

PRINCIPLES OF FINANCE

GREEN BONDS

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Green bonds

Definition: Any type of bonds for which the proceeds are exclusively used to finance or refinance “Green Projects” (the issuer itself does not need to be totally green).



Solar, wind grid
Bioenergy, Geothermal
Hydro, Marine



Low-carbon buildings
& industrial facilities



Low emission vehicles
Electric Vehicles
Rail, BRTs



Sustainable water mngmt
Water infrastructure
Storm adaptation



Waste & pollution mngmt
Methane reduction
Recycling



Agriculture
Food supply chain
Forestry, wood, paper

ICT & Broadband

Green bonds: back to 2007

- The European Investment Bank (AAA) issues Climate Awareness Bonds in 2007.
- In late 2007, a group of Swedish pension funds sought to invest in green projects and turned to the world bank to find such projects.
- First green bond issued in November 2008 by the World Bank.
- Today, the green bond model is being applied to bonds that are raising financing for all 17 Sustainable Development Goals.

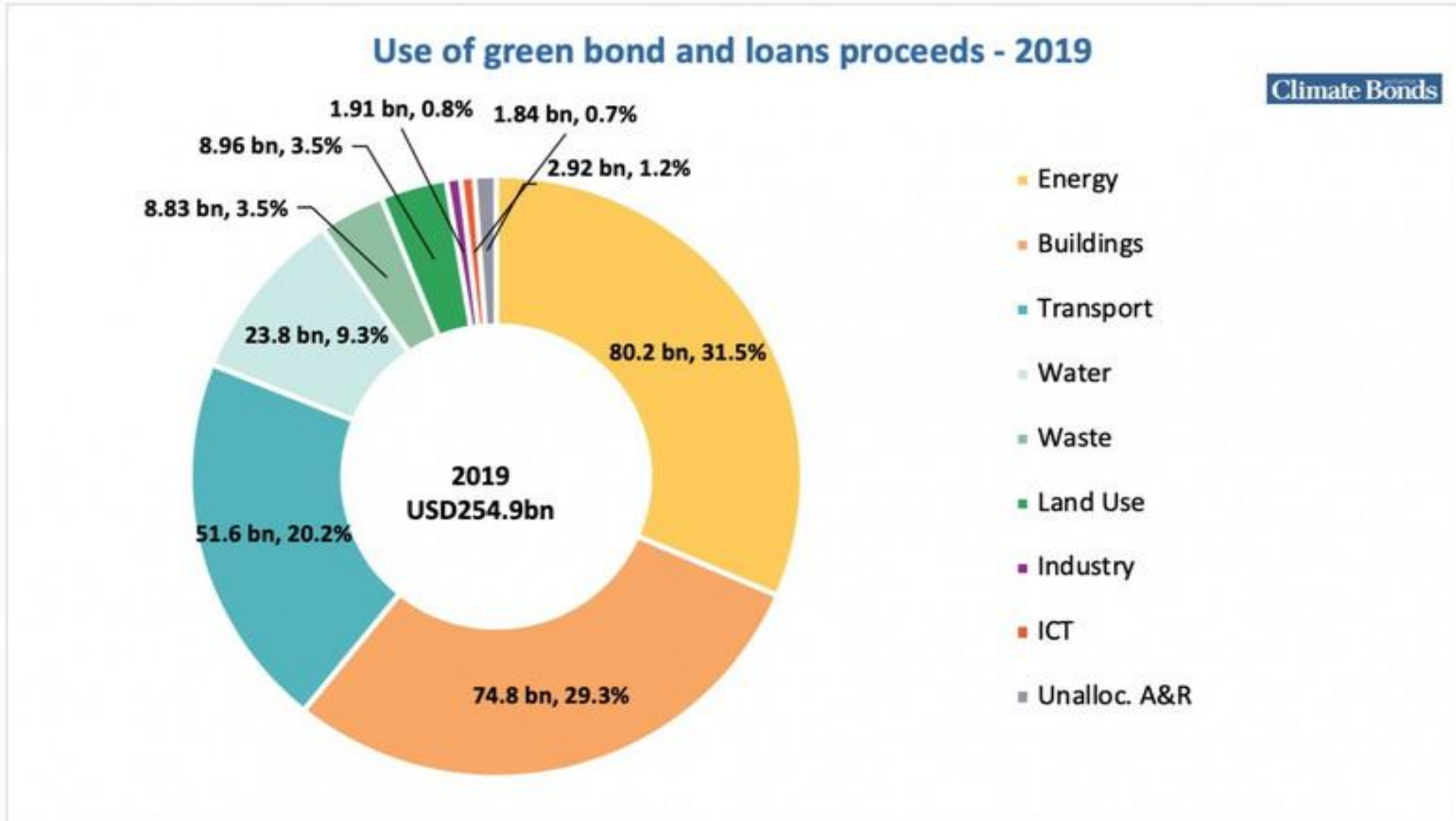


SUSTAINABLE DEVELOPMENT GOALS



Set by the
UN in 2015,
horizon
2030.

Green bonds



Green bonds

Strengths:

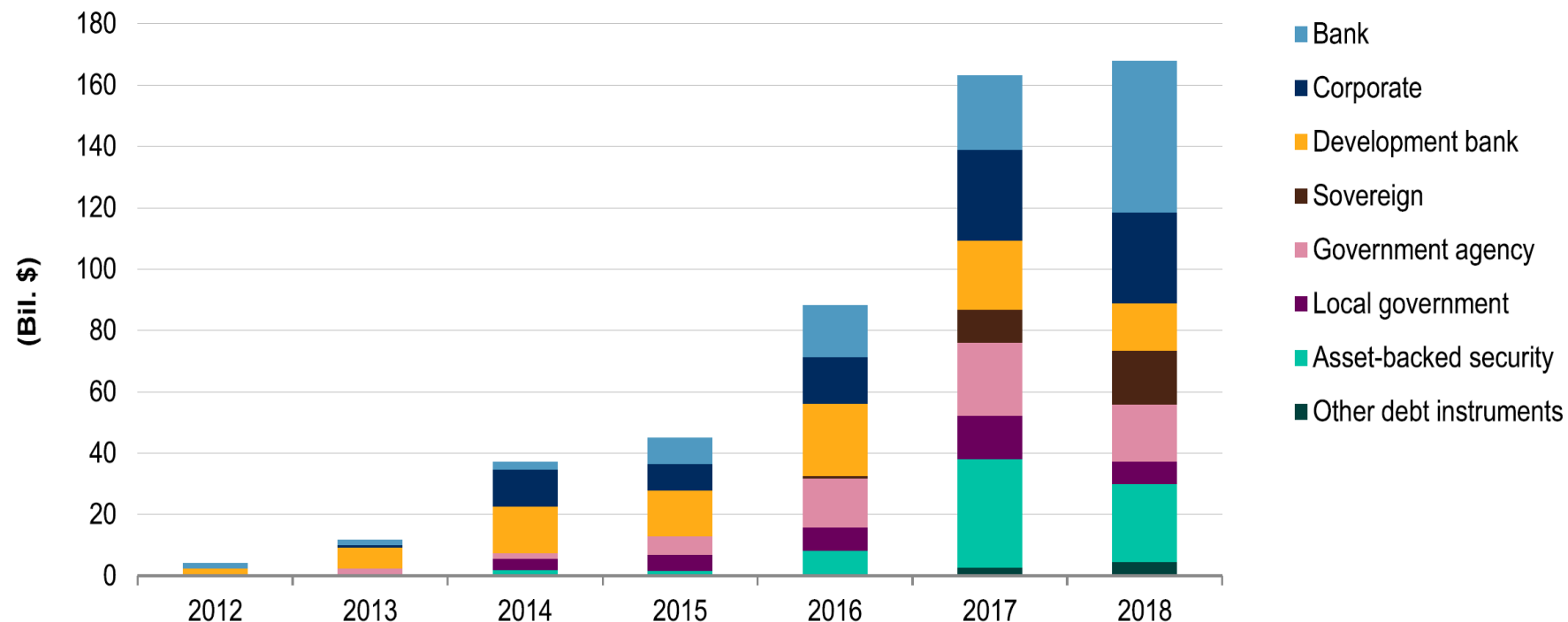
- Supporting issuers in transitioning towards environmental sustainability.
- Reducing the carbon footprints of companies.
- Additional source of financing for issuers.
- Raising investors' awareness to responsible investing and environmental issues
- Often bundled with tax incentives for issuers and investors.

Issues:

- Self-labelled (by issuers) → market-driven approach: "investors will not buy if it is not really green".
- Non-profit organizations provide their own label / database (Climate Bonds Initiative).
- Small market: little liquidity.

Growth of the green bond markets

Annual Green-Labeled Issuance By Issuer Type



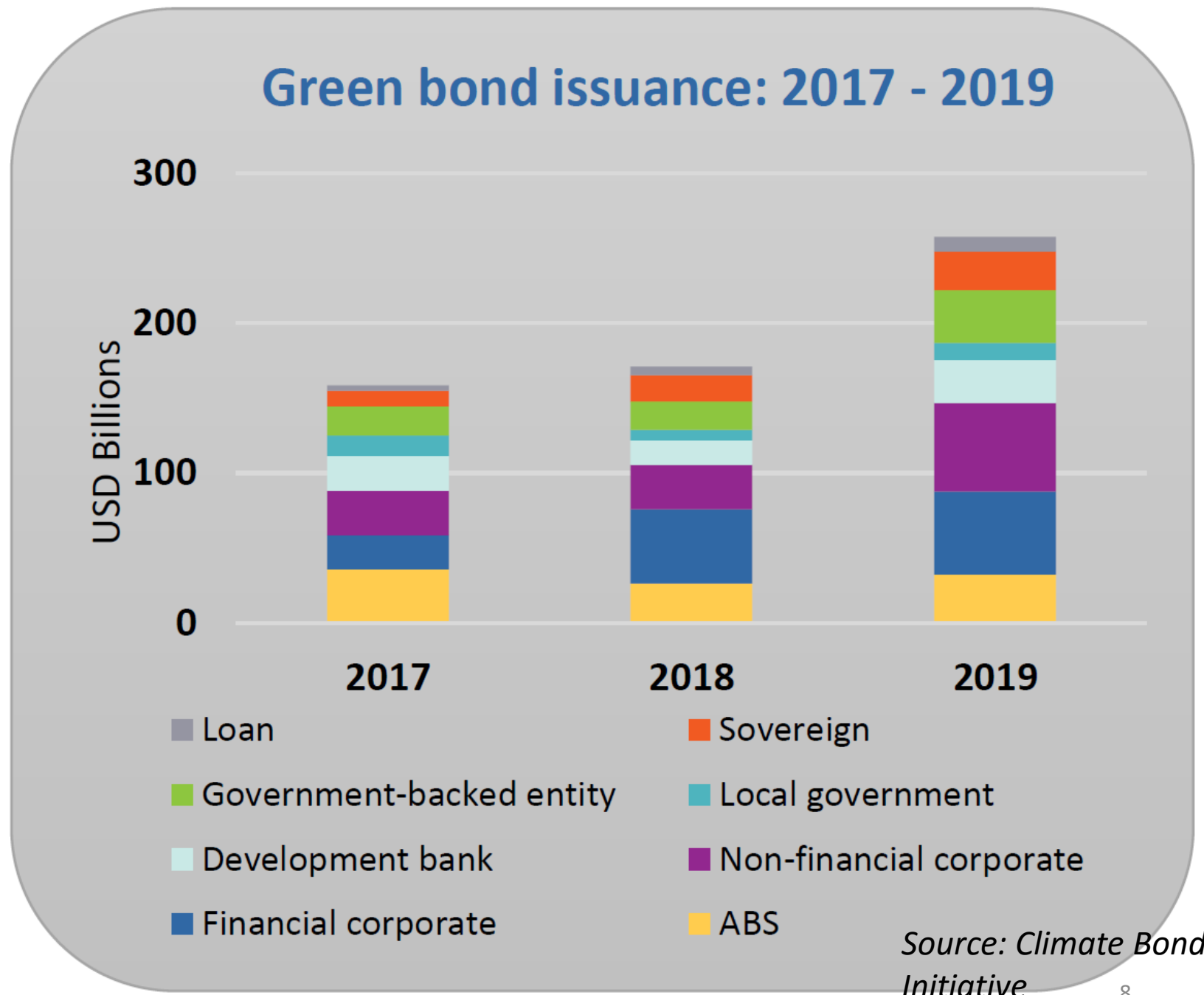
Asset-backed securities (ABS) = illiquid low-carbon assets that are pooled together into tradable financial instruments.

Example: Dutch lender Obvion issued Europe's first 100% green residential mortgage backed securities in 2016 and raised USD 1.3 billion: the **bonds** are backed by residential mortgages linked to energy efficient homes.

Source: Climate Bonds Initiative.

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Issuers



Issuers

- Corporations issuing green bonds (among others): Apple, SNCF, Tesla Energy, Engie, Svenska Cellulosa Aktiebolaget...
- Market Size: $\leq 4\%$ of total bond issuance (4% during 2019)

Issuers

Apple raises €2bn in green bonds

Proceeds will fund more energy efficient and recyclable products, iPhone maker says

Source:
Financial Times

FEB 08 2019 SIGNATORY ACHIEVEMENT

Verizon becomes the first US telecom company to issue a green bond

The bond offering raised almost \$1 billion in net proceeds for renewable energy, energy efficiency, green buildings, sustainable water management and biodiversity and conservation.

[Learn more](#)



Apple claims to be the largest US corporate issuer of green bonds, having raised \$1bn in 2017 and \$1.5bn in 2016 © Reuters

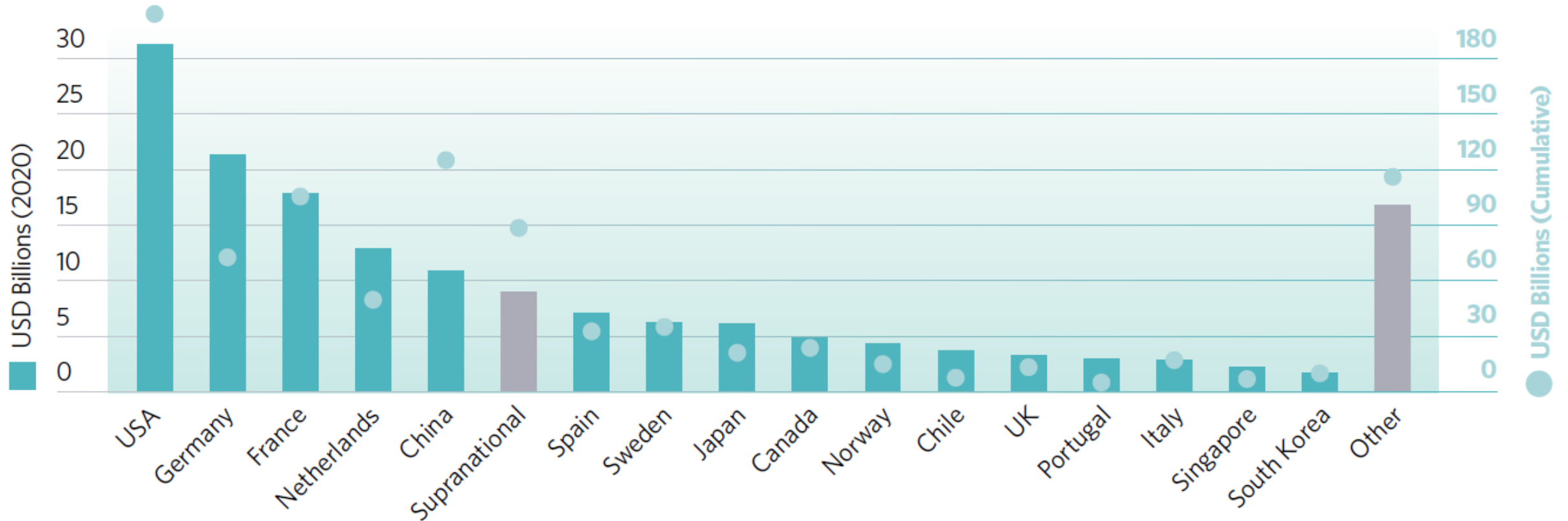
Patrick Temple-West in New York NOVEMBER 8 2019



Source:
www.theclimatepledge.com

Top issuing countries

Top 2020 countries: Amount issued (2020 vs. Cumulative)

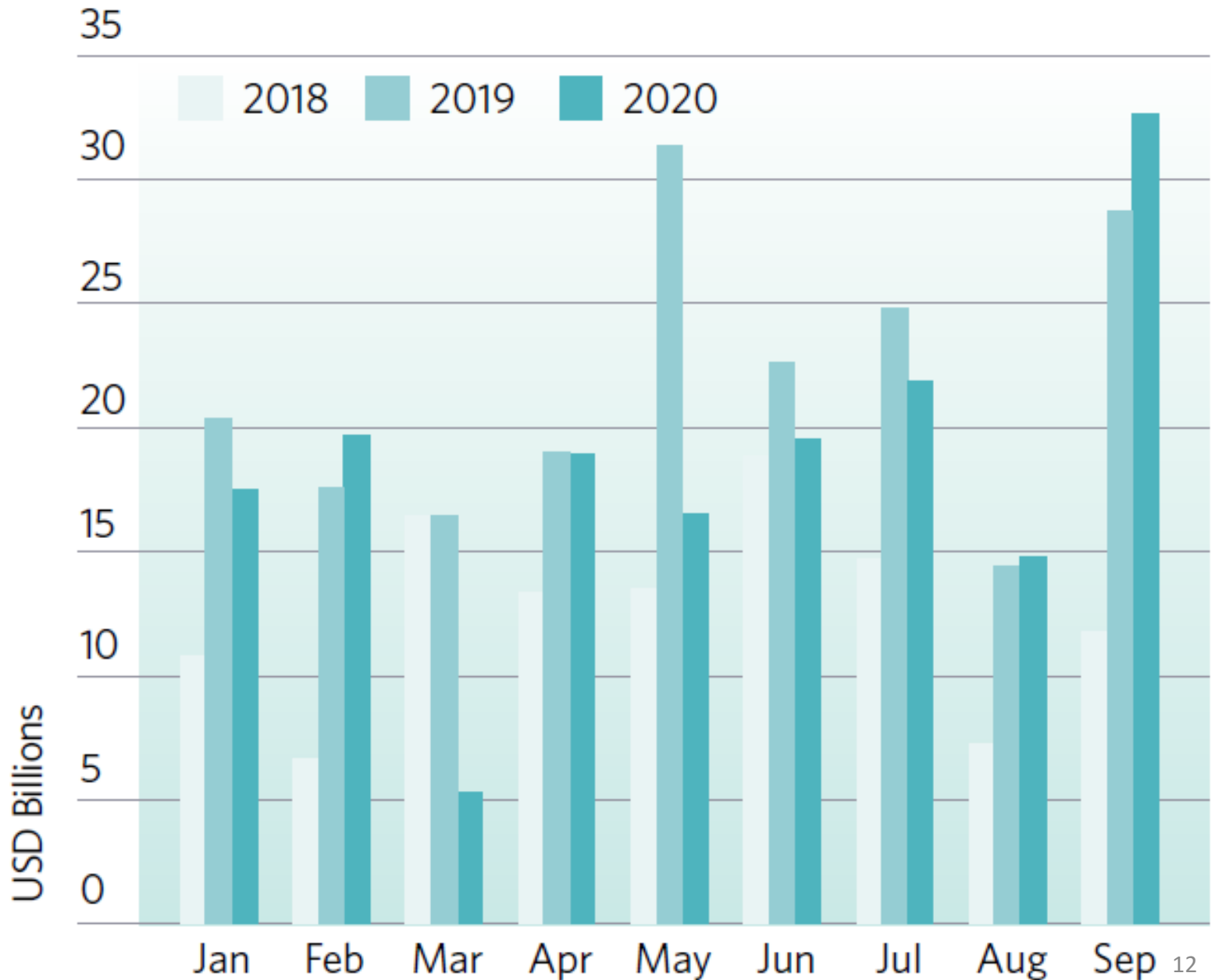


Source: Green Bond Market Summary Q3 2020. Climate Bonds Initiative

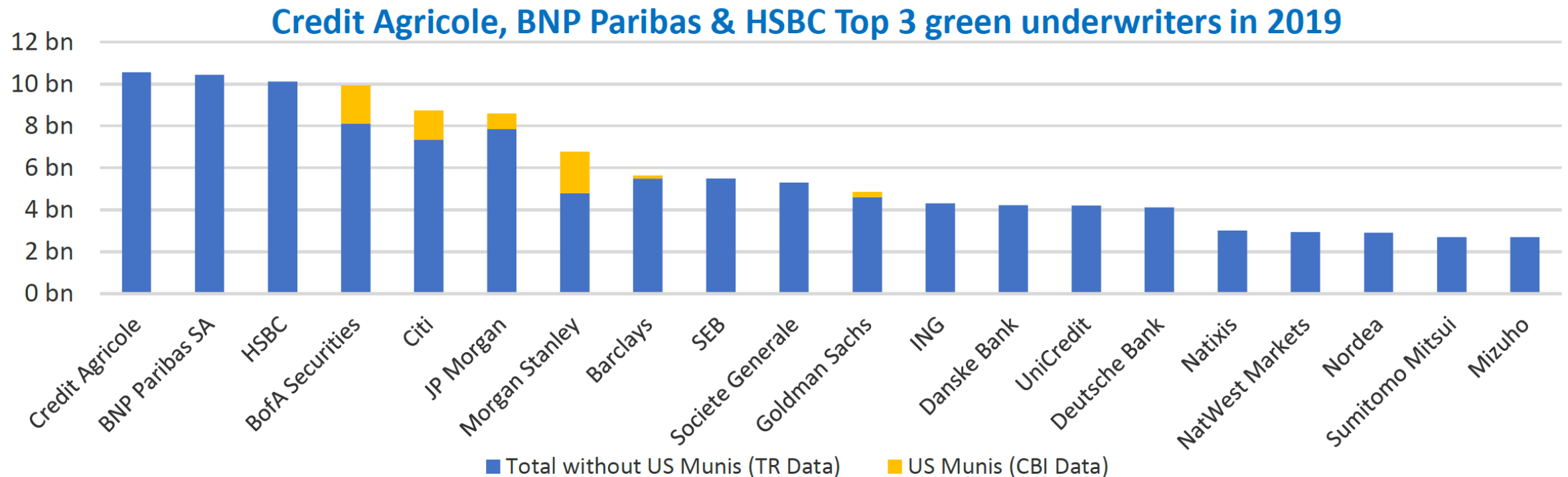
Response to covid

*Source: Green Bond
Market Summary Q3
2020. Climate Bonds
Initiative*

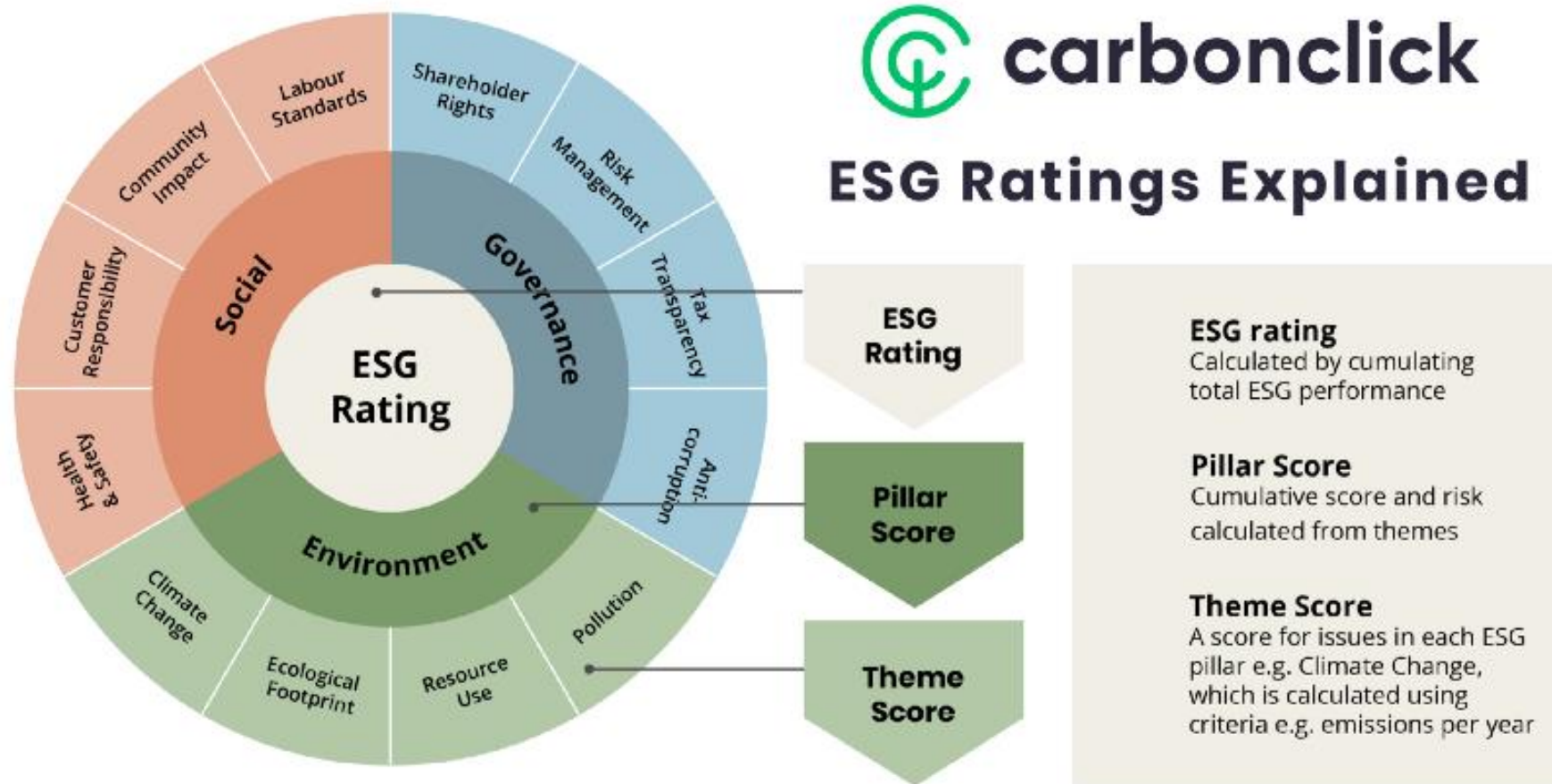
Monthly issuance volumes 2018-2020



Top underwriters (buyers)



Environmental, Social and Governance (ESG) investors



ESG investors

2006: Principles for Responsible Investment (PRI) Principles:

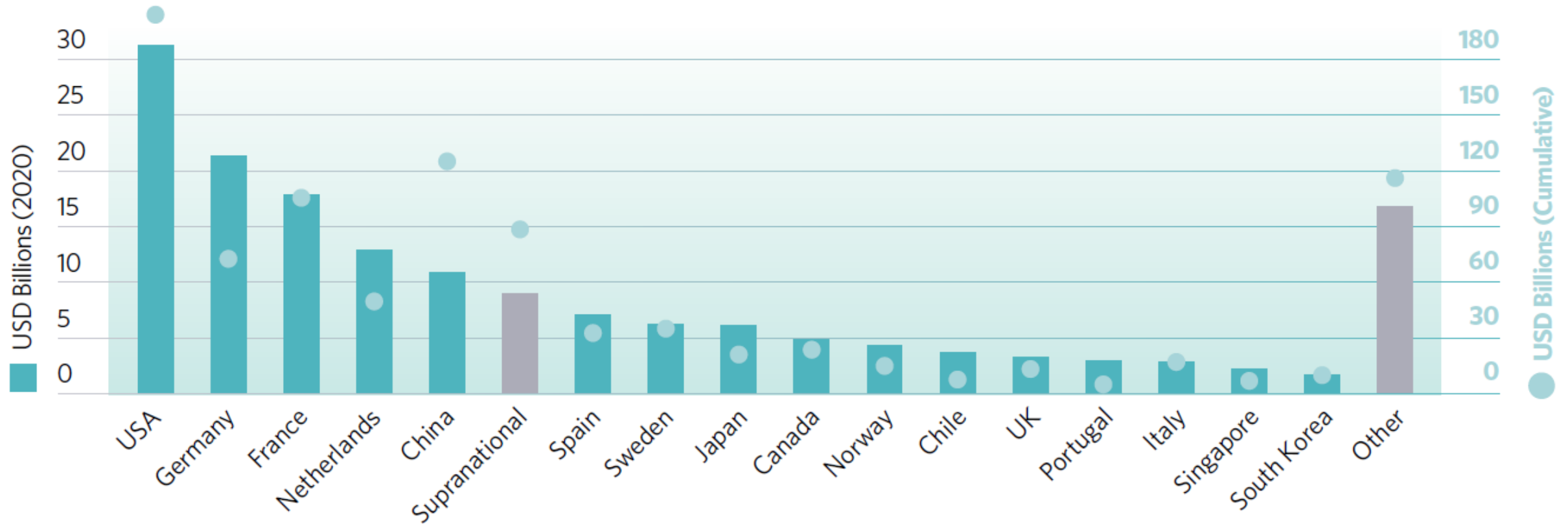
UN PRI Principles



“The six Principles for Responsible Investment are a voluntary and aspirational set of investment principles that offer a menu of possible actions for incorporating ESG issues into investment practice.”

Listing venues (Q1-Q3 2020)

Top 2020 countries: Amount issued (2020 vs. Cumulative)



Can individual investors buy green bonds?

- Yes: through funds and indices.
- But due diligence and verification of the “greenness” is costly especially for small investors.
- Choosing socially responsible active asset management firms allows reducing the cost.

From the first green bond to now

SSE: project of the UN that provides a multi-stakeholder learning platform for stock exchanges, investors, regulators, and companies

United Nations Framework Convention on Climate Change (UNFCCC) is an environmental treaty addressing climate change, negotiated and signed by 154 states.

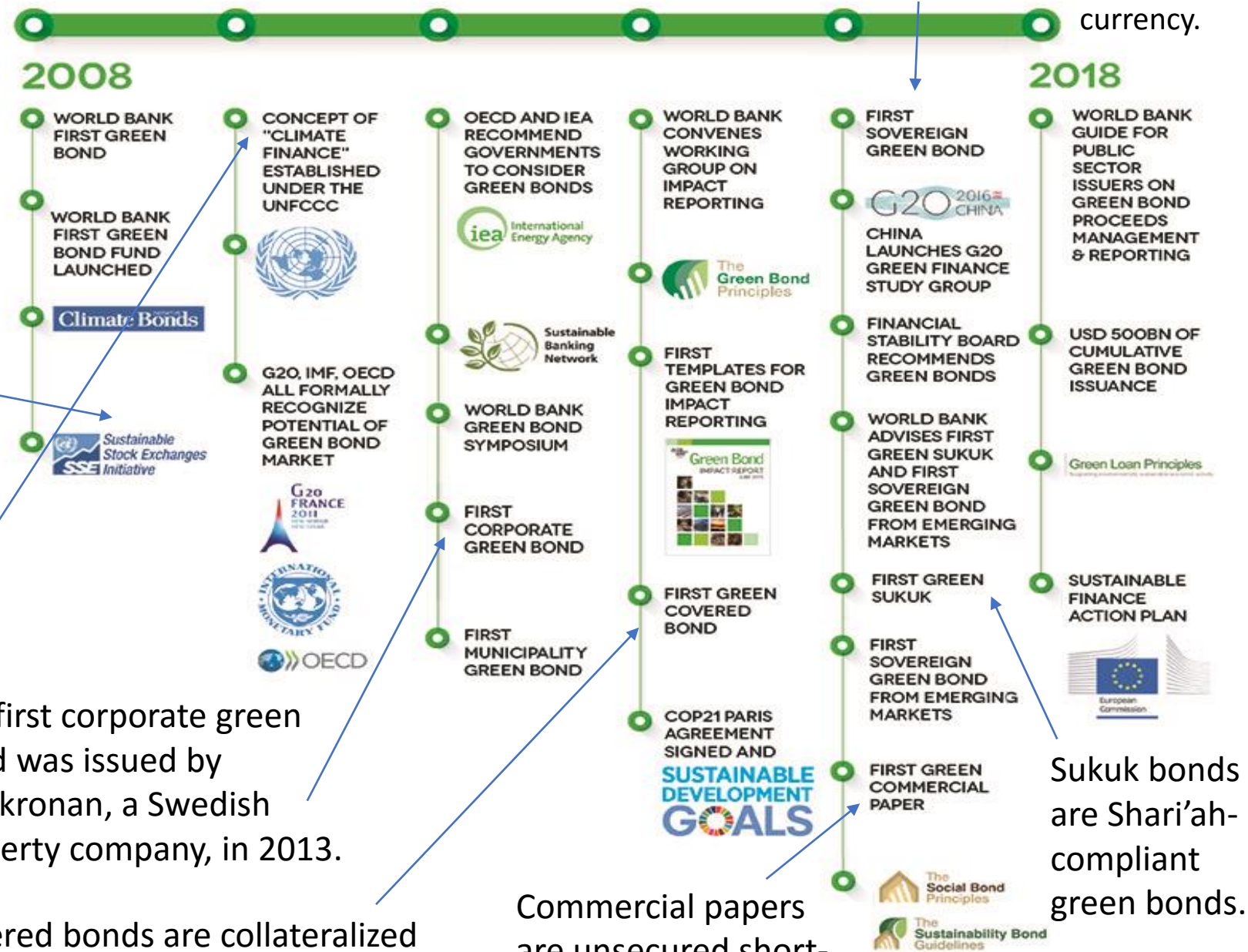
The first corporate green bond was issued by Vasakronan, a Swedish property company, in 2013.

Covered bonds are collateralized against a pool of assets.

Commercial papers are unsecured short-term debt.

Sukuk bonds are Shari'ah-compliant green bonds.

THE FIRST GREEN BOND



Sovereign bonds are issued by a national government and denominated in a foreign currency.

Extensions of green bonds

- **Social Bonds:** proceeds used to finance socially responsible projects, i.e., projects that aim at increasing the social welfare. (education, employment, poverty...).
- **Blue Bonds:** proceeds used to support the health of oceans.
- **Sustainability Bonds:** proceeds used to finance projects that improve both the social and environmental welfare.
- Conventional bonds are sometimes called **Brown Bonds** in contrast to green

Challenges ahead

Demand >> supply

“Issuing green bonds doesn’t create green projects – we need favourable policies”. Tanguy Claquin,
head of sustainable banking at Crédit Agricole

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Bloomberg

QuickTake

As Green Bonds Boom, So Do ‘Greenwashing’ Worries

By [Lyubov Pronina](#) and [Tom Freke](#)

October 14, 2019, 12:01 AM EDT

Greenwashing: beyond green bonds

Definition: Greenwashing is the process of conveying a false impression or providing misleading information about how a company's products are more environmentally sound.

Two main types of greenwashing:

1. companies with authentic green projects cover up for their non-environmental friendly activity
2. companies spending more time, money and effort on marketing their projects as green than on working on the sustainability of these projects and reducing the negative environmental impact

Volkswagen's scandal

*“In September, **the Environmental Protection Agency (EPA)** **found** that many VW cars being sold in America had a "defeat device" - or software - in diesel engines that could detect when they were being tested, changing the performance accordingly to improve results. The German car giant has since admitted cheating emissions tests in the US.”* BBC December 2015

Volkswagen to recall 500,000 pollution-hiding cars in US

🕒 18 September 2015

Source: BBC

VW scandal could just be the beginning

By Bruce Schneier

🕒 Updated 1901 GMT (0301 HKT) September 28, 2015

Source: CNN

Volkswagen's scandal

Volkswagen faces \$15bn hit over US green ad campaign

FTC accuses carmaker of deceiving consumers on 'clean diesel'

Diesel has really cleaned up its act.

Find out how clean diesel technology impacts fuel efficiency and performance, while also being a more eco-conscious choice.



Source: Financial Times

Barney Jopson in Washington, Patrick McGee in Frankfurt and Peter Campbell in London
MARCH 29 2016

Social pressure

Source: Financial Times

Students push for university climate change divestments

Oxford offers blueprint for selling fossil fuel assets while retaining influence over divested businesses



Students have kept pressure on universities to divest their non-ESG assets, with significant success © Mike Kemp/In Pictures via Getty Images

Billy Nauman DECEMBER 7 2020

Amazon



SEP 19 2019 MILESTONE

Amazon and Global Optimism announce The Climate Pledge

Jeff Bezos and Christiana Figueres announce The Climate Pledge, calling on signatories to be net zero carbon across their businesses by 2040.

Watch the video

Amazon

Michael Sainato

Wed 5 Feb 2020 08.00 GMT



4,871

'I'm not a robot': Amazon workers condemn unsafe, grueling conditions at warehouse

Employees under pressure to work faster call on retail giant to improve conditions - and take their complaints seriously



▲ Amazon's Staten Island. Strikes demand the 855,000 sq ft facility close. Photograph: Angela Weiss/AFP/Getty Images

Sources: Left: www.theclimatepledge.com
Right: The Guardian

Challenges ahead

Goals are ambitious but can targets be met?

Source: Financial Times

Companies defy investor demands on climate change

Analysis of 6,000 listed groups shows few businesses are close to meeting targets set by Paris accord



Big asset managers have become outspoken about the risks of climate change to investment returns © Filip Singer/EPA

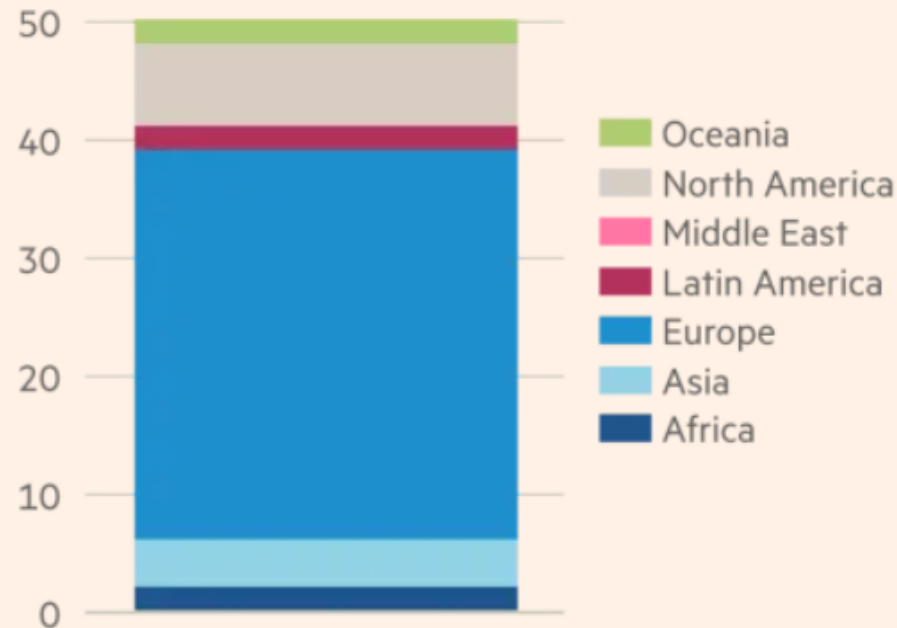
Challenges ahead

UN responsible investing body set to delist 50 groups next year

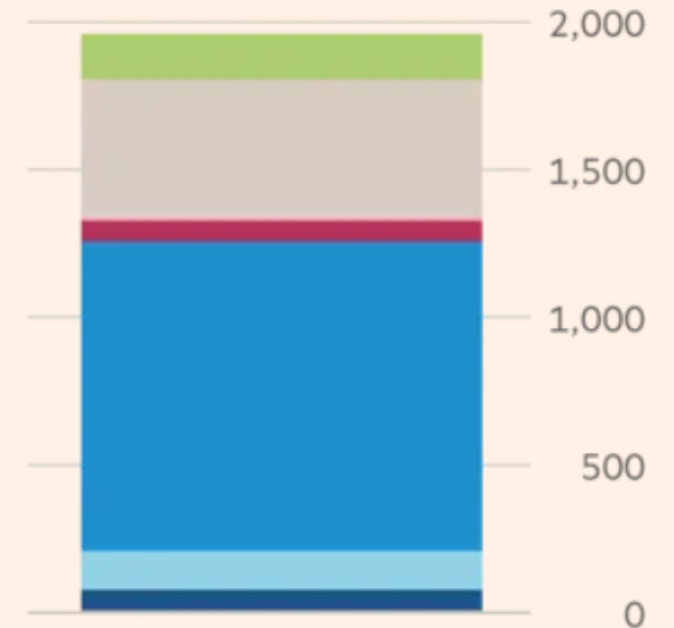
Chart to start the week: nearly a third of signatories on PRI watchlist are under threat

Signatories at risk of being delisted from the PRI by region

At risk of being delisted



Regional total number of signatories at Mar 2018



Source: Principles for Responsible Investment
@ Financial Times
17 June 2019

How to address investors' fears?

Source: Financial Times

Investors probe ESG credentials of bond sellers on 'greenwashing' fears

Booming green debt market stokes concern over issuers' environmental and social bona fides



Analysts are worried the rapid expansion of the green bond market will allow companies to issue debt that is environmentally and socially responsible in name only. © FT montage

Tommy Stubbington in London and Billy Nauman in New York OCTOBER 28 2020

How to address investors' fears?

Source: Financial Times

EU bows to pressure on anti-greenwashing rules deadline

Asset managers granted more time to gather data on ESG portfolio risks



The European Commission told fund groups they would have more time to provide detailed information on their portfolios because of the complexity of the data © AFP via Getty Images

Impact

The meaning of green

What is the point of green bonds?

A new study finds little evidence that they directly cut carbon or lower costs



Impact

**Bloomberg
Green**

Close <

+0.85° C
Oct. 2020 increase in
global temperature vs.
1900s average

-11.46%
Today's arctic ice area
vs. historic average

Green

BIS Sees No Proof Green Bonds Improved Firms' Carbon Footprints

By [Jill Ward](#)

14 September 2020, 13:00 CEST *Updated on 14 September 2020, 15:25 CEST*

- It recommends rating companies based on their 'greenness'
- Demand for securities boosts market to about \$1 trillion: BNEF

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MARKET UPDATES

SPX	28,917.94	▲ 350.86	1.33%
SEN	2,755.47	▲ 54.53	2.02%
TSX	26,502.84	▲ 198.28	0.75%

Appendix: The Green Bond Principles (2018)

Guidelines set by the International Capital Markets Association (consultive and not strict mandatory regulations)

- These principles revolve around 4 components:
- Use of proceeds
 - Green projects and their green benefits
 - Financing vs refinancing
- Process for project evaluation and selection
- Management of proceeds
- Reporting

The issuer should communicate with investors:

- The environmental sustainability objectives
- How the projects fit the green space
- Green-eligibility criteria and potential risks

Qualification/Eligibility

- Eligibility of a project to be green is determined by the contribution to five main environmental objectives:
 - Climate change mitigation
 - Climate change adaptation
 - Natural resource conservation
 - Biodiversity conservation
 - Pollution prevention and control
- Additional criteria specific to some industries may apply.

External Review

The GBP recommend one or more of the following:

- Second Party Opinion by an independent institution which would assess the alignment of the project and the green bond principles (e.g, assesses objectives, strategy, use of the proceeds)
- Verification against internal or external standards (do not need to be exactly the same as the GBP)
- Certification from a recognized standard green label (e.g., CBI)
- Green bond scoring/rating by third parties.