	-10
Balance at 31 December 2017	1,071

Special Focus on Reporting, GBP's 4th Pillar

Examples – allocation report - EIB

Reporting of bond-specific attribution more unusual. Rationale here included impact linkage. Note only green portion of project is attributed.

EIB Climate Awareness Bonds - 2017

Allocations by bond (preliminary figures subject to completion of the Audit of the CAB Statement for 2017)



CAB	Project N°	Project Name	Location	Sector	Sub-Sector	CAB-eligible component cost (% of total project cost)	Allocation from CAB Portfolio in 2017 (EUR m)
CAD CAB due 16/09/2021	20150314	BEATRICE OFFSHORE	United Kingdom	RE	Wind Offshore	100%	17.65
	20110324	Wind Park Noordoostpolder	Netherlands	RE	Wind Onshore	100%	47.25
	20090485	HYDRO POWER PLANTS REHABILITATION	Ukraine	RE	Hydropower	98%	21.45
	20130338	IREDA Renewable Energy and Energy Efficiency FL	India	RE	Wind Onshore	100%	119.17
	20120677	Megalim Solar Thermal Plant	Israel	RE	Solar	100%	6.20
	20140600	KILPILAHTI CHP PLANT	Finland	EE	CHP	100%	45.00
	20140251	Nobelwind Offshore Wind	Belgium	RE	Wind Offshore	100%	10.42
	20140557	AANEKOSKI BIO-PRODUCT MILL	Finland	RE	CHP from renewable by-products	88%	35.20
	20150382	Galloper Offshore Wind	United Kingdom	RE	Wind Offshore	100%	11.42
	20100575	North Yorkshire and York Waste PPP	United Kingdom	RE	Municipal Waste Incineration	50%	2.31
EUR CAB due 13/11/2026	20130557	COMBINED HEAT AND POWER PLANT KIEL	Germany	EE	CHP from gas	100%	14.22
	20150820	ELLEVO DISTRIBUTION NETWORK INVESTMENTS	Sweden	RE	Various RE	4%	8.78
	20150263	FRANCE EFFICACITE ENERGETIQUE LOGEMENT SOCIAL	France	EE	Buildings	100%	249.49
	20120677	Megalim Solar Thermal Plant	Israel	RE	Solar	100%	3.66
	20150382	Galloper Offshore Wind	United Kingdom	RE	Wind Offshore	100%	8.40
	20100575	North Yorkshire and York Waste PPP	United Kingdom	RE	Municipal Waste Incineration	50%	0.38
	20130557	COMBINED HEAT AND POWER PLANT KIEL	Germany	EE	CHP from gas	100%	6.76
	20160642	DEGEWO WOHNUNGSBAU BERLIN	Germany	EE	Buildings	32%	48.00
	20150314	BEATRICE OFFSHORE	United Kingdom	RE	Wind Offshore	100%	1.22

Special Focus on Reporting, GBP's 4th Pillar

GBP Guidance: “The GBP recommend the use of qualitative performance indicators and, where feasible, quantitative performance measures (e.g. energy capacity, electricity generation, greenhouse gas emissions reduced/avoided, number of people provided with access to clean power, decrease in water use, reduction in the number of cars required, etc.), and disclosure of the key underlying methodology and/or assumptions used in the quantitative determination.. “

Growing pressure to report impact

- 70% of GBP/SBP member investors demand it (H1 '18 survey)
- Investors & authorities seek clear / measurable results
- Official guidance: e.g. French “comply or explain” rules (Article 173) on investor CO2 Footprint; financial / sustainability reporting guidelines

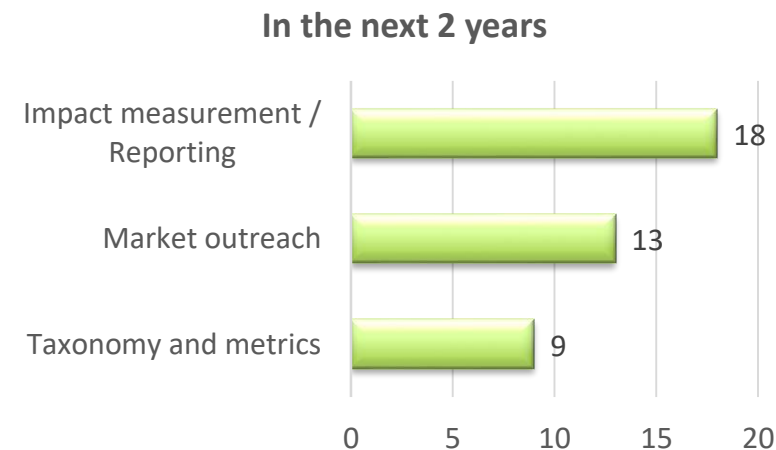
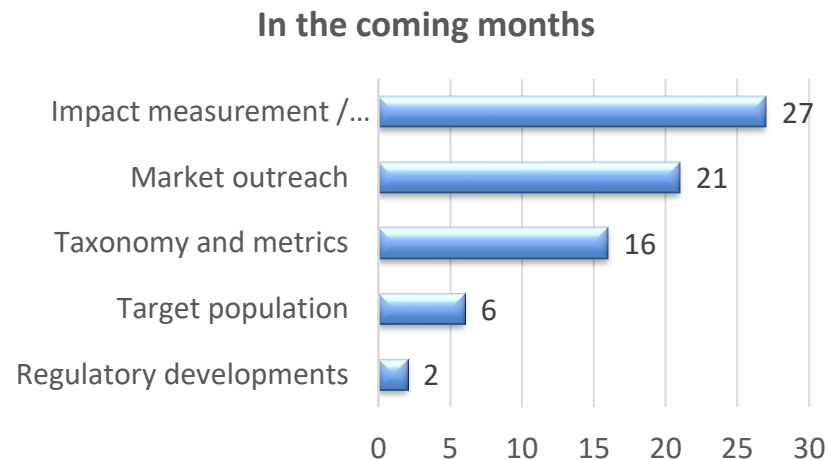
Reporting scope		UoP reporting	Impact reporting	Both	At least one
Number of issuers	Reporting	251	194	172	273
	Non-reporting	116	173	94	195
	% reporting	68%	53%	47%	74%
Number of bonds	Reporting	715	1,514	501	1,728
	Non-reporting	1,190	391	177	1,404
	% reporting	38%	79%	26%	91%

Source: Post-Issuance Reporting in the Green Bond Market, CBI (based on an assessment of labelled green bonds in CBI's database up to November 2017)

Special Focus on Reporting, GBP's 4th Pillar

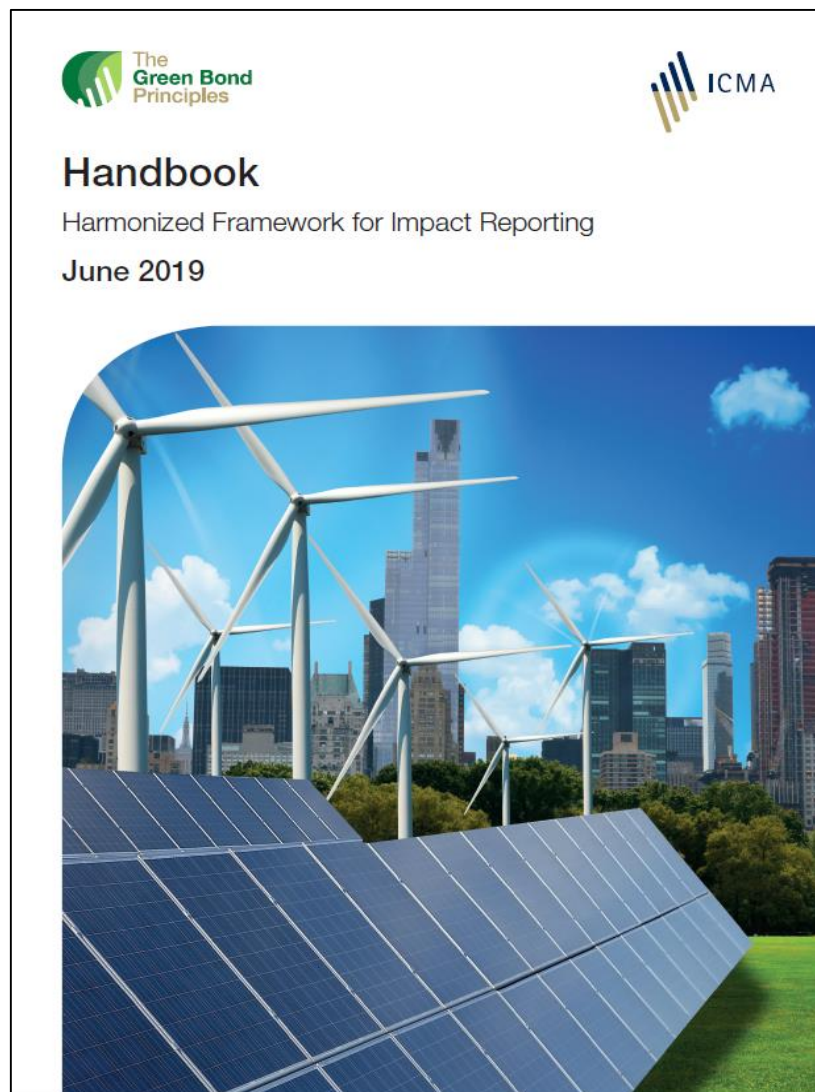
- **Impact reporting is the top priority issue / developmental focus for GBP/SBP members**

Question in the Annual Consultation for the year of 2018: What is the most important task the Social bond working group should focus on in the coming months? Over the next two years?



- Enhanced impact reporting: Integrity, transparency, reduced risk of greenwashing
- Main challenge: Different methodologies and assumptions
- EU's work on taxonomy and ISO initiatives

Special Focus on Reporting, GBP's 4th Pillar



The June 2019 version of the Handbook on Harmonized Framework for Impact Reporting, prepared by GBP SBP IR WG, provides for core principles and recommendations for impact reporting, guidance on impact reporting (including indicators) as well as standardised reporting templates specific to various sectors such as:

- Renewable Energy
- Energy Efficiency
- Sustainable Water and Wastewater Management Projects
- Waste Management and Resource-Efficiency Projects
- Clean Transportation Projects, and
- Green Building Projects.

2020 Focus of the Impact Reporting Working Group: Biodiversity

Other Impact reporting - initiatives & resources

- Other Impact Reporting Guidelines
 - IFI
 - Nordic Public Sector Report
- **Blockchain / tech** tools: e.g. Green Asset Wallet
<https://greenassetwallet.org/about>
- **E-Handout:** Apple Impact Report

GBP Guidance on Impact – Sectoral Example - Green Buildings (2019)

- Refer to *Commentary (below)* not just template:

- Guidance on green buildings “provides core **quantitative indicators** for green building projects as well as reference reporting **templates** that issuers can adapt to their own circumstances. These templates make reference to the most commonly used indicators, however, the working group acknowledges that **other indicators might be relevant** as well. “
- **Qualitative information:** “encouraged to provide for a meaningful contextualisation of the **baseline** situation and the **improvement as a result of the project**.”
- **Standards:** “regional, national or (optimally) internationally recognised standards or certifications are key, providing important **baselines** against which the green building project can be **benchmarked**.”
- **Independent view:** robustness served by “any independent assessment from consultants, verification bodies and/or institutions with recognised expertise in environmental sustainability such as LEED, BREEAM and BEAM
- “**Other salient information** such as the siting of the building and its purpose may be critical to understanding ...benefits in managing resources and protecting the environment.”
- **Resilience** not yet covered by information but “strongly encouraged”
- “**importance of the geographic context** ...population served, pollution levels, and specific CO₂ electricity grid baselines.” i.e. Where building stock and grid are relatively green, room to improve is less.
- **Transition:** “how the project promotes the transition to “Zero Net Carbon”.
- **Sources & methods inform credibility & comparability:** sources of data and methods of calculation

GBP Guidance on Impact – Sectoral Example - Green Buildings (2019)

Template for portfolio approach

– absolute and relative impact (reduction vs. baseline)

Illustrative Core Indicator Summary Template for Portfolio-based Report⁷:

Green Building Portfolios	Signed Amount a/	Share of Total Project Financing b/	Eligibility for green bonds	Green Building component	Allocated Amount c/	Average Portfolio lifetime d/	Gross Building Area (GBA)	#1) Final and/or Primary Energy Use e/			#2) Carbon reductions e/			#3) Water efficiency e/		#4) Waste management e/		#5) Certification Standard	
Portfolio name	currency	%	% of signed amount	% of signed amount	currency	in years	in m ²	kWh/m ² of GBA p.a.	% of energy use reduced/avoided	% of renewable energy generated on site	kgCO ₂ /m ² of GBA p.a.	tonnes of CO ₂ equiv. reduced/avoided p.a.	% of carbon emissions reduced/avoided	m ³ /m ² of GBA p.a.	annual water savings in m ³ /a and/or in %	waste minimised, reused, recycled in % of total waste and/or in tonnes p.a.	waste removed in tonnes	type	certification level
e.g. Portfolio 1	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX

Example of useful official impact reporting suggestions: Japan MoE (2019)

- Also addresses sectoral gaps in GBP impact reporting guide (more sectors in future)
- Example:

Climate Change Adaptation	Area of a forest or a watershed managed in a sustainable manner (ha)	Area of a forest or a watershed managed in a sustainable manner (ha)
	Area of wetted surface reduced (ha)	Reduction in the estimated area of wetted surface in the event of heavy rain from the project implementation (ha)
Environmentally-Friendly Products, Manufacturing Technologies, and Processes	Reduction in CO ₂ emissions per ton of products (t-CO ₂ /t)	Calculate by comparing CO ₂ emissions/ton of products (CO ₂ emissions (t-CO ₂) ÷ production volume (t)) before and after the implementation of the project
	Amount of raw materials reduced (t)	Calculate by comparing the raw materials used (t) before and after the implementation of the project

Japan MoE guidance (2017): Useful local calculation references

Example:

1. Cases where the reduction in CO ₂ emissions serves as an indicator of environmental benefits from solar power generation projects	
Precondition	• Use the average CO₂ emissions coefficient from all power sources at a project site as the electricity-related CO₂ emissions coefficient. For example, if a project site is within the service area of Shikoku Electric Power Co., Inc., the emissions coefficient is 0.651 t-CO₂/MWh. (“Emissions coefficients by electric power suppliers - Performance in 2015” posted on the official website of the Ministry of the Environment) • Annual energy generation: 2,000 MWh/year • Annual power consumption by auxiliary equipment: 10 MWh/year
Calculation method referenced	Rules for the green-energy-based CO ₂ Reductions Certification System (Posted on the official websites of the Agency for Natural Resources and Energy and the Ministry of the Environment)
Calculation formula	Reduction in CO ₂ emissions = (annual energy generation - annual power consumption by auxiliary equipment) x electricity-related CO ₂ emissions coefficient (2,000 MWh/year - 10 MWh/year) x 0.651 t-CO ₂ /MWh = 1,295 t-CO ₂ /year

ICBC GB Report – Impact

Approach:

- Focus on absolute (not relative) CO2 emission reductions
- Could allow estimate of CO2 saved per m of issuance in given year (not explicit)

The green bonds issued helped to reduce a total CO2 emission of **4,186,135 tons** per year, including **2,720,437 tons** per year for renewable energy assets and **1,465,998 tons** per year for low-carbon and low-emission transportation.

ABN Impact Report - Threefold Approach:

1) Highlights incl.
absolute emissions -
Savings per m invested



2) Relative emissions

emission reductions of 30% to 50% (depending on
bond maturity)

3) GBP impact template

Portfolio based report according to the Harmonized Framework for Impact Reporting

Energy Efficiency	Type	Signed Amount	Share of Total Portfolio Financing	Eligibility for green bonds	Allocated Amount	Average portfolio lifetime	Annual generation	Renewable energy capacity added	Annual GHG emissions reduced/avoided	
Portfolio name		EUR	%	%	EUR	years	GJ	MWh	MW	in tonnes of CO ₂ equivalent
GreenLoans	RE	20,694,608	100%	100%	17,026,969	12.5	-	14,580	16.66	5,817
Residential Mortgages	EE	933,031,153	100%	100%	876,022,121	10+	120,561	-	-	6,100
Commercial Real Estate	EE	171,274,239	100%	100%	106,950,911	3.85	90,868	-	-	4,435
Total		1,125,000,000	100%	100%	1,000,000,000		211,429	14,580	16.66	13,352

GBP “Green Bond Information Template”

- Simple entry level format for issuers to explain alignment
- Issuers tending to reproduce key elements of GB Framework, e.g. BBVA May 2018, Banco Davivienda (LatAm) Sept 2018

TEMPLATE format:

GBP Pillars 1-4:

“Please describe alignment with this GBP component:

Please provide related online information if available:

GBP recommendation: External review

Please describe the alignment with this recommendation:

Please provide related online information if available:

Additional information

Please provide any further information you may deem appropriate:

Market participants*

- Investors
- Underwriters
- Index providers
- Data Providers
- Exchanges

* As green bond market involves various other stakeholders, the list provided here is non-exhaustive. Neither does it include issuers since the course is mainly structured from an issuance perspective.



Largest Issuers of 2019

Largest Single Green Bond	Largest Supranational
 State of the Netherlands Value: €5,985 M (\$6,680 M)	 THE WORLD BANK IBRD • IDA WORLD BANK GROUP IBRD Value: \$4,009 M
Largest Issuer	Largest Corporate
 Fannie Mae Fannie Mae Value: \$23,782 M	 Engie Value: \$4,666 M
Largest Agency	Largest Financial Institution
 Fannie Mae Fannie Mae Number of Deals: 993	ICBC  ICBC Value: \$5,966 M
Largest Sovereign	Largest Municipal
 State of the Netherlands Number of Deals: 1	 Federal State of NRW Value: \$2,767 M

Source: Environmental Finance

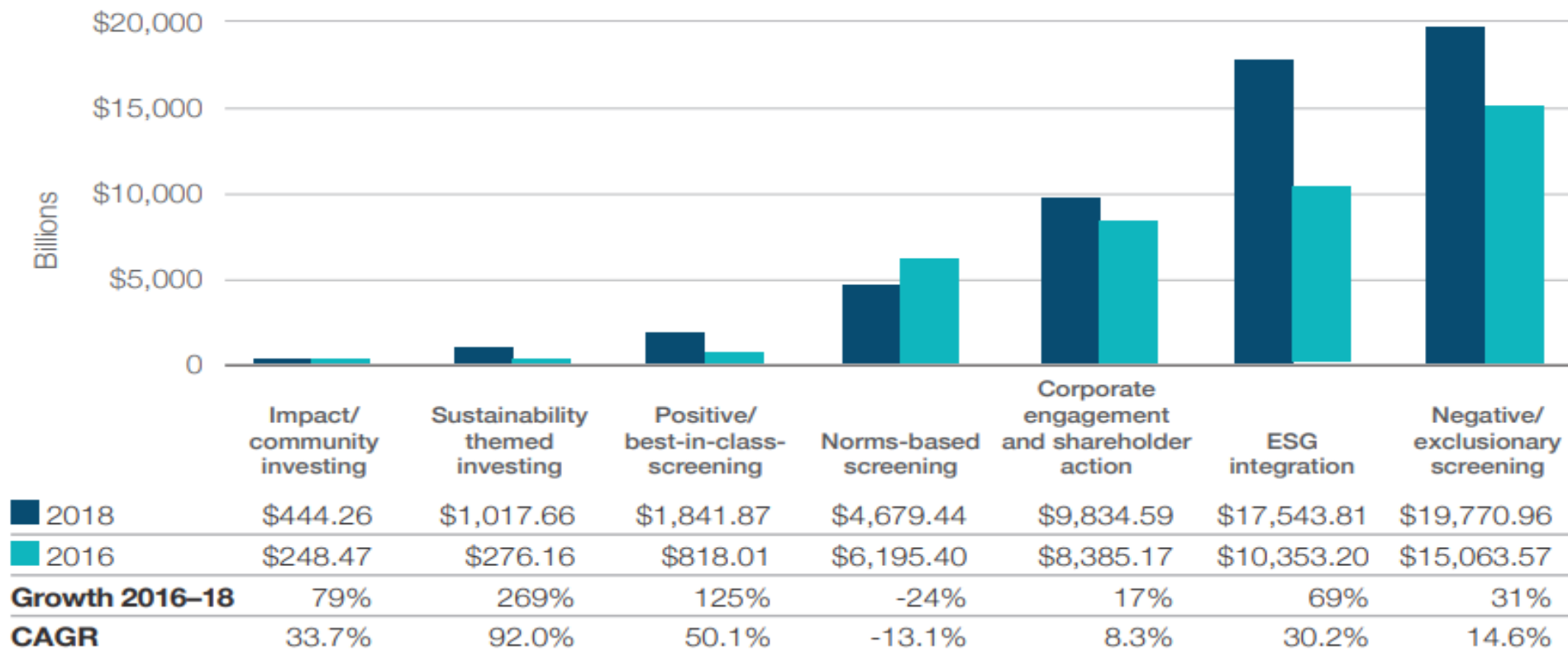
Market participants

- Investors



Green Bonds are only part of a broader trend (1)

FIGURE 6: GLOBAL GROWTH OF SUSTAINABLE INVESTING STRATEGIES 2016–2018



Note: Asset values are expressed in billions.

Some corrections to the 2016 strategies have been made. See the Methodology section for more information.

Source: 2018 Global Sustainable Investment Review

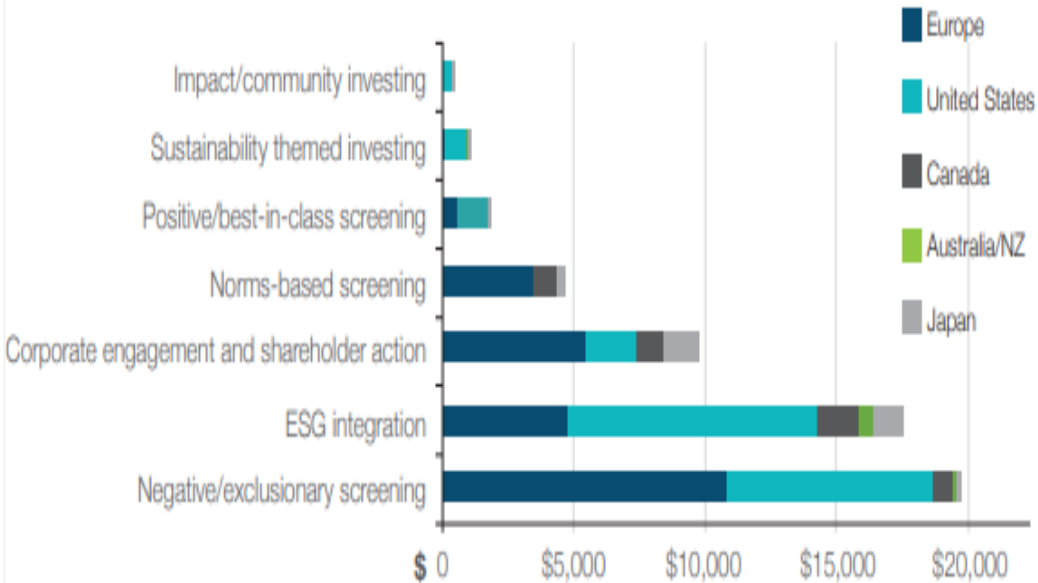
Green Bonds are only part of a broader trend (2)

FIGURE 1: SNAPSHOT OF GLOBAL SUSTAINABLE INVESTING ASSETS, 2016-2018

Region	2016	2018
Europe	\$ 12,040	\$ 14,075
United States	\$ 8,723	\$ 11,995
Japan	\$ 474	\$ 2,180
Canada	\$ 1,086	\$ 1,699
Australia/New Zealand	\$ 516	\$ 734
TOTAL	\$ 22,838	\$ 30,683

Note: Asset values are expressed in billions of US dollars. All 2016 assets are converted to US dollars at the exchange rates as of year-end 2015. All 2018 assets are converted to US dollars at the exchange rates at the time of reporting.

FIGURE 5: SUSTAINABLE INVESTING ASSETS BY STRATEGY AND REGION 2018



Note: Asset values are expressed in billions of US dollars.

Source: 2018 Global Sustainable Investment Review

Investors: Associations / Coalitions & Catalysts

- **Leading framework: PRI** (Principles for Responsible Investment)
 - Established by UN and major investors; as in September 2019, 2300 investors representing USD90 tn AUM
 - Backed by majority of buy-side – shows investor commitment to sustainability
 - Exclusively for investors
 - Works to understand the investment implications of ESG factors and to promote the integration of ESG factors into investment and ownership decisions
- Many other **specialised or geographically focused coalitions**, e.g.:
 - Ceres (US-focused)
 - International Investor Group on Climate Change
 - Green Finance Network Japan (GNFJ) – broader membership (Nov '18 launch)
 - Global Impact Investing Network
- **Catalytic investors in EM**
 - **IFC Amundi One Planet / Green Bond Cornerstone Fund**: Credit enhanced investment in EM bank issues – promoting transition to green bonds. Amundi is fund manager.

Investors and green risk

Typically exposed to overall issuer credit

- In some cases direct risk exposure to green asset (e.g. securitisation, project finance)
- Determination of relative value may be by reference to factors both conventional and green
- GBP-alignment as an element in investment decision – value of increased transparency and accountability
- Arrival of **rating agency green bond / green evaluations** (Moody's, S&P) – not credit ratings per se
- Certain rating agencies to mainstream ESG commentary in rating reports
- Moody's indicated in January 2020 that ESG concerns are increasingly influencing credit outlooks. *“One major trend is that climate change and the transition to a low-carbon economy are growing in relevance for global credit markets...Investors are seeking more disclosure from companies about how they are addressing these risks as the financial implications are becoming clearer.”*
- Stricter climate policies and the deeper market integration of climate risks: increasing transition risk for carbon intensive sectors (EF)

Investors: value of GBP

- **Non-financial (impact) and financial** considerations
- Investors increasingly value the GBP for **transparency & accountability**
 - 4 pillars – transparency
 - External review – accountability
- Investors well **represented at ExCom**
- **Topical** aspects
 - **Financial value?**
 - E.g. Nomura AM: PM/quant reports evidence of financial outperformance (Dec 18 ICMA-JSDA Annual Conference in Tokyo)
 - **Impact Reporting:** Tangible outcomes, comparability via GBP templates
 - TCFD relevance
 - **Due diligence: External reviews** can offer expert independent view
 - **Investor survey:** Underlines value of GBP Framework - investors welcome the workable toolkit with integrity and market traction.

Making the case - Potential for superior risk-adjusted returns

- Nomura AM identified superior risk adjustment returns in EUR and USD markets, with volatility lower vs. conventional bonds – article in recent CBI study ([“Green bond pricing in the primary market: July - December 2018”](#))
- Earlier study by BNP also showed superior risk adjusted returns, but in that earlier sample volatility was marginally higher.

Risk Return (3 years ending October 2017)	BARCLAYS GLOBAL AGGREGATE (HEDGED IN EUR) RI (100 %)	BLOOMBERG BARCLAYS MSCI GLOBAL GREEN BOND INDEX (EUR HGD)
<u>Annualised Return p.a.</u>	1.88%	2.11%
<u>Annualised Volatility p.a.</u>	2.73%	2.80%
Sharpe Ratio	0.69	0.75

Source: BNPP Securities Services



BNP PARIBAS

Investors' Approach on Green Bonds

- Typical example of expectations for a green bond
 - “Clear description of the projects/categories to be financed[i.e. Pillar 1] (including goals and projected impacts [Pillars 2, 4])
 - Competent project selection as well as a fully transparent process of the management of proceeds [Pillar 2]
 - A frequent public reporting [Pillar 4] including project description, allocation of funds [Pillars 1/3] and environmental impacts [Pillar 4] (quantified where feasible)
 - A verification from an independent third party [External Review]

(Source: KFW; Note: items [in square brackets] added by ICMA)

Market participants

- Underwriters



Market Participants - Underwriters

Underwriters in the ExCom

GBP SBP EXCOM

Investors
ACTIAM AMUNDI ASSET MANAGEMENT AXA INVESTMENT MANAGERS BLACKROCK, INC. KFW MIROVA PIMCO ZURICH INSURANCE GROUP
Issuers
AFRICAN DEVELOPMENT BANK EUROPEAN BANK OF RECONSTRUCTION AND DEVELOPMENT (EBRD) EUROPEAN INVESTMENT BANK (EIB) IBERDROLA INTERNATIONAL FINANCE CORPORATION (IFC) KOMMUNALBANKEN NORWAY (KBN) NORDIC INVESTMENT BANK (NIB) WORLD BANK
Underwriters
BANK OF AMERICA MERRILL LYNCH BNP PARIBAS CREDIT AGRICOLE CIB HSBC ING JPMORGAN CHASE & CO. NATIXIS SKANDINAVISKA ENSKILDA BANKEN AB (SEB)

Source: Environmental Finance

Underwriting community

- **Increasingly dedicated resources** to green/social/sustainable bonds
- Becoming part of **broader group strategy**
- **Competition** for sectoral leadership
- **Potential:** Exceptional growth area
- Cross-sectoral flow business: frequent issuers
- **Innovation:** opportunity to lead growing markets for innovative clients
- **Where is product positioned in the bank**

Underwriters – role

- **Introduce**
 - “Educate investors on the green bond product and how it could fit into their investment policies”
 - Green bonds concept, benefits & mechanics to issuers
- **Strategy**
 - Help issuers clarify sustainable financing proposition and links with strategy
- **GB Framework**
 - Help issuers design overall Green Bond Framework e.g. procedures to select projects and manage proceeds
- **Green alignment**
 - Help issuer define scope of eligible green projects
- **Deal execution**
 - Match issuers with differing green & mainstream investors, advice on green pricing
- **Green structuring adviser role increasingly common**

Market participants

- Index Providers



Benchmarks used by investors

- Origins: Green bond indices **launched in 2014**
- Providers: include Bloomberg MSCI Barclays, ChinaBond, S&P, Solactive
- Usage: already **supporting a range of Passive and Active strategies**
 - E.g. BlackRock Green Index Fund, Lyxor Green Bond UCITS ETF
- EU Benchmark regulation provides transparency obligations on ESG methodologies apart from introducing Climate Transition and Paris-aligned benchmarks

Indices – how they work

- **Broadly GBP aligned**
- **External review:** Some require explicitly
- Usual financial filters: Incl. credit rating, bond size, maturity, structure, currency
- **Index eligibility:** risks of non-inclusion or subsequent exclusion
 - Reliability of reporting and green credentials among the criteria
- Dedicated **GBP Working Group** on indices – published agenda
 - **Current focal point:** EC proposals for adjustment of benchmark regs may include low carbon and positive impact categories

Main GB Indexes and relevant Data Providers

Bloomberg MSCI Barclays Green Bond Index: It is indicated that securities are independently evaluated by MSCI ESG Research along four dimensions to determine whether they should be classified as a green bond.

S&P Green Bond Index: The S&P Green Bond Indices are comprised of a universe of global bonds labelled “green” by Climate Bonds Initiative (CBI) and subject to eligibility criteria.

Solactive Green Bond Index: Instruments are defined as Green Bonds by the Climate Bonds Initiative.

ChinaBond China Green Bond Index: The index was launched jointly by CCDC and China Industrial Bank. Eligible projects have to be confirmed by China Industrial Bank’s Green Finance Criteria (2016).

Market participants

- Data Providers



Market participants – Data Providers

	Bloomberg	Climate Bonds Initiative	Cbonds	Dealogic	Environmental Finance
Creation of the database	2014	2013	2015	2015	2015
Interface accessibility	Bloomberg Terminal	Internet browser	Web-site, mobile application, Excel Add-In. Data in any structure forms	Internet browser	Internet browser
Start date of data	2007 (Inception of Market)	2007 (Inception of Market)	2007 (inception of Market)	2007 (Inception of Market)	2007 (Inception of Market)
Number of green bonds as of Q1 2018	7,189 (includes all tranches, pools and bonds). 1,398 corporate and government green bonds	2549 deals (1)	750 tranches	1 091	1432
GBPs alignment mandatory or optional?	Mandatory alignment with Use of Proceeds principle. Other principles not a requirement but compliance is capture in additional data fields	Optional framework and external review. Mandatory with respect to asset types (2)	Mandatory	Optional	Optional
Number of social or sustainability bonds as of Q1 2018	81	None (3)	Included in Green bonds database	Social Bonds: 58 Sustainability Bonds: 43	90
SBPs alignment mandatory or optional?	Mandatory alignment with Use of Proceeds principle. Other principles not a requirement.	Not applicable	Mandatory	Optional	Optional
Pureplayers	Included for green bonds with possibility to filter them out. Not included for social or sustainability bonds	Yes if labelled (4)	No	Renewable available: possibility of filtering in and subcategorise. Ongoing discussions on other pureplayer taxonomy	Not included - planning on including them once taxonomy developed

Source: GBP-SBP Database/Index WG Mapping Study, on ICMA / GBP website

Market participants – Data Providers

		Bloomberg	Climate Bonds Initiative	Cbonds	Dealogic	Environmental Finance
Information provided	Description of Use of Proceeds	No	Yes	Yes	Yes	Yes
	Ex-post reporting status disclosed/follow up	Yes	Yes	No	Yes	Yes
	Documentation	Final terms, prospectus, bond frameworks, external reviews	External reviews, frameworks, links to press releases/articles	Propectus, Final terms, Tender offer, Press releases	Final Terms, Prospectus, Second Opinions, Frameworks	Investor presentations, Frameworks, Second opinions, Press releases, Final terms, Prospectus, Assurance statements, Deal flashes, Reporting
	Links to articles/analysis	No	Yes	No	No	Yes
	Ability to arrange/filter data	Yes + Excel Exportability	Yes (partners site access) No (free webpage access)	Yes + Excel	Yes + Excel exportability	Yes + Excel Exportability
	Ability to respond to queries	Yes	Yes	Yes	Yes	Yes
	Other information	Ability to perform real-time analytics on green bond/portfolio price, yield, performance, liquidity, volatility	We have two databases. The free public database has a limited number of fields. The partners' database has more fields and is available for download.			

Market participants

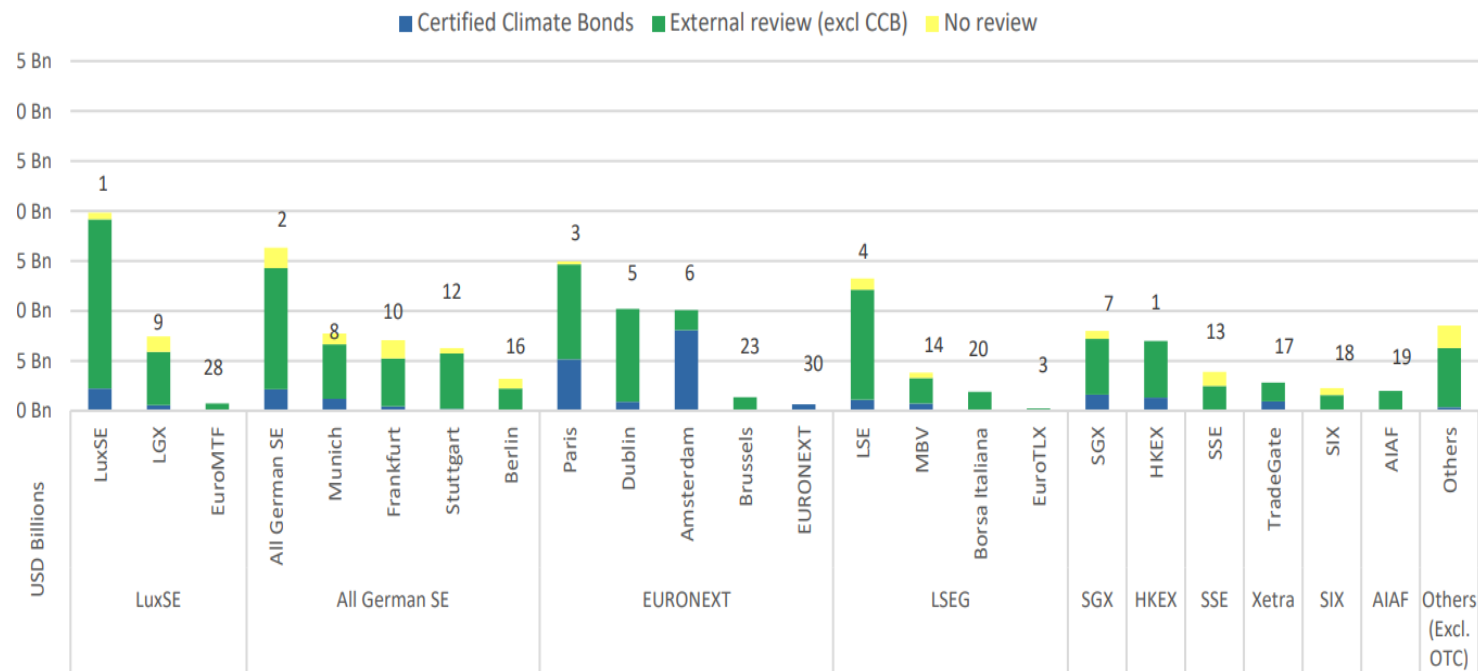
- Exchanges



Market participants –Exchanges

Role of the Exchanges

- Provide listings and **listing criteria linked to GBP**: External Review Reports as well as reporting can be listing criteria
- **Guidelines for issuers** helping to prepare green bond issuance
- Data – green bond lists, bond documentation, issuer's reporting
- **Index provision** – partnership with providers of green filters



Source: CBI

Recent Initiatives from some exchanges:

- In October 2019, LSE launched its [Sustainable Bond Market](#) segment, bringing together its green bond segment (launched in 2015) together with new dedicated segments for social and sustainability bonds as well as the newly-created issuer-level segment for bonds by issuers whose core business is aligned with the green economy, subject to a minimum 90% “green revenues” requirement in line with FTSE Russell’s Green Revenues Taxonomy.
- In November 2019, Euronext announced the creation of [a new Euronext Green Bonds offering](#) which brings together green bonds from six regulated markets in one dedicated on the Euronext website. In order to be eligible for inclusion in the list, green bonds must be listed on a Euronext market, be aligned with recognizable industry standards such as ICMA Green Bond Principles or the Climate Bond Initiative Taxonomy and be accompanied by an appropriate external review performed by an independent third party.
- In December 2019, Nasdaq announced the launch of the [Nasdaq Sustainable Bond Network](#) which aims to increase transparency and accessibility to environmental, social and sustainability bonds globally. It enhances Nasdaq’s Sustainable Bonds Market, launched in 2015, with respect to the sustainable bonds’ investment process, allowing investors to source detailed information on sustainable bonds for product due diligence, selection and monitoring based from a centralized and open platform.

Preparing for the Market



Issuers: Why issue?

- **Strategic & Managerial**
 - Alignment with corporate / environmental strategy; signalling management quality
- **Financing**
 - Growing demand, investor diversification; improving pricing
- **Reputation**
 - Capital markets and wider corporate reputation and branding.
 - Potential synergies with Corporate Responsibility strategy.
- **Regulatory**
 - Contributing towards reporting developments:
 - Align with growing statutory and investor pressure

Green Bond Primary Pricing – an official view:

“[Green bonds] generally offer similar yields to comparable conventional bonds, but there is evidence that in some market segments issuers can borrow at lower rates than via conventional bonds” (ECB, November 2018)

Certain recent academic research confirms ECB perceptions

“Primary market results reveal a significantly negative premium of 20-30 bps for green bonds....This premium, however, varies across currencies and issuer types”.

“In particular, credibility plays an important role as bonds backed by a collateral or issued by more credible entities are issued at lower yields”.

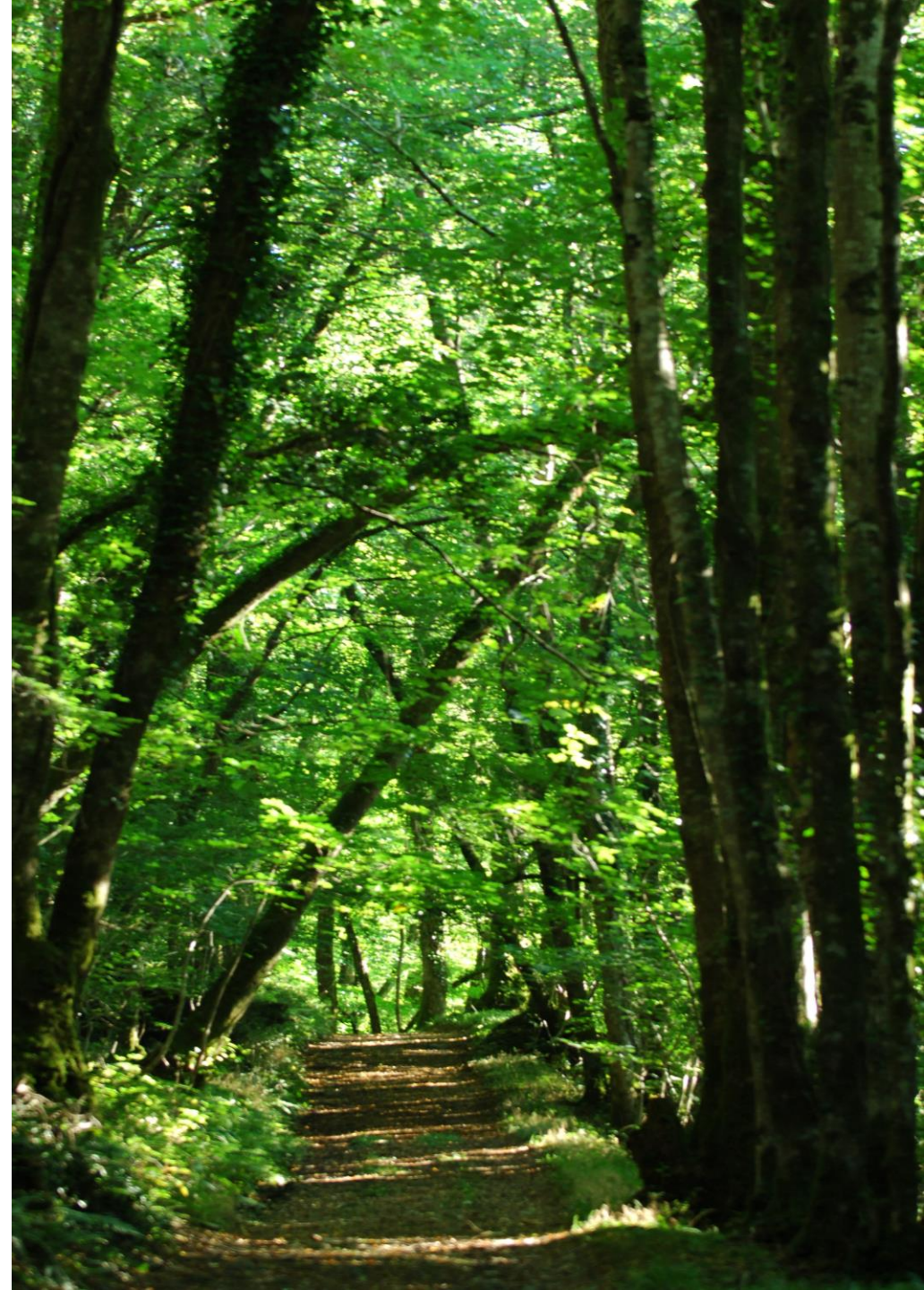
“Remarkably, bonds listed on exchanges with a dedicated green bond segment are traded at 20 bps lower yields, on average”.

Source: Draft paper March 2019, “(In)-Credibly Green: Which Bonds Trade at a Green Bond Premium?”, Julia Kapraun & Christopher Scheins, Goethe-Universität Frankfurt

Preparing for the market

Issuers: costs & value

- Some signals that syndicates welcome robust bid, especially in case of challenging primary market conditions
- Some evidence that green performs competitively versus conventional in secondary market
- Advantage of spreading issuance costs over large volume or issuance programme
- Factor in costs of preparation/setup, reporting, external review



Issuer's decision - who decides/why?

- **In-principle decision is strategic** (equity and debt market considerations) – normally of interest to C-Suite
- Creation of a Green / Social Bond **Committee** becoming commonplace – coordinate and achieve synergies - leverage other corporate sustainability reporting

Making the case:

- Who **sponsors**?
- Who is **project leader**? – Normally Treasury, but unusually high reliance on other Departments
- Plans to develop **Green Bond Framework**, with **advisors**
 - *Roadmap for green bond, with key features presented to the market*
- How do you **cost** the programme?
 - Consult peers (relevant benchmarks) and advisors (broader perspective)
 - GBP Member & Observer list can help to identify relevant firms

Road Map for issuing Green Bonds

Issuing a regular bond	Issuing a green bond	
1. Get rated 2. Get market intelligence on the currency, tenor and size you're aiming at. 3. Decide on underwriters based on the above 4. Register with local regulator (i.e., securities and exchange commission) 5. Issue prospectus 6. Comfort Letter/Due Diligence (if applicable) 7. Outreach thru roadshows and sales effort 8. Launch bond 9. Price and allocate bond to help successful secondary market performance 10. Communication to the capital market 11. Monitor secondary market	1. Define Green Bond framework or define how the project meets the eligibility criteria for green bonds 2. Put in place a project selection process and select eligible projects 3. Set up accounts and process to earmark and allocate proceeds – Ring-fencing the proceeds	4. Get a pre-issuance second opinion from a third party
	5. Allocate the proceeds to the projects 6. Monitor the projects 7. Publish the impact report 8. Post-issuance audit (as applicable)	

Source: World Bank Treasury, Financial Advisory and Banking

Planning and preparation – internal organization

- Decision: Green Bond standalone or programme
- Budgeting and choice of advisers & partners:
 - Underwriters incl. green structuring advisor, legal counsel, external reviewer(s), listing venue
- Internal alignment of staff and resources
 - Main contributors: treasury/funding (significant), sustainability (significant), strategy, communications, external audit & consulting, IT (significant for blue chips/banks)

GBP Resource Centre

- Counterparty and peer references
 - **Member list** includes leading issuers, underwriters and investors
 - Identify service providers among Observers
- Examples of how to present / define your programme
 - **Database of Issuer & External Review reports** using ICMA templates
- **Reporting templates**
 - Issuer form (GBP alignment) and external review form
- Links to international green bond guidance / frameworks
- FAQ

*ICMA can provide **additional info to Members of GBP / ICMA***

Documentation

- Consensus on mentioning **use of proceeds**
- Developing language on **risk factors**
- **Avoiding liability** attaching to disclosures

Legal documentation – SEC-registered – Apple (e-handout)

- Apple (SEC Registered) – “The notes may not be a suitable investment for all investors seeking exposure to green assets. In connection with this offering, a **second party opinion** from an outside consultant regarding our green bond framework has been made **publicly available**. The examples of projects in “Use of Proceeds” are for illustrative purposes only and **no assurance can be provided that disbursements for projects with these specific characteristics will be made** by us with the proceeds from the notes. There can be **no assurance that the projects funded with the proceeds from the notes will meet investor expectations regarding sustainability performance**. Adverse environmental or social impacts may occur during the design, construction and operation of the projects or the projects may become controversial or criticized by activist groups or other stakeholders.”

Source: JP Morgan, Emphasis added by ICMA

Considering the full docs :

- Ambitious disclosure, the norm is more limited / cautious on liability

Legal documentation – SEC-registered – Apple (e-handout)

- Apple (SEC Registered) – “The notes may not be a suitable investment for all investors seeking exposure to green assets. In connection with this offering, a **second party opinion** from an outside consultant regarding our green bond framework has been made **publicly available**. The examples of projects in “Use of Proceeds” are for illustrative purposes only and **no assurance can be provided that disbursements for projects with these specific characteristics will be made** by us with the proceeds from the notes. There can be no assurance that the projects funded with the proceeds from the notes will meet investor expectations regarding sustainability performance. Adverse environmental or social impacts may occur during the design, construction and operation of the projects or the projects may become controversial or criticized by activist groups or other stakeholders.”

Considering the full docs :

Ambitious disclosure, the norm is more limited / cautious on liability

Source: JP Morgan, Emphasis added by ICMA

Green Bond Framework

- Single document setting out Strategic Context and Alignment with Principles
- Focus of pre-issuance evaluation by external reviewer

Internal communication: Establish Green Bond Committee to coordinate & source data, prepare business case. Articular to CFO. ExCom/Board awareness and maybe decision.

External communication: to investors and analysts in roadshow well ahead of issuance (technically “non-deal”)

GB Framework Example: ICBC (2017)

Purpose

This green bond framework (the “Green Bond Framework”) has been developed to demonstrate how Industrial and Commercial Bank of China (“ICBC” or the “Bank”) will issue Green Bonds to fund new and existing projects with environmental benefits with reference to:

- The Green Bond Principles 2017 (GBP 2017), International Capital Market Association
- Guidelines for Establishing the Green Financial System (Yinfa 2016 Doc No. 228) (PBoC, Ministry of Finance, NDRC, Ministry of Environmental Protection, CBRC, CSRC and CIRC)
- Green Bond Categories, the People’s Bank of China (PBoC)”

Document Scope: Rationale, Alignment with 4 Pillars + External Review

Investor roadshows and relations

- Adherence to established ICMA Primary Market guidelines
- Identifying a **diversified investor base** (advice from lead manager)
- Deal-specific: **Explaining green structuring ahead of initial deal**
 - More leadtime than normal transaction
- Ongoing dialogue around reporting
- Marketing material specific to the issuer's green bond program

Issue Timing & Execution (I)

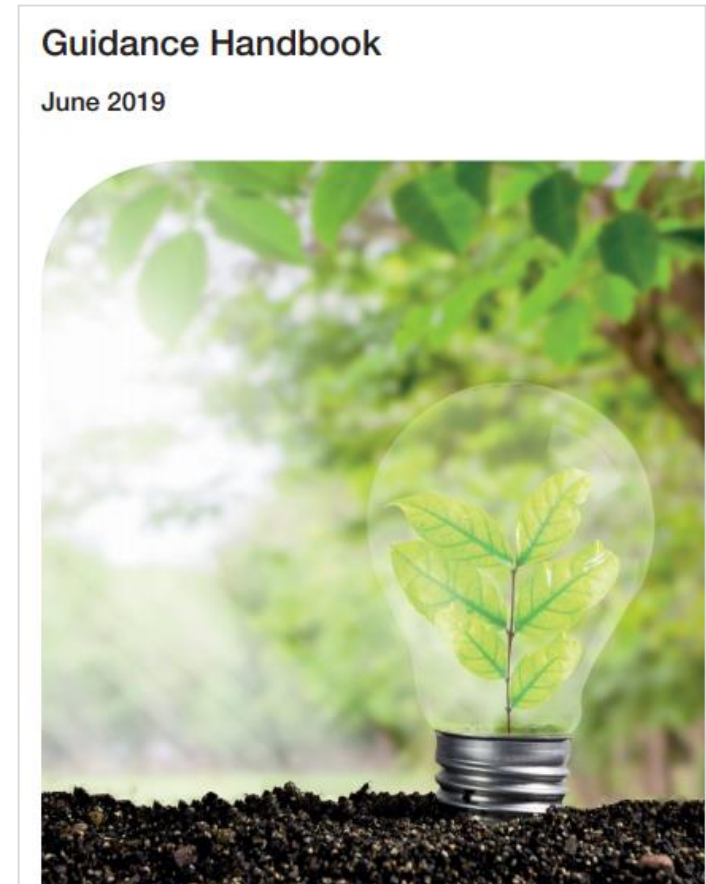
- Have **investor preferences** in mind – capacity to buy green vs social, green performance expectations, etc.
- Lead time for **structuring** and preparation
 - Internal organisation – **process, project ID**, IT integration, accounting treatment - **potential ring-fencing**
 - Lead manager appointments
 - **Green structuring** advisor
 - Overall advice on special features of a green bond transaction.
 - E.g. timetable, other advisors incl. external review, legal documentation, pricing, investor needs, reporting, etc
 - **Legal** docs
 - **External review**
 - **Reporting** framework (GBP templates)
 - **Publicity** strategy – potentially valuable
 - Investors may request profile.

Issue Timing & Execution (II)

- Market conditions
 - Structural demand – significant counterweight to general market volatility
- Timing and competing supply
 - Smaller / specialised investors report potential congestion
- Price discovery and benchmarks (pricing strategy)
 - Stay tuned to evolving picture.
- Book allocation approach (strategy and compliance)

Examples of topics covered in GBP Q&A Guidance Handbook (June 2019 version)

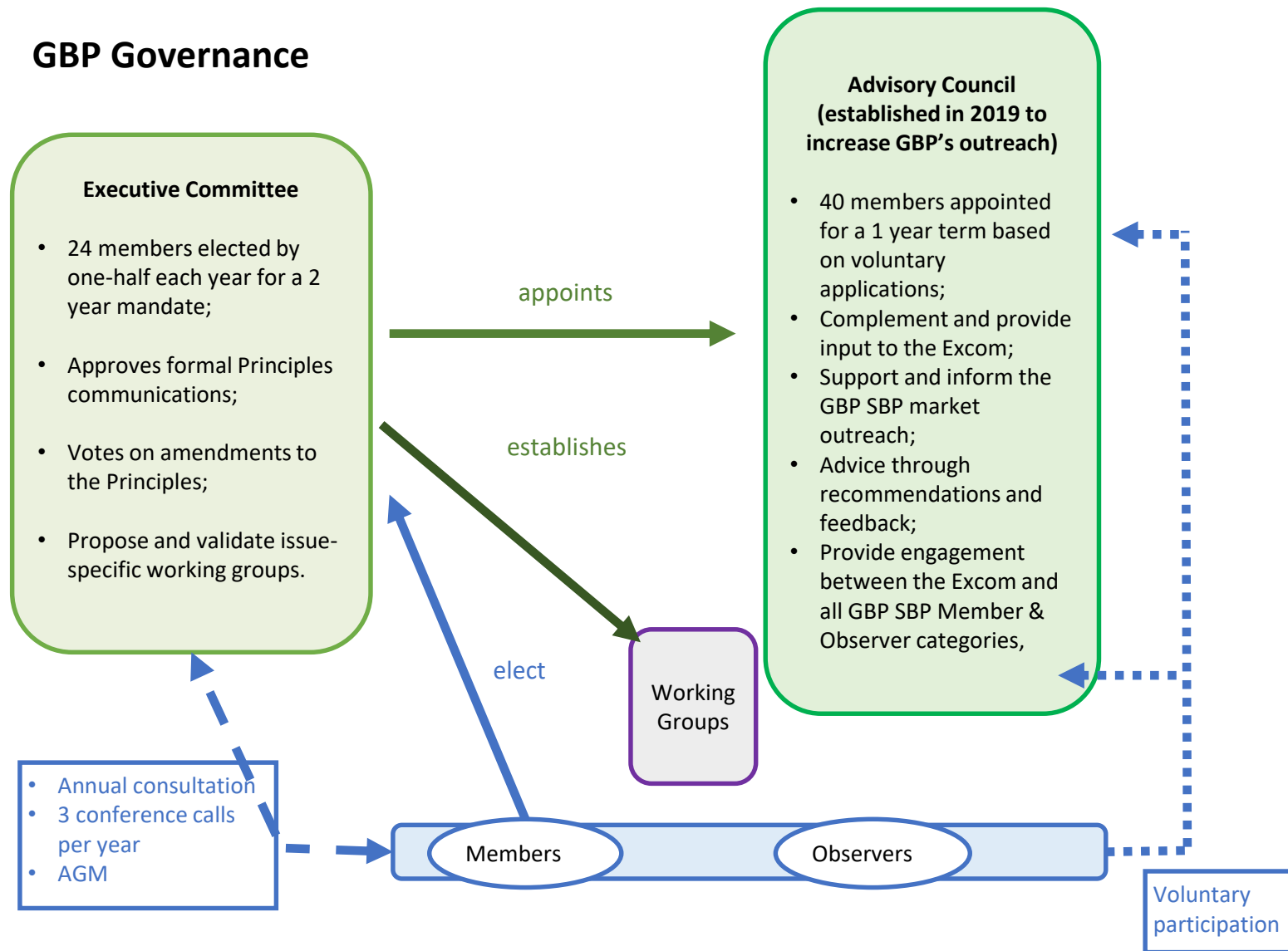
- Is there a definition of a Green Bonds?
- Can Green Bonds default?
- Is an external review required?
- Can « pure play » companies issue green bonds?
- Would a project be eligible if it were to improve energy efficiency on projects associated with fossil fuel production?
- Is there a difference between a social bond and a social impact bond?
- Are intangible assets or expenditures also eligible for green bonds?



Market Governance and Regulation

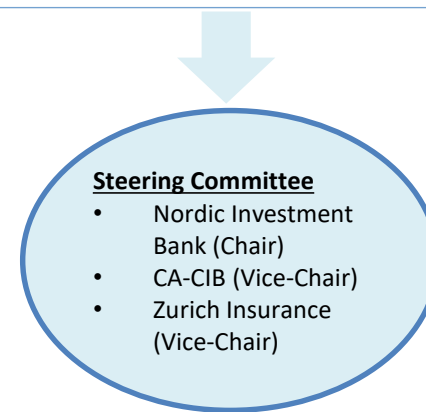


GBP Governance



Current GBP EXCOM

Investors
ACTIAM AMUNDI ASSET MANAGEMENT AXA INVESTMENT MANAGERS BLACKROCK, INC. KFW MIROVA PIMCO ZURICH INSURANCE GROUP
Issuers
AFRICAN DEVELOPMENT BANK EUROPEAN BANK OF RECONSTRUCTION AND DEVELOPMENT (EBRD) EUROPEAN INVESTMENT BANK (EIB) IBERDROLA INTERNATIONAL FINANCE CORPORATION (IFC) KOMMUNALBANKEN NORWAY (KBN) NORDIC INVESTMENT BANK (NIB) WORLD BANK
Underwriters
BANK OF AMERICA MERRILL LYNCH BNP PARIBAS CREDIT AGRICOLE CIB HSBC ING JPMORGAN CHASE & CO. NATIXIS SKANDINAVISKA ENSKILDA BANKEN AB (SEB)



GBP and its impact on regulation and public initiatives

- GBP: Self-regulating, global voluntary best practice developed by market participants; non-compliance: reputational risk and peer pressure
- Emerging regulation / guidance: GBP+
 - Published in ASEAN, Brazil, China (various), India, Japan, etc
 - EU draft GB Standard published, Consultation on Standard
 - EU Taxonomy partial draft – revised version due mid-June 2019, following Consultation on usage and criteria
- Incentives
 - Hong Kong, Japan, Singapore subsidising external reviews for local listings
 - Other initiatives emerging (notably in China)
- GBP most widely accepted
 - More than 10 national green bond guidelines have been published and largely based on the GBP
- Public authorities consult ICMA and GBP actively
 - e.g. proposed EU Green Bond Standard
- **Public guidance typically based on GBP and CBI**
- GBP work closely with **Climate Bond Initiative - incorporates GBP**

Market Governance and Regulation

Examples of guidance based on GBP

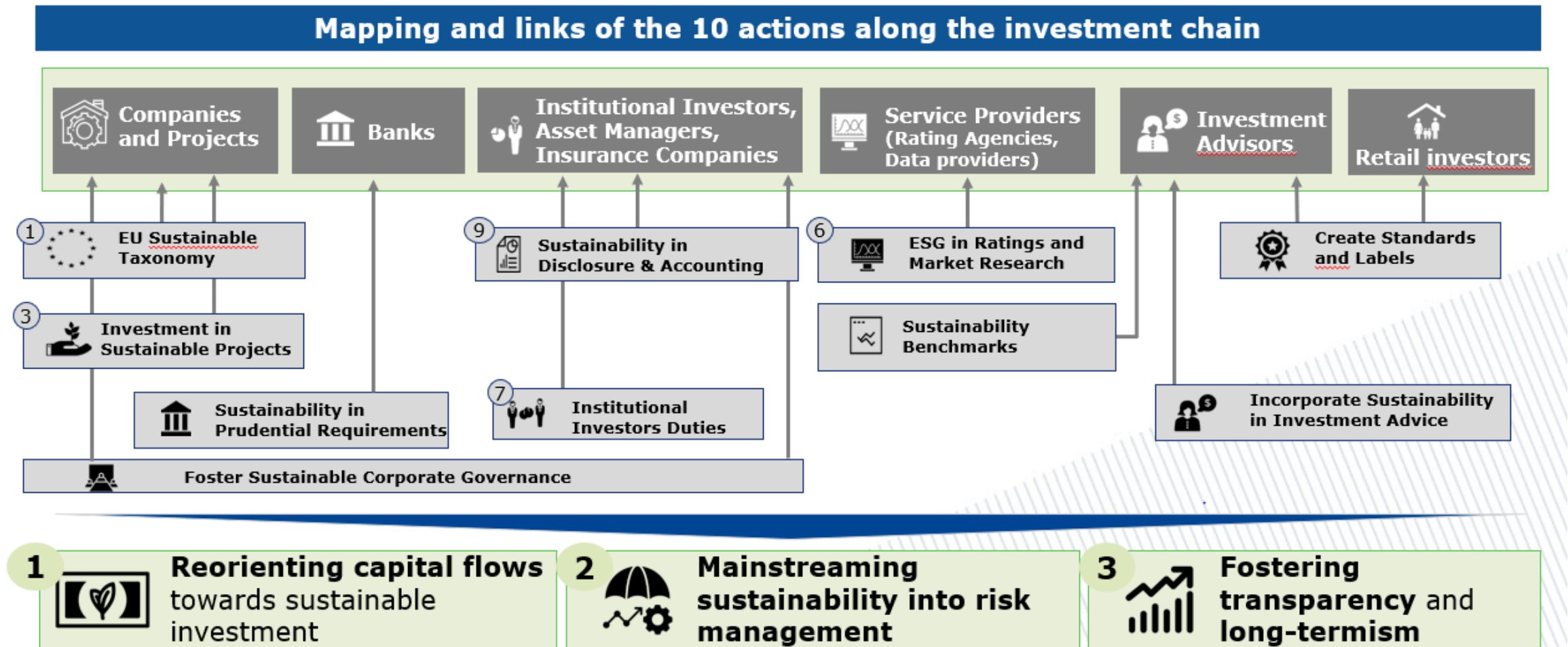
ASEAN	• ASEAN Green Bond Standards were launched by ACMF in November 2017 (revised in October 2018). ACMF launched in 2018 the ASEAN Social Bond Standards and ASEAN Sustainability Bond Standards based on SBP and SBG.
China	• China has released Government guidelines largely based on international market practices referring to the GBP and with an official green taxonomy
EU	• In June 2019, the TEG published its final report which recommends to the European Commission to create a Green Bond Standard with a link to the EU Taxonomy for sustainable economic activities. The proposed Standard references GBP as best market practice and follows it closely in format.
India	• The Securities Exchange Board of India has released listing disclosure requirements for Green Bonds based on the GBP and international market practice
Japan	• Japan released Green Bond guidelines in April 2017 following an extensive consultation process. Closely aligned with GBP. Adds details on project categories.

Market Governance and Regulation

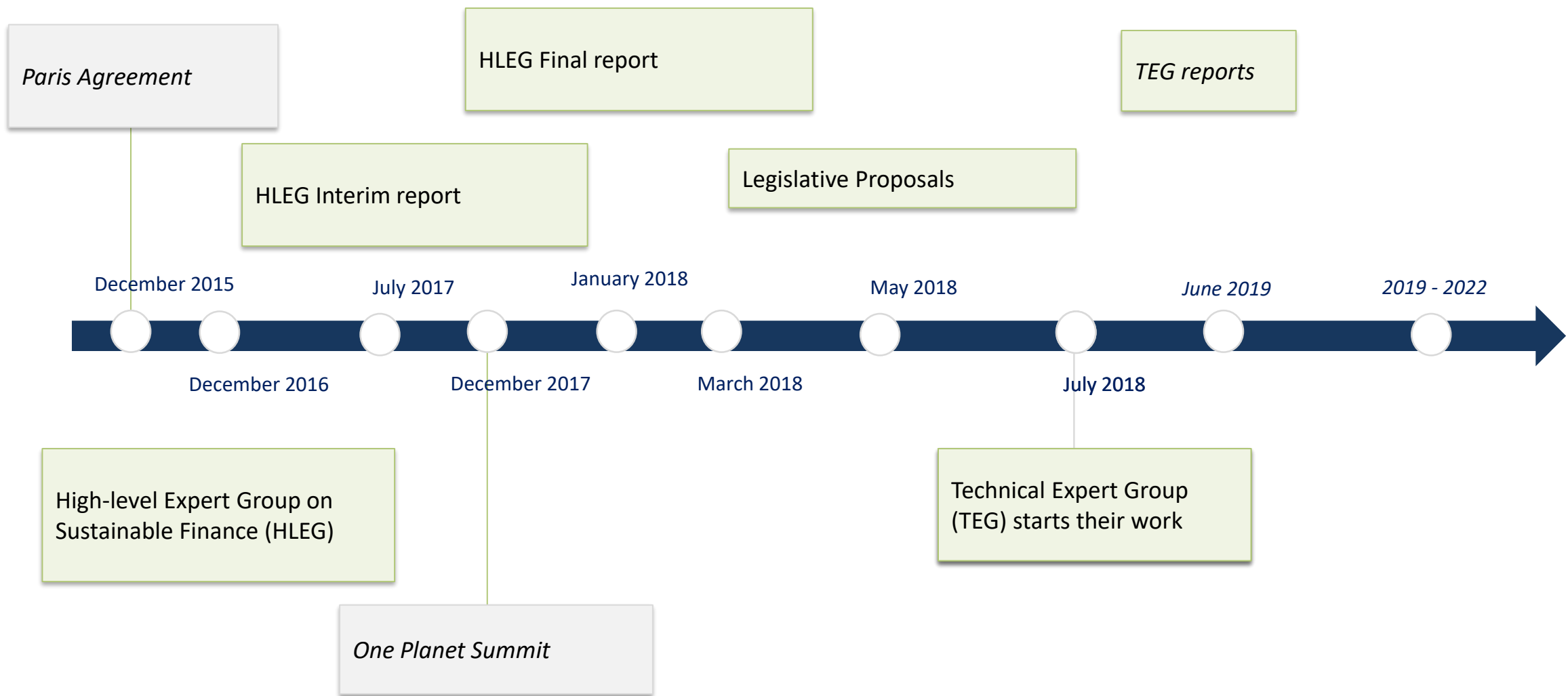
Comparison of official GB regulations and guidelines

	ASEAN	China	India	Japan	EU
Scope	Guidelines	Regulation	Regulation	Guidelines	Guidelines & Regulation
4 core components of GBP	✓	✓	✓	✓	✓
Taxonomy	High level categories	Detailed categories (quasi Taxonomy)	High level categories	Project categories with guidance	Taxonomy
Incentives	No	Yes, multiple incentives	No	No	Proposed
Verification	Recommended	Near obligatory	Recommended	Recommended	Obligatory with verifier scheme

EU's Sustainable Finance Action Plan



Market Governance and Regulation



TEG Final Report on the Taxonomy published in June 2019 / EP and EU Council reached a political agreement on the EU Taxonomy Regulation in December 2019

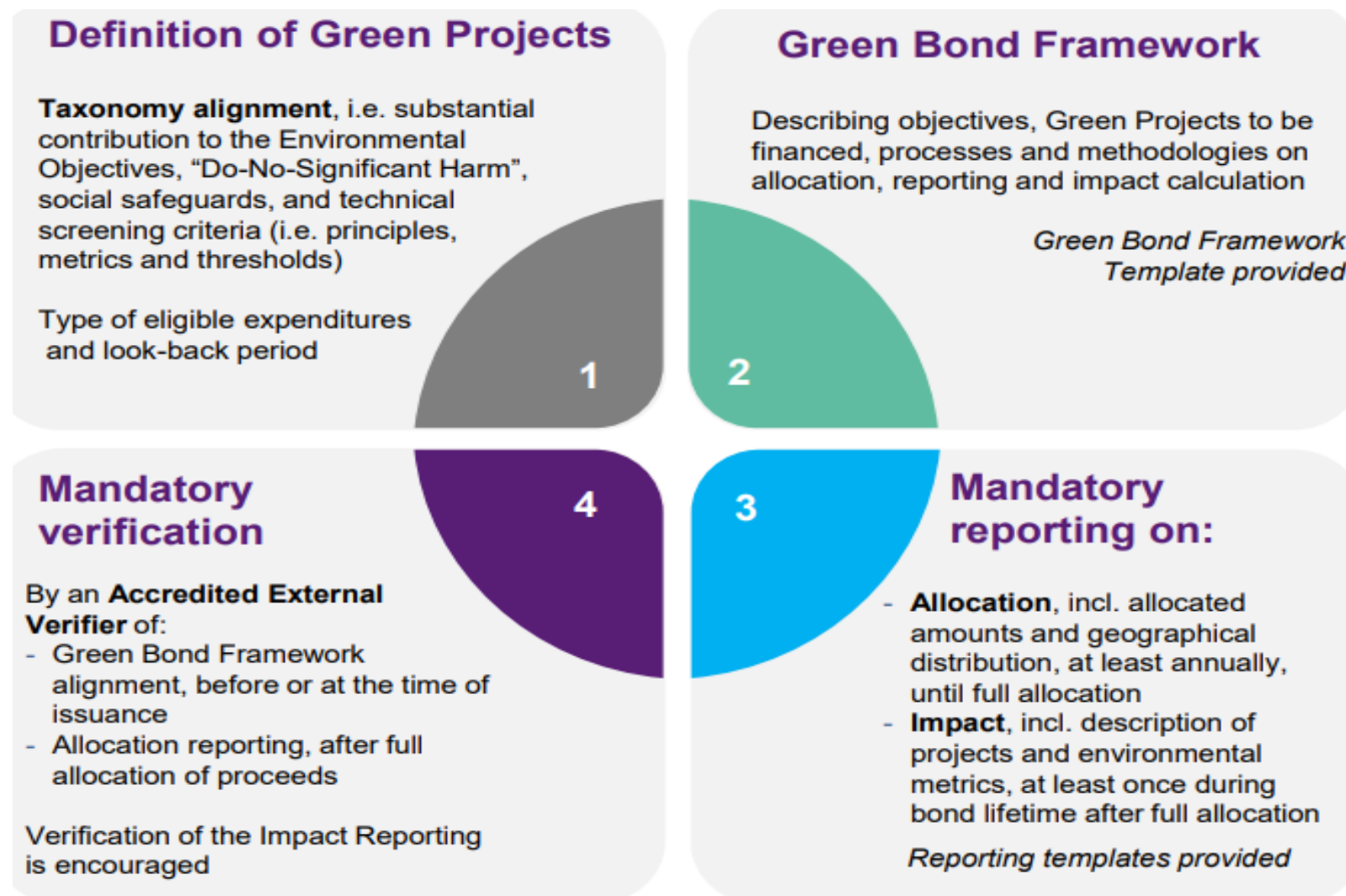
- **What is the Taxonomy:** A list of economic activities that are considered environmentally sustainable for investment purposes.
- **What is set out in the Taxonomy Regulation:** It is the framework to develop the Taxonomy.

Conditions	Environmentally Sustainable Activities	Application Scope	Implementation Timeline
• Substantial contribution to 6 env. objectives* • DNSH • Technical screening criteria by TEG • Minimum social standards and safeguards	• TEG Report in June 2019: 67 activities across various sectors • Recognition of transition and enabling activities • “Climate neutral energy”: No clear position on nuclear or gas • Review clause	• EU GBS • Large firms as defined by NFRD • Member States and the EU • Funds and Pension Products	• Delegated acts for climate change mitigation and adaption by 31.12.2020 and start applying from 31 December 2021. • Others by 31.12.2021 and start applying as of 31.12.2022

*The six environmental objectives as defined in the proposed Regulation are: (1) climate change mitigation; (2) climate change adaptation; (3) sustainable use and protection of water and marine resources; (4) transition to a circular economy, waste prevention and recycling; (5) pollution prevention and control; (6) protection of healthy ecosystems.

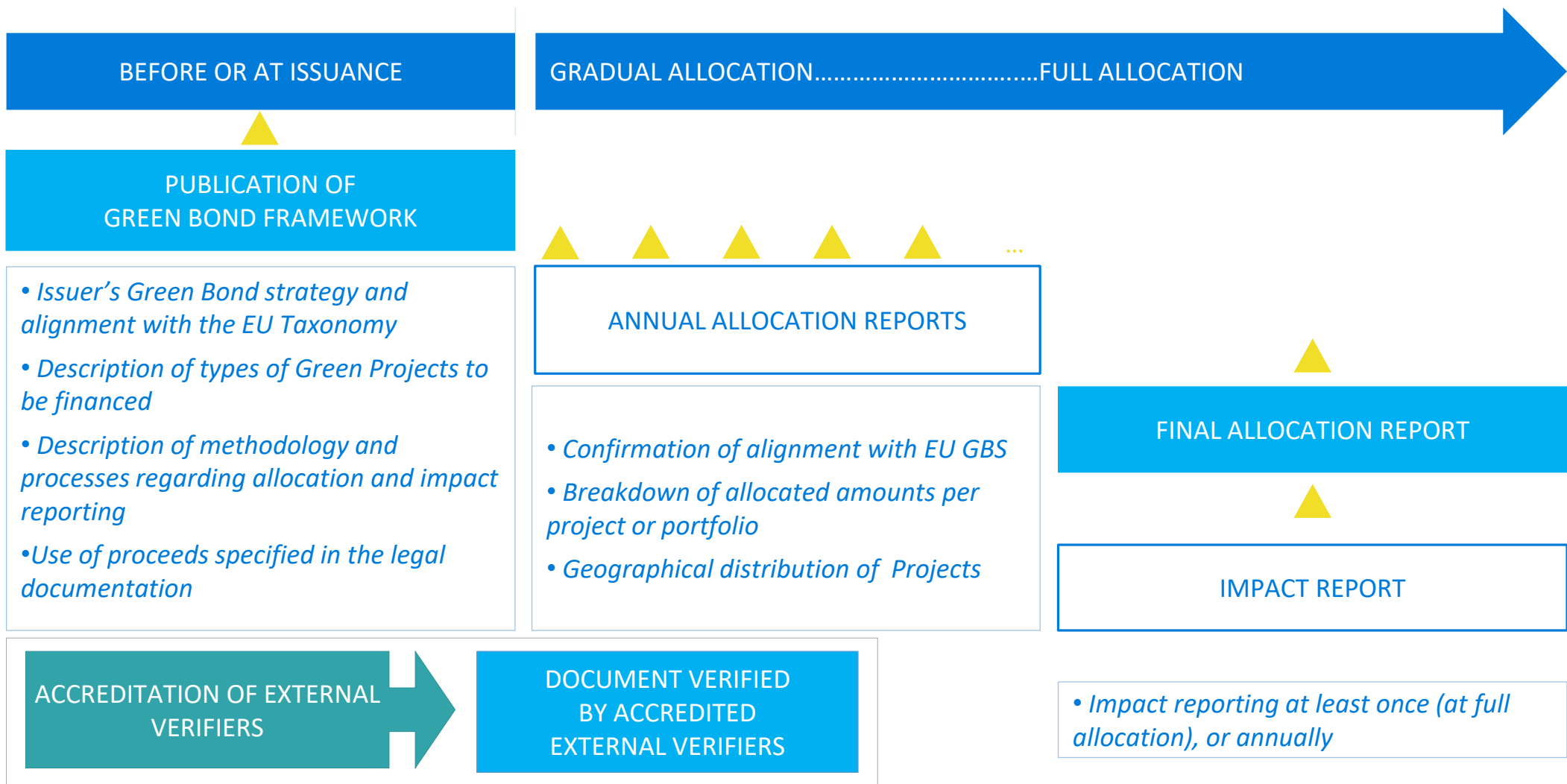
TEG Final Report on the EU GBS published in June 2019

- TEG recommended EC to develop a voluntary GB standard linked to the EU Taxonomy (vs. mandatory approach);
- ICMA is part of the TEG sub-group that has worked on the EU GBS;
- TEG mandate has been extended with the current focus being on the voluntary market-based registration scheme for the external reviewers and providing guidance on the alignment between the Taxonomy's activities-based approach and EU GBS's project-based approach



Source: Natixis

How does EU GBS work?



Other important EU legislative initiatives on sustainability

Disclosure Regulation

OJ publication in Dec.2019 and most requirements in effect as of March 2021

- Various obligations to ensure transparency on (i) integration of sustainability risks, (ii) consideration of adverse sustainability impacts, (iii) provision of sustainability-related information to financial products.
- Personal Scope: AIFM, UCITS management companies, firms providing portfolio management as well as financial advisers.

Climate Benchmarks

OJ publication in Dec.2019 and most requirements in effect as of 30 April 2020

- EU Climate Transition Benchmark: “decarbonization trajectory”.
- EU Paris-aligned Benchmark: Alignment with the objectives of the Paris Agreement.
- TEG Report on applicable minimum standards
- ESG obligations on administrators of the benchmarks)

Other Legislations

Legislative process pending

- ESMA’s technical advice of 30.04.2019: Integration of sustainability in processes, systems and governance in UCITS, AIFMD and MiFID II firms
- ESMA on CRR in July 2019: EC not to amend the CRA Regulation to explicitly mandate the consideration of sustainability characteristics. Instead, sufficiency of regulatory safeguards for pure sustainability assessments should be assessed.
- Guidelines to improve the quality and consistency of information accompanying credit rating actions also developed by ESMA.

Market Governance and Regulation: EU Climate Transition Benchmarks and EU Paris-Aligned Benchmarks

Table 1: Summary of minimum standards of EU CTBs and EU PABs

Minimum standards	EU CTB	EU PAB
<i>Risk oriented minimum standards:</i>		
Minimum Scope 1+2(+3)¹¹ carbon intensity reduction compared to investable universe	30%	50%
Scope 3 phase-in	Up to 4 years	Up to 4 years
Baseline Exclusions	Yes Controversial Weapons Societal norms violators ¹²	Yes Controversial Weapons Societal norms violators
Activity Exclusions	No	Coal (1%+ revenues) Oil (10%+ revenues) Natural Gas (50%+ revenues) Electricity producers with carbon intensity of lifecycle GHG emissions higher than 100gCO _{2e} /kWh (50%+ revenues)
<i>Opportunity oriented minimum standards:</i>		
Year-on-year self-decarbonisation of the benchmark	At least 7% on average per annum: in line with or beyond the decarbonisation trajectory from the IPCC's 1.5°C scenario (with no or limited overshoot)	
Minimum green share / brown share ratio compared to investable universe (VOLUNTARY)	At least equivalent	Significantly larger (factor 4)
Exposure constraints	Minimum exposure to sectors highly exposed to climate change issues is at least equal to equity market benchmark value	

Source: TEG Climate Benchmarks Report

Case Study 2 – Investor Perspective

*Christopher J Wigley, formerly of
Mirova*



Investor Perspective - Analysis

- Minimums
 - Liquidity
 - Credit Rating
 - GBP alignment
 - Roadshow ESG Pack
 - Value
- Specific
 - Issue Credit Rating
 - Issue Credit Analysis (Qualitative)
 - Issue ESG Rating
 - Issue ESG Analysis (Qualitative)
 - Issuer ESG Rating
 - Issuer ESG Analysis (Qualitative)

Investor Perspective – Green Bond Principles

- 2018 survey
 - Use of Proceeds is a priority
 - 68% will not buy pure play bonds
 - 80% use GBP / SBP issue templates
 - 70% require impact reporting
- Transparency and Impact
- 4 Pillars
 - Disclosure of use of proceeds, 100% green projects
 - Recommended use of External Reviewer
 - Recommended use of Auditor / details of management of proceeds
 - Regular reporting, increasingly impact reporting

Investor Perspective – Green Bond Market Profile

- Indices
 - Bloomberg Barclays, BoAML, S&P, Solactive, ChinaBond
- Profile
 - Currencies
 - Sub-classes
 - Credit Ratings
 - Sectors
- Constituents
 - Top 10
- Currency hedging

Investor Perspective – Financial Returns

- Time Horizons
 - Long term – 10 years +
 - e.g. pension funds, insurance companies
 - Medium term – 3 to 10 years
 - e.g. asset managers
 - Short term – 0 to 3 years
 - e.g. savings funds, hedge funds, traders
- ‘If the credit risk is the same, then the spread should be the same’

Investor Perspective – Bloomberg Barclays MSCI Global Green Bond Index (green) vs Bloomberg Barclays Global Aggregate Bond Index (white) Feb 2014 – Feb 2020



Investor Perspective – Return and Volatility

Making the case - Potential for superior risk-adjusted returns

- Nomura AM identified superior risk adjustment returns in EUR and USD markets, with volatility lower vs. conventional bonds – article in recent CBI study (“Green bond pricing in the primary market: July - December 2018”)
- Earlier study by BNP also showed superior risk adjusted returns, but in that earlier sample volatility was marginally higher.

Risk Return (3 years ending October 2017)	BARCLAYS GLOBAL AGGREGATE (HEDGED IN EUR) RI (100 %)	BLOOMBERG BARCLAYS MSCI GLOBAL GREEN BOND INDEX (EUR HGD)
Annualised Return p.a.	1.88%	2.11%
Annualised Volatility p.a.	2.73%	2.80%
Sharpe Ratio	0.69	0.75

Source: BNPP Securities Services



BNP PARIBAS

Investor Perspective - Valuation

- Secondary Market
- Primary Market
- New Issue Premium

Investor Perspective - Funds

- Global Funds
 - Dedicated Green Bond Funds
 - Mainstream funds including Green Bonds
- Active versus Passive
 - Passive
 - Negatives – only market return, potential issue problems
 - Active
 - Negatives – risk of underperformance, high fees
 - Engagement
- Morningstar Fund Rankings
 - Duration, Allocation, Term Structure and Security Selection

Case Study 3 - Issuer Perspective

*Isabelle Laurent, Deputy
Treasurer & Head of Funding,
EBRD*



Other instruments in sustainable bond markets

- Social and Sustainability Bonds
- Emerging products (Transition Bonds and SLBs)



Overview

- GBP acknowledges **“use of proceeds” bond concept for themes beyond the environment** – bonds financing projects with social objectives such as **Social Bonds**, or with a combination of social and environmental objectives, as in the case of **Sustainability Bonds**.
- **“Social Projects ...address or mitigate a specific social issue and / or ...achieve positive social outcomes ...especially...for target population(s).”**

Key difference vs. Green bonds

- Use of proceeds
- How the impact is measured
- Sustainability format popular to widen eligible assets / scale up issuance, &/or link to SDGs

Other Instruments in Sustainable Bond Markets – Social and Sustainability Bonds

Social and sustainability bond governance

- **Social Bond Principles (SBP) and Sustainability Bond Guidelines (SBG) issued 2017 and updated in 2018.**
- **ASEAN Social and Sustainability Bond Standards launched October 2018** – closely following SBP / SBG, and making explicit exclusions, plus guidance on reporting
- GBP / SBP ExCom leadership - **SB Working Group**
- **SDGs:** Mapping to GBP Use of Proceeds – building on deal cases
- **Social: Refined definitions** – for target populations in 2018
- **Social Impact Reporting:**
 - **Inaugural Guidance 2018**
 - Broadly reflects principles in green
 - **Recommends clarity on project eligibility** (is it partial?), **impact indicators, indicator methodology, life of impact /** avoid oversimplification
 - **Ongoing work to develop metrics** – beyond nr of beneficiaries

Other Instruments in Sustainable Bond Markets – Social and Sustainability Bonds

Pillar 1 – Use of proceeds

Social Project categories include:

- Affordable basic infrastructure
- Access to essential services
- Affordable housing
- Employment generation including through the potential effect of SME financing and microfinance
- Food security
- Socioeconomic advancement and empowerment

Pillar 1: Examples of target populations / beneficiaries - With relevance for Impact report / can be counted. Include:

- Living below the poverty line
- Excluded and/or marginalised populations and /or communities
- Vulnerable groups including as a result of natural disasters
- People with disabilities
- Migrants and /or displaced persons
- Undereducated
- Underserved – lack of quality access to essential goods and services
- Unemployed

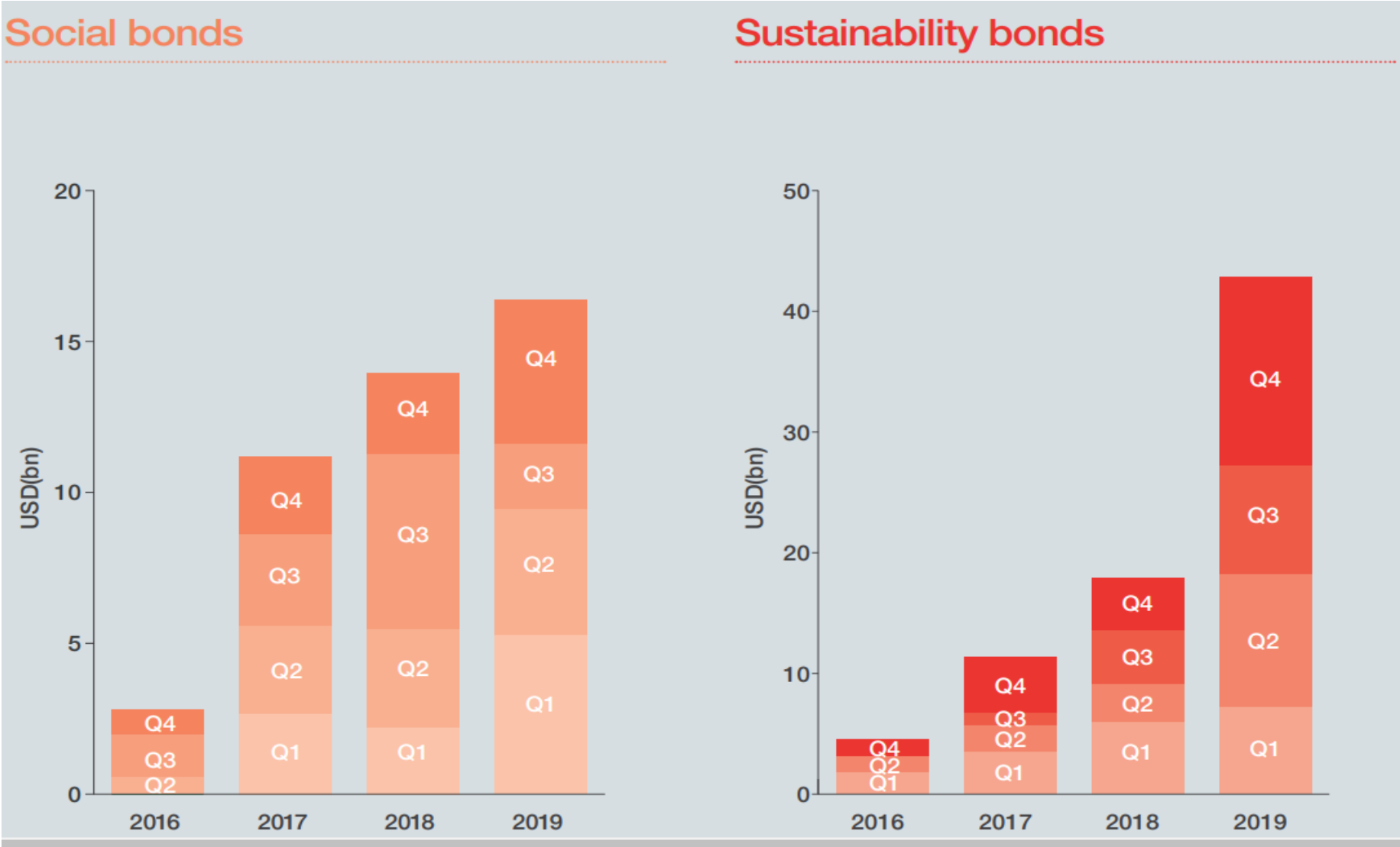
Examples of criteria: see Resource Centre

Sustainability Bonds:

*Sustainability Bonds are bonds where the proceeds will be exclusively applied to finance or re-finance a combination of both Green and Social Projects. The Sustainability Bond Guidelines as of **June 2018** have been published to confirm the relevance of the Principles in this context and facilitate the application of their guidance on transparency and disclosure to the Sustainability Bond market. The common four core components of the Principles and their recommendations on the use of external reviews and impact reporting therefore also apply to Sustainability Bonds.*



Other Instruments in Sustainable Bond Markets – Social and Sustainability Bonds



Source: EF

Other Instruments in Sustainable Bond Markets – Social and Sustainability Bonds

SDG mapping analysis – Example: Energy efficiency (GBP) → SDG targets

Using the spreadsheet published on ICMA GBP website for SDGs, this looks at high level targets.

SDG Goal 7. Affordable and clean energy

7.3 By 2030, double the global rate of improvement in energy efficiency (entry into force: 2016)

7.a By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology

7.B By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support

8. Decent work and economic growth

8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead

9. Industry, innovation and infrastructure

9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities

Note: Sub-targets can be more specific, e.g. emissions reduction.

Other Instruments in Sustainable Bond Markets – Emerging Products

Transition Bonds

- Inherent limitations of the green bond markets: addressing mainly to RE companies and utilities
- Carbon-intensive sectors/corporates are very important to climate transition but they are **absent from the green bond market** :
 - Lack of sufficient green assets or sufficiently green assets
 - reputational/media pressure when they issue green bonds (e.g. Repsol ,Marfrig)
- Increasing focus on **climate transition** and **Paris-alignment** of companies particularly from the **heavy industry**
- **AXA IM’s call for a “Transition Bond”** product in June 2019:
 - Designed as UoPs bond based on GBP SBP
 - UoPs are for from brown to less brown, but not from brown to green
 - UoPs e.g.: projects of Gas-powered ships, EE improvements in cement, metals, steel sectors, gas powered combine heat and power, etc.
- GBP SBP established a **WG on Climate Transition Finance** in October 2019.
- **CA-CIB – AXA IM “Transition Bond” transaction** (EUR100 m 10y) in November 2019
 - Private placement; listed on the Lux Stock Exchange
 - UoPs: LNG-powered ships, jinvestment in EE in industries, gas power assets in countries reliant on coal
- **EU Taxonomy** also recognizing “transition activities” but “best of the class” approach and **very ambitious thresholds**

Sustainability /KPI-linked Bonds

- **General purpose** products where sustainability is promoted by **financial outcomes**
- **Earlier development** in and guidance from the loan markets
 - “**Sustainability-linked loans**” launched by LMA, APLMA, LSTA in March 2019
 - Rapid growth beginning since 2017; reached the yearly issuance of **over USD120 bn in 2019**
- Represents **important growth potential** for sustainable bond markets
- First ever: **SDG-linked General-Purpose** issued bond by **Enel** in September 2019
 - Single tranche, USD 1.5bn placed on the US market paying a rate of 2.650% maturing in September 2024/
 - Interest rate will remain unchanged subject to the achievement of at least 55% 55% of total consolidated installed RE generation capacity by the end of 2021 departing from 45.9% at the time of the issuance.
 - Otherwise, a step-up mechanism will apply, increasing the rate by 25 basis points starting from the first interest period.
- **GBP SBP ExCom** created a **WG on Sustainability/KPI-linked Bonds in January 2020** with the mandates of 1) work on taking stock of the development of the Sustainability-Linked Bond (SLB) market in the recent past and in the coming months; 2) establish the main characteristics of SLBs, including by using what has been developed in the Sustainability-Linked Loan market; 3) examine the concerns expressed with Sustainability-Linked Loans and SLBs; and, 4) examine and potentially propose to the GBP/SBP Excom the creation of SLB Principles to be discussed by the GBP/SBP Excom.

Opportunities and Challenges

*Jonathan Gardiner, Bloomberg
Sustainable Finance*



Green Bonds & Loans

Market Overview

BlackRock Puts Climate at Center of \$7 Trillion Strategy (3)

- CEO Fink wrote in an annual letter to corporate executives
- Fink outlined a number of initiatives BlackRock will undertake

By Annie Massa

(Bloomberg) -- Larry Fink struck an urgent note in his annual letter to America's corporate executives: Climate change will upend global finance sooner than they might think.

The BlackRock Inc. chief executive officer issued his strongest warning yet to business leaders on the climate crisis, and said his firm will take steps to address the issue across the thousands of companies in which it invests.



Larry Fink

That may be harder than it sounds for a firm that holds more than two-thirds of its roughly \$7 trillion of assets in products linked to fossil fuels.

included in his letter.

(Bloomberg) -- Companies sold ~\$205b of green or sustainability-linked loans worldwide last year -- double the 2018 tally -- fueled by surging demand for socially responsible investments.

GREEN BOND WEEKLY: Sustainability-Linked Notes in ICMA Spotlight

By Tom Freke

(Bloomberg) -- The International Capital Market Association is setting up a new working group to weigh recent developments in sustainability-linked bonds.

- The new group will establish the bonds' main characteristics and potentially propose market guidance

Shell Goes Big With Sustainability-Linked Credit Facility: BNEF

- \$10B revolver is biggest-ever sustainability-linked loan
- Interest depends on progress reducing carbon footprint

product potentially needs further guidance will complement the current well-of proceeds bonds in the best way," Lars Eibeholm, chair of ICMA's Green Bond Principles Executive Committee, and head of Treasury at Nordic Investment Bank, said in a statement

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According to Bloomberg data, global green and sustainability linked loan volumes exceeded US\$99bn in 2018, with sustainability linked loans accounting for US\$43.2bn of that (see Figure 1). Global sustainability linked loan activity in particular is clearly on the rise, and the rate of growth is increasing year on year. Projected sustainability linked loan volumes for 2019 exceed US\$81bn based on extrapolating from deals announced between 1 January 2019 and 12 June 2019 (see Figure 2).

Italo Signs EU1.1b Loan Linked to Sustainability Targets

By Jacqueline Poh

(Bloomberg) -- Margin is tied to sustainability criteria, according to statement from Natixis, the global and green coordinator on the deal.

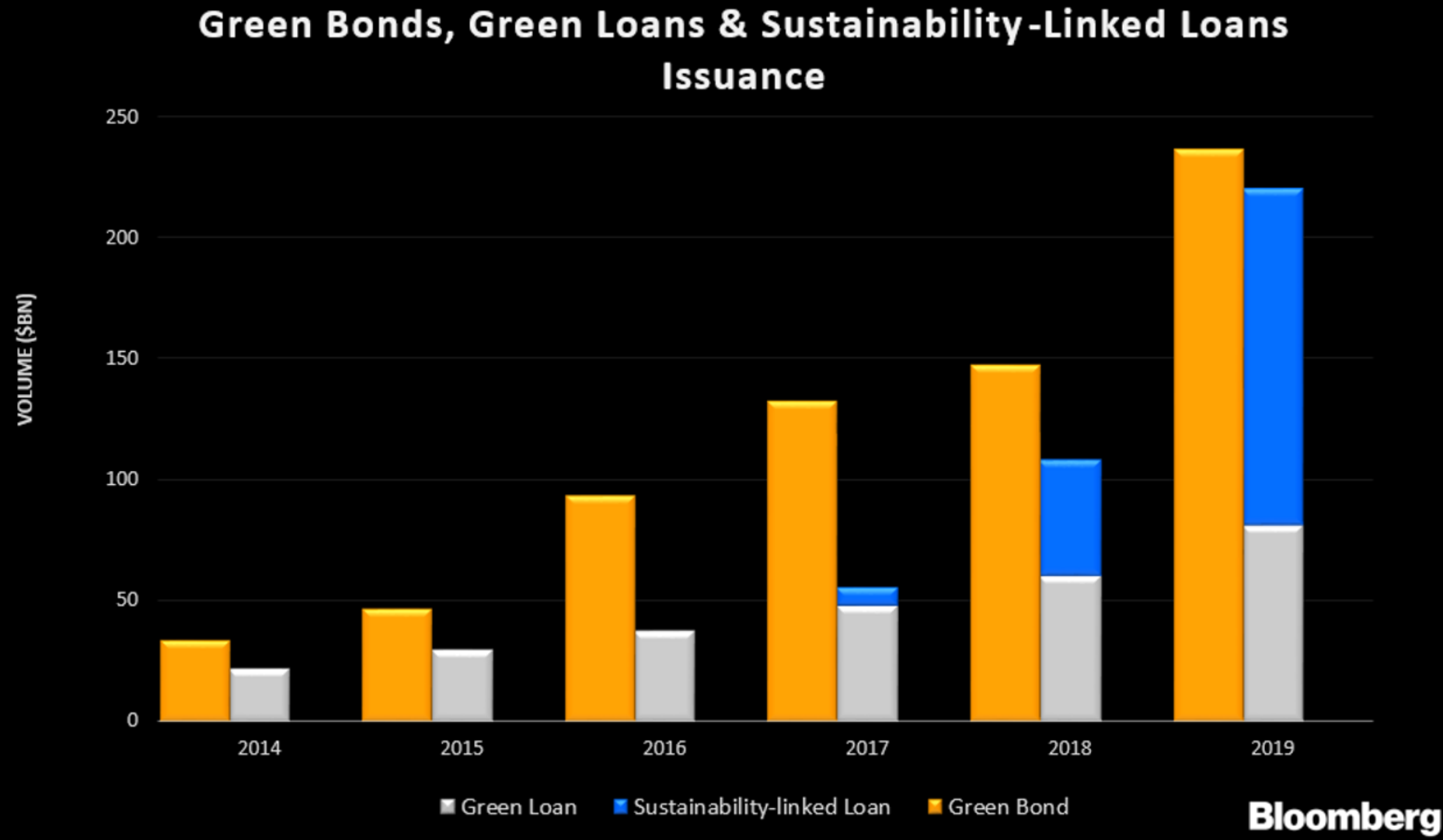
Green Debt Fever Spreads as Investors and New Borrowers Pile In

- New sustainable debt types have fueled 46% jump in 2019 sales
- More companies may offer ESG debt as EU works on standards

By Jacqueline Poh, Caleb Mutua and Lyubov Pronina

Green Bonds & Loans

Market Overview



Sustainable Fixed Income Data

FINANCING A SUSTAINABLE
EUROPEAN ECONOMY

A nighttime satellite map of Europe and surrounding regions, with yellow stars arranged in a circle over the landmasses, mimicking the European Union flag.

Report on **EU GREEN BOND STANDARD**

FINANCING A SUSTAINABLE
EUROPEAN ECONOMY

A nighttime satellite map of Europe and surrounding regions, with yellow stars arranged in a circle over the landmasses, mimicking the European Union flag.

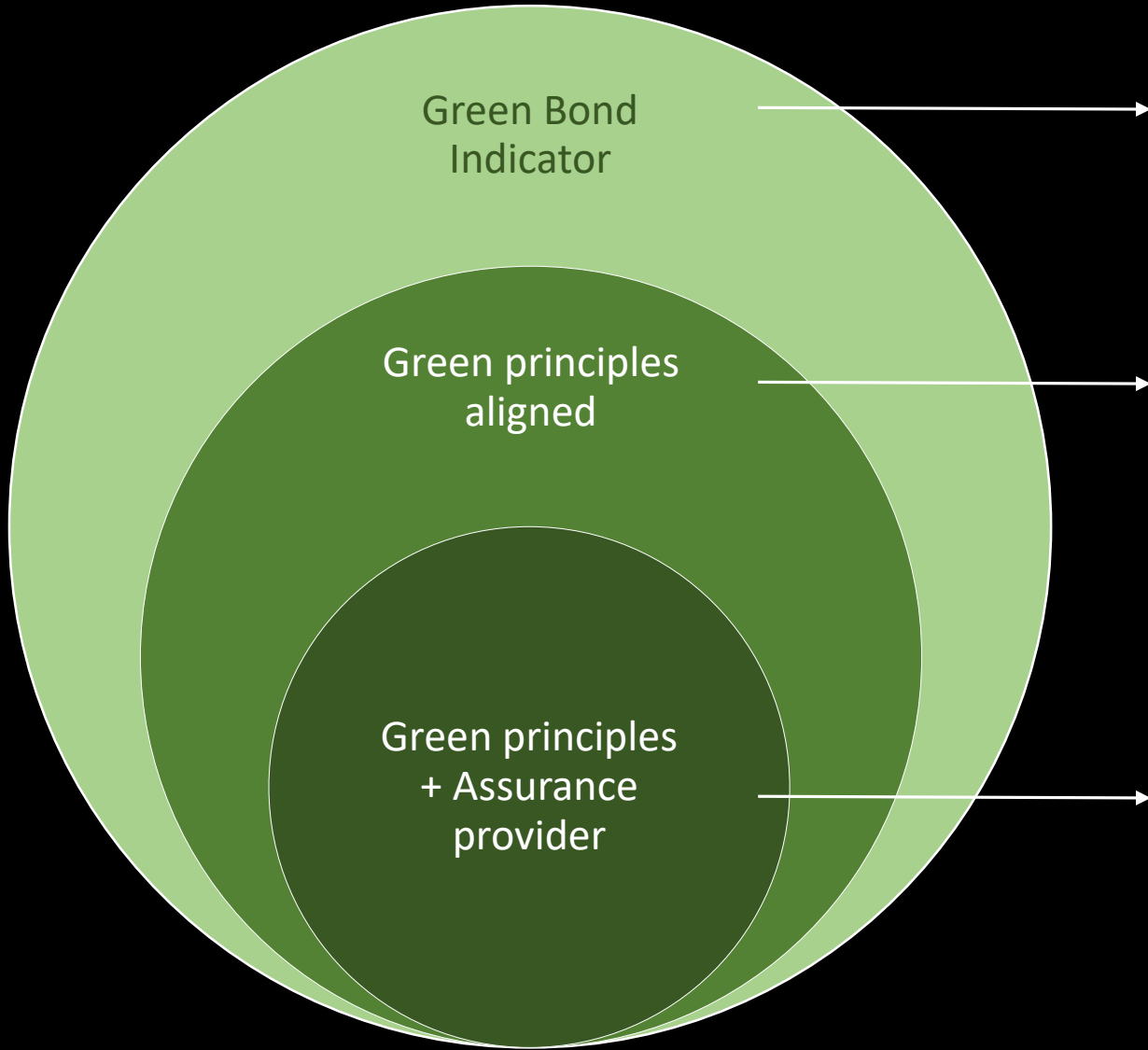
TAXONOMY Technical Report

Green Bonds Universe

Sell-side



Buy-side



Green Use of Proceeds Universe

Green Principles-aligned Universe



Green Principles-aligned + Assurance provider Universe



Green Bonds & Loans

LEAG

Bloomberg recognises the different universe of securities users may be interested in, and displays this in its LEAG products. Both Bond and Loan tables thus have Green UoP Tables and Green Principles Tables.

The League table offering relating to Green/ESG securities now includes: Corp/Gov Issued Green bonds, ICMA Principle-aligned Green bonds, Green Municipal bonds, Green loans, LMA Principle-aligned Green loans, Sustainability-linked loans

Actions ▾		Alerts ▾		Summary		Export ▾		Settings		League Tables: Ranking		
Table	B	Global Green Bonds - Corporat				Exclude Self-led		Party	Lloyds Bank			
Period	Year ▾	of		2019 ▾				Role	Manager			
League Table		History		Analysis		Deals						
Manager				Rank	Vol (MM USD)↓	Issues	Fees	Table Share (%)		Mkt Share Diff		
101)	Credit Agricole CIB			1	0	11,852.03	81	0.183		5.95	-0.33	
102)	HSBC			2	0	10,747.34	87	0.204		5.40	-0.25	
103)	BNP Paribas			3	0	10,017.09	70	0.223		5.03	-0.32	
104)	BofA Securities			4	0	9,929.63	55	0.327		4.99	-0.22	
105)	Citi			5	↑2	9,465.82	72	0.283		4.76	1.35	
106)	JP Morgan			6	0	8,144.98	70	0.365		4.09	0.59	
107)	SEB			7	↓2	7,038.82	76	0.146		3.54	-0.17	
108)	Barclays			8	↑2	5,715.01	52	0.374		2.87	0.10	
109)	Danske Bank			9	↑11	5,665.46	64	0.090		2.85	1.29	
110)	Societe Generale			10	↓2	5,618.93	41	0.149		2.82	-0.27	
111)	ING Groep			11	↓2	4,932.45	44	0.333		2.48	-0.33	
112)	Goldman Sachs			12	↑35	4,051.67	30	0.433		2.04	1.44	
113)	UniCredit			13	↑4	4,029.44	24	0.173		2.02	0.39	
114)	Deutsche Bank			14	↑2	3,979.07	43	0.330		2.00	0.36	
115)	Nordea			15	↑15	3,944.87	66	0.125		1.98	0.95	
116)	Morgan Stanley			16	↑7	3,600.83	60	0.478		1.81	0.40	
117)	TD Securities			17	↑1	3,500.84	24	0.304		1.76	0.13	
118)	Natixis			18	↓7	3,437.60	25	0.225		1.73	-0.45	
119)	Banco Bilbao Vizcaya Arge...			19	↑17	3,012.88	22	0.650		1.51	0.66	
120)	Sumitomo Mitsui Financial			20	↑22	2,917.19	53	0.484		1.47	0.74	
21) Credited - 194 Managers						199,043.36	729	0.344				
22) Total						204,628.83	763	0.344	Total issuance increased by 50.4%			

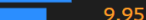
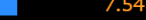
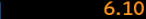
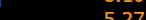
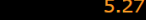
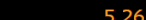
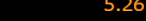
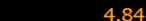
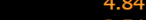
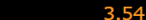
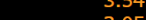
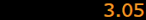
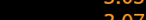
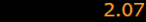
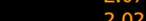
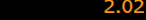
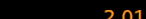
Actions ▾		Alerts ▾		Summary		Export ▾		Settings		League Tables: Ranking		
Table B		Global Green Bond Principles			Exclude Self-led		Party		Lloyds Bank			
Period		Year ▾		of 2019 ▾				Role		Manager ▾		
League Table		History		Analysis		Deals						
Manager				Rank	Vol (MM USD)↓	Issues	Fees	Table Share (%)		Mkt Share Diff		
101)	Credit Agricole CIB			1	↑1	10,826.42	71	0.206		6.31	0.50	
102)	BofA Securities			2	↑2	9,316.02	49	0.335		5.43	0.37	
103)	HSBC			3	↓2	9,279.33	74	0.207		5.41	-0.42	
104)	Citi			4	↑2	8,908.77	64	0.260		5.19	1.73	
105)	BNP Paribas			5	↓2	8,663.38	58	0.176		5.05	-0.47	
106)	JP Morgan			6	↑2	7,083.86	59	0.374		4.13	1.09	
107)	SEB			7	↓2	6,855.66	73	0.146		4.00	0.06	
108)	Danske Bank			8	↑15	5,520.79	62	0.090		3.22	1.76	
109)	Barclays			9	↑1	4,681.88	42	0.322		2.73	-0.15	
110)	Societe Generale			10	↓3	4,413.36	32	0.248		2.57	-0.73	
111)	ING Groep			11	↓2	4,317.83	39	0.366		2.52	-0.48	
112)	UniCredit			12	↑5	3,870.06	22	0.173		2.26	0.56	
113)	Goldman Sachs			13	↑39	3,660.38	26	0.428		2.13	1.72	
114)	Deutsche Bank			14	↑2	3,470.64	37	0.330		2.02	0.28	
115)	Nordea			15	↑16	3,403.68	63	0.125		1.98	0.99	
116)	TD Securities			16	↑8	3,088.69	21	0.339		1.80	0.34	
117)	Morgan Stanley			17	↑8	3,052.25	47	0.497		1.78	0.39	
118)	Swedbank			18	↑8	2,678.24	50	0.105		1.56	0.21	
119)	Natixis			19	↓8	2,611.79	19	0.225		1.52	-0.78	
120)	Banco Bilbao Vizcaya Arge...			20	↑15	2,586.76	19	0.650		1.51	0.60	
21) Credited - 174 Managers						171,571.11	606	0.333				
22) Total						176,343.63	629	0.333	Total issuance increased by 38.5%			

Green Bonds & Loans

LEAG

Bloomberg recognises the different universe of securities users may be interested in, and displays this in its LEAG products. Both Bond and Loan tables thus have Green UoP Tables and Green Principles Tables.

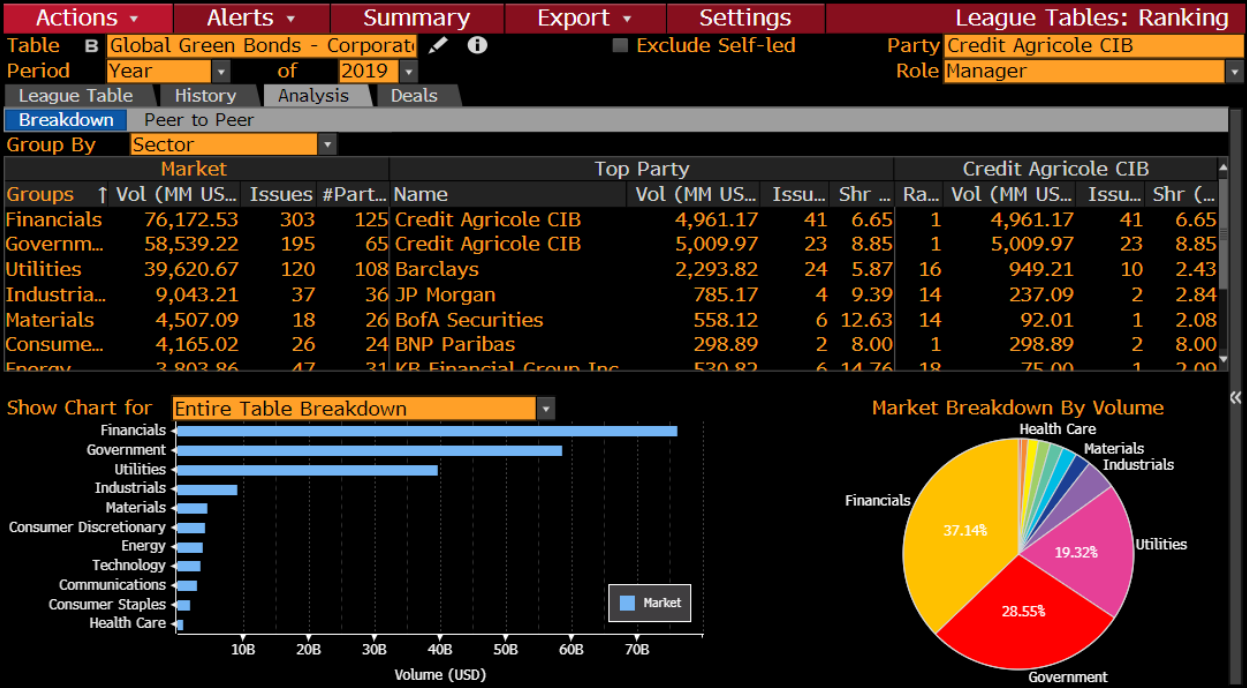
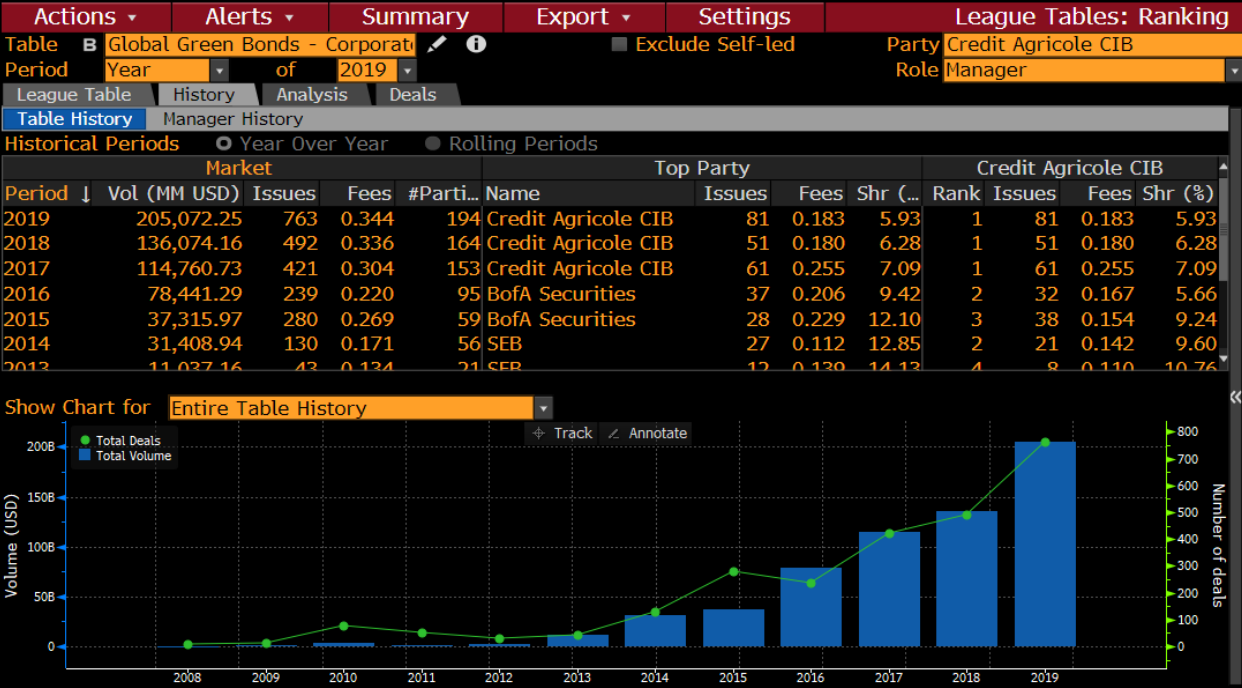
The League table offering relating to Green/ESG securities now includes: Corp/Gov Issued Green bonds, ICMA Principle-aligned Green bonds, Green Municipal bonds, Green loans, LMA Principle-aligned Green loans, Sustainability-linked loans

Actions ▾		Alerts ▾		Summary		Export ▾		Settings		League Tables: Ranking		
Table	B	Global Green Bonds - Corporat  				☐ Exclude Self-led		Party		Lloyds Bank		
Period	Year ▾	of		2015 ▾				Role		Manager ▾		
League Table		History		Analysis		Deals						
Manager				Rank	Vol (MM USD)↓	Issues	Fees	Table Share (%)		Mkt Share Diff		
101)	BofA Securities			1	↑2	4,341.18	28	0.229		12.10	 3.53	
102)	HSBC			2	↑3	3,572.36	27	0.130		9.95	 4.13	
103)	Credit Agricole CIB			3	↓1	3,316.60	38	0.154		9.24	 -0.36	
104)	SEB			4	↓3	2,704.78	25	0.133		7.54	 -5.32	
105)	Morgan Stanley			5	↑2	2,190.23	17	0.210		6.10	 1.18	
106)	JP Morgan			6	↓2	1,890.21	28	0.263		5.27	 -0.63	
107)	Barclays			7	↑3	1,888.81	17	0.135		5.26	 3.02	
108)	Citi			8	0	1,738.38	17	0.161		4.84	 0.43	
109)	Deutsche Bank			9	↓3	1,271.85	12	0.181		3.54	 -2.10	
110)	Societe Generale			10	↑7	1,093.54	7	0.150		3.05	 1.58	
111)	Goldman Sachs			11	0	742.89	7	0.119		2.07	 -0.15	
112)	RBS			12	↑12	723.58	5	0.015		2.02	 0.88	
113)	Incapital			13	↑43	720.70	119	1.715		2.01	 1.96	
114)	RBC Capital Markets			14	↓5	691.40	7	0.283		1.93	 -0.70	
115)	BNP Paribas			15	↓3	647.29	8	0.379		1.80	 -0.33	
116)	Natixis			16	↑5	644.19	7	--		1.80	 0.42	
117)	ING Groep			17	N	530.15	5	0.000		1.48	 1.48	
118)	Lloyds Bank			17	↑18	530.15	5	0.000		1.48	 0.93	
119)	ANZ Banking Group			19	↑33	520.91	2	--		1.45	 1.30	
120)	Mizuho Financial			20	↑22	470.83	4	0.450		1.31	 0.95	
21) Credited - 59 Managers						35,887.61	270	0.269				
22) Total						37,315.97	280	0.269	Total issuance increased by 18.8%			

Actions ▾		Alerts ▾		Summary		Export ▾		Settings		League Tables: Ranking		
Table B		Global Green Bond Principles				Exclude Self-led		Party		Lloyds Bank		
Period		Year ▾		of 2015 ▾				Role		Manager ▾		
League Table		History		Analysis		Deals						
Manager				Rank	Vol (MM USD)↓	Issues	Fees	Table Share (%)		Mkt Share Diff		
101)	BofA Securities			1	↑2	3,414.34	19	0.184		12.96	4.51	
102)	HSBC			2	↑2	3,304.53	23	0.130		12.54	6.12	
103)	Credit Agricole CIB			3	↓1	2,730.37	30	0.154		10.36	0.20	
104)	SEB			4	↓3	2,314.41	21	0.133		8.78	-4.47	
105)	Morgan Stanley			5	↑3	1,661.18	11	0.178		6.30	2.40	
106)	JP Morgan			6	↑1	1,289.95	19	0.191		4.89	0.66	
107)	Barclays			7	↑7	1,193.10	10	0.055		4.53	2.52	
108)	Citi			8	↓2	1,131.46	10	0.058		4.29	-0.29	
109)	Deutsche Bank			9	↓4	850.00	8	0.181		3.23	-3.08	
110)	RBS			10	↑15	723.58	5	0.015		2.75	1.64	
111)	Societe Generale			11	↑4	643.95	2	0.150		2.44	0.62	
112)	BNP Paribas			12	↓2	543.16	6	0.379		2.06	-0.59	
113)	ING Groep			13	N	530.15	5	0.000		2.01	2.01	
114)	Lloyds Bank			13	↑17	530.15	5	0.000		2.01	1.33	
115)	Goldman Sachs			15	↑9	443.85	4	0.119		1.68	0.55	
116)	Standard Chartered Bank			16	N	404.95	6	0.069		1.54	1.54	
117)	Rabobank			17	↑2	385.17	4	0.166		1.46	-0.09	
118)	RBC Capital Markets			18	↓9	378.71	4	0.090		1.44	-1.34	
119)	Natixis			19	↓1	362.63	2	--		1.38	-0.33	
120)	Nomura			20	0	269.57	2	--		1.02	-0.45	
21) Credited - 49 Managers						26,354.77	117	0.149				
22) Total						26,463.20	120	0.149	Total issuance increased by 4.7%			

Green Bonds & Loans

LEAG



Green Bonds & Loans

Green Analysis



Kfw's green bonds (green dots) are priced with lower yields than comparable Kfw conventional bonds (the blue dots).

ICMA / GBP Resources & Community Benefits



Overview of Benefits for Members / Observers (I/II)

- **ExCom Annual election:** Members can submit their candidacies under one of the three categories
- **Voting rights for Members** on the Principles' governance and other matters
- **Advisory Council (for both Members and Observers):**
 - Established in Q4 2019 increase
 - Increase inclusiveness and the outreach of the GBP SBP.
 - 40 members for 2019-2020
 - 4 meetings for year
 - Feedback to ExCom and to WGs
- **Working Groups (for both Members and Observers):** Opportunities for participation, and, if on ExCom, to coordinate
- **Events:** AGM access, ExCom may be selected for Conference speaking slots
- **Publicity:**
 - Firm name listed on the Principles website – list of Members/Observers
 - Association with WG reports, where applicable
 - Potential input to reports and newsletters
- **Branding:** Use logo / branding of the Principles (requires payment of M/O fee)
- **Member & Observer fees:** Voluntary fee introduced €10k / Not for profits and official sector can be exempted
- **Education:** Public and in-house or custom courses

Overview of Benefits for Members / Observers (II/II)

- **Input to GBP/SBP market framework, policy and regulatory dialogue**
 - Via ICMA to workstreams such as G20 Sustainable Finance Study Group, ASEAN Green Bond Standards, European Commission Technical Expert Group (TEG), ISO 14030 standard on Green Bonds
 - High Level GBP/SBP ‘Official Sector Contact Group’
 - Other channels set out below
- **Knowledge forum:** collaboration, influence and first-hand learning
 - Interpretation, methodologies and best practice development
- **Secretariat support**

Member and Observer Involvement

- Contribute and shape the debate
- Regular updates and dialogue on market and regulatory frameworks
- Meeting & networking platforms
- Members can vote and propose candidates for ExCom election
- Participation to the Advisory Council

Working Group arrangements

- Given market evolution, important source of development / influential
- Open architecture, **size limited by practicalities & expertise**
- ICMA support and facilitated by ICMA resources
- ExCom coordinates – firms identified on ICMA working group webpage
- **Interested in contributing? -> contact Secretariat:**
Greenbonds@icmagroup.org

Activities of the GBP SBP Secretariat

- Monthly/weekly Excom & Steering meetings and calls
- Coordination support for 6 active working groups focused on specific themes
- Quarterly conference calls for Member and Observers
- Quarterly Newsletter (New)
- GBP SBP Helpdesk (New)
- Research Library (New)
- External Review Services Mapping (New)
- Resource Centre (Enhanced)
- GSS Bonds Database (Enhanced)
- Membership List (Enhanced)

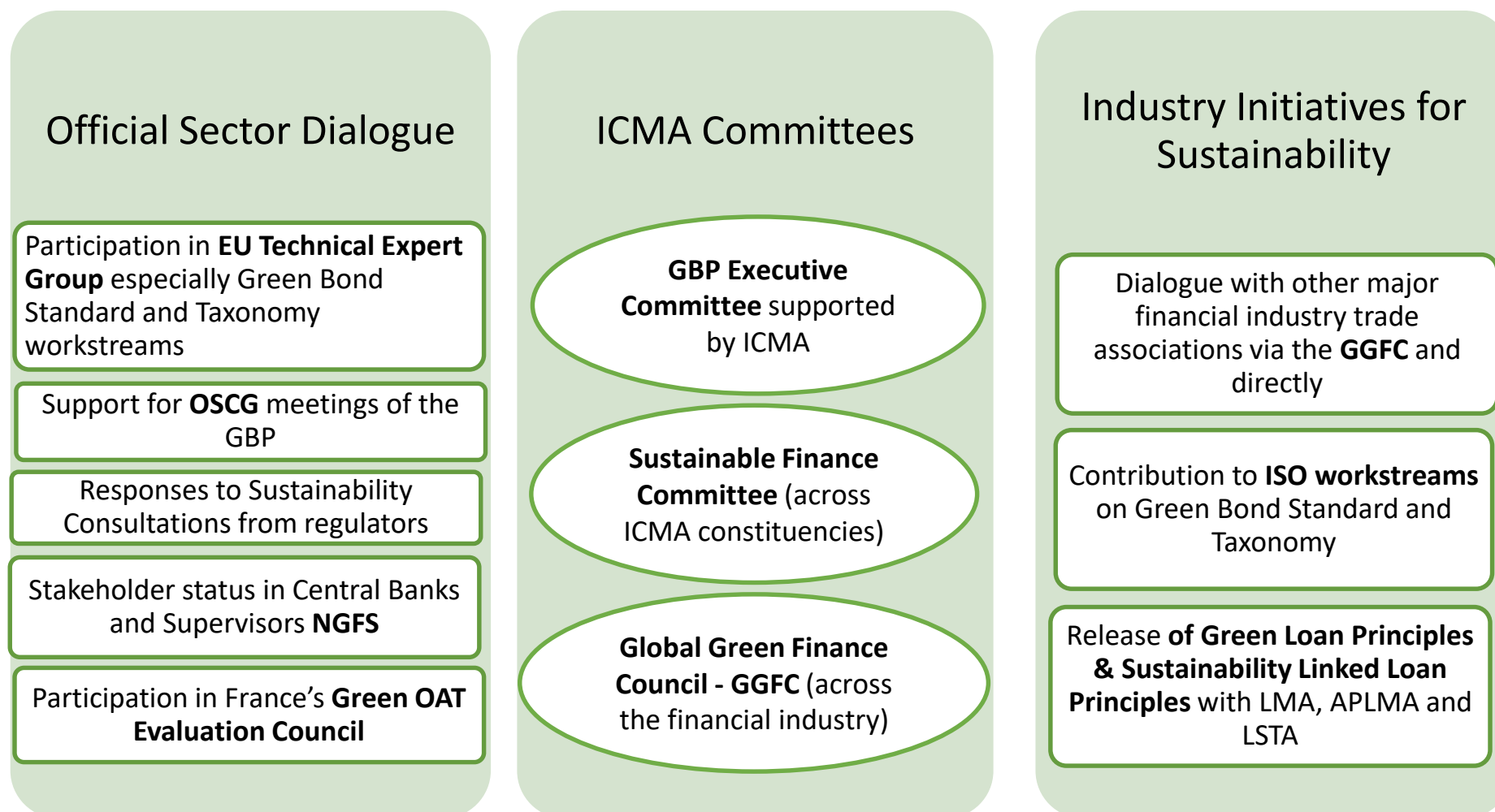


Green Bond Principles and Social Bond Principles **Helpdesk**

GBP website within ICMA website:

<https://www.icmagroup.org/green-social-and-sustainability-bonds>

ICMA and Sustainable Finance



Closing Q&As



12. ICMA Contacts

Green / Social Bond Principles Secretariat

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