



Sustainable Finance

Responsible Investment and Green Bonds

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Congreso de Sostenibilidad

May 2, 2019

Founding Pillars of Credit Agricole and Amundi Groups

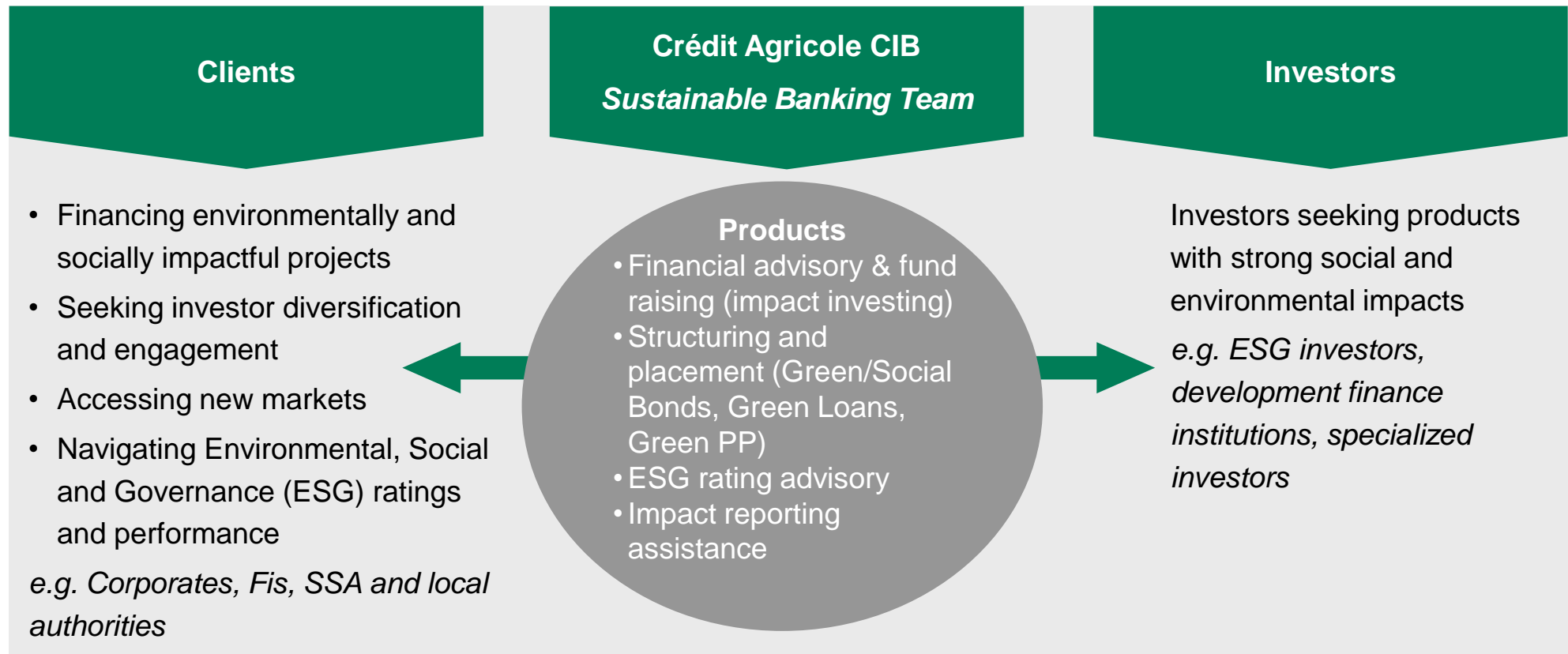


Crédit Agricole's commitments to climate finance

- 2003** ■ Founding member of **Equator Principles** & signatory to **United Nations Global Compact**
- 2008** ■ Signed **Climate Group's Climate Principles**
- 2009** ■ Methodology for quantifying bank emissions & drafted **First Sector policy for Shale Gas**
- 2014** ■ Founding member of the **Green Bond Principles** & CACIB committed to facilitating the financing of more than USD 20bn of new climate financings by 2015
- 2015** ■ **Ceased financing coal mines and customers predominantly involved in coal-fired power plants in developed countries**
- 2016** ■ CACIB accredited by the **Green Climate Fund**
■ **Ceased financing new or extension of coal-fired power plants**
- 2017** ■ CACIB increased target to **EUR 100bn** in green financing by 2020 (EUR 71bn done by 2018)
■ Ceased financing most **carbon intensive fossil-fuel assets** (heavy oil, oil sands and Arctic region)
- 2018** ■ Crédit Agricole S.A. issued **EUR 1bn Green Bond**, solely structured by CACIB

The Sustainable Banking Team

The Sustainable Banking team advises Crédit Agricole group's clients on projects that have strong positive social and environmental impacts.



The Sustainable Banking team has a unique position among investment banks and an impressive track record

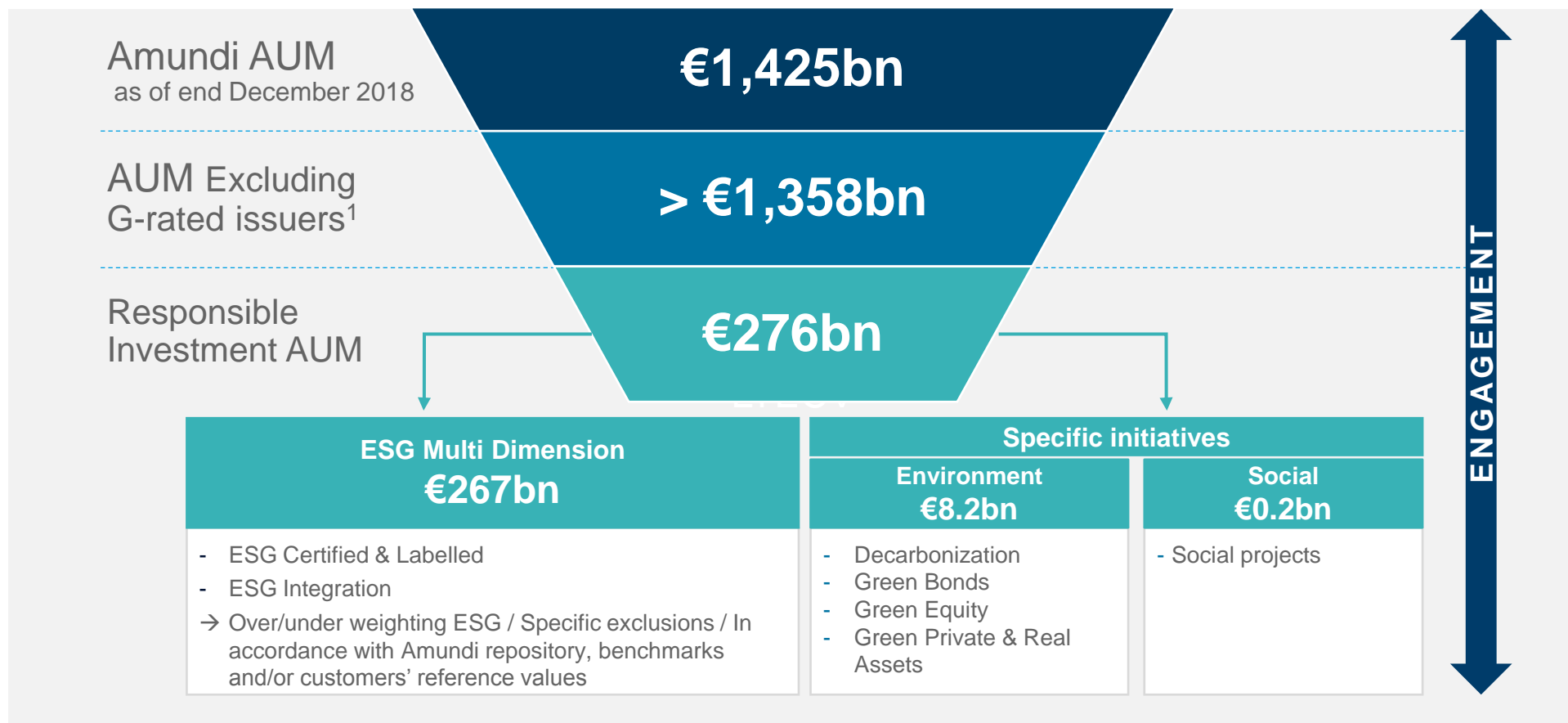
Responsible Investment (RI), one of Amundi's four founding pillars

Amundi is a responsible finance pioneer, that integrates ESG factors across its management strategies...

- with a **proactive and an incentive approach**,
- relying on thoughtful and **rigorous ESG analysis**.



Amundi's Responsible Investment approaches



Source: Amundi Group figures as of December 2018. Given for indicative purposes only, may change without prior notice.

1. €67 Bn Passive non-ESG assets

Climate Change and Growing Demand for Sustainable Solutions

Institutional investors adopt « Responsible Investment » for different reasons

RESPECT SPECIFIC VALUES

- Ethical / Religious values (exclusions of weapons, tobacco, alcohol,..)

INTEGRATE LONG TERM RISK

- Operational risk
- Transitional risk
- Reputational risk

GENERATE IMPACT

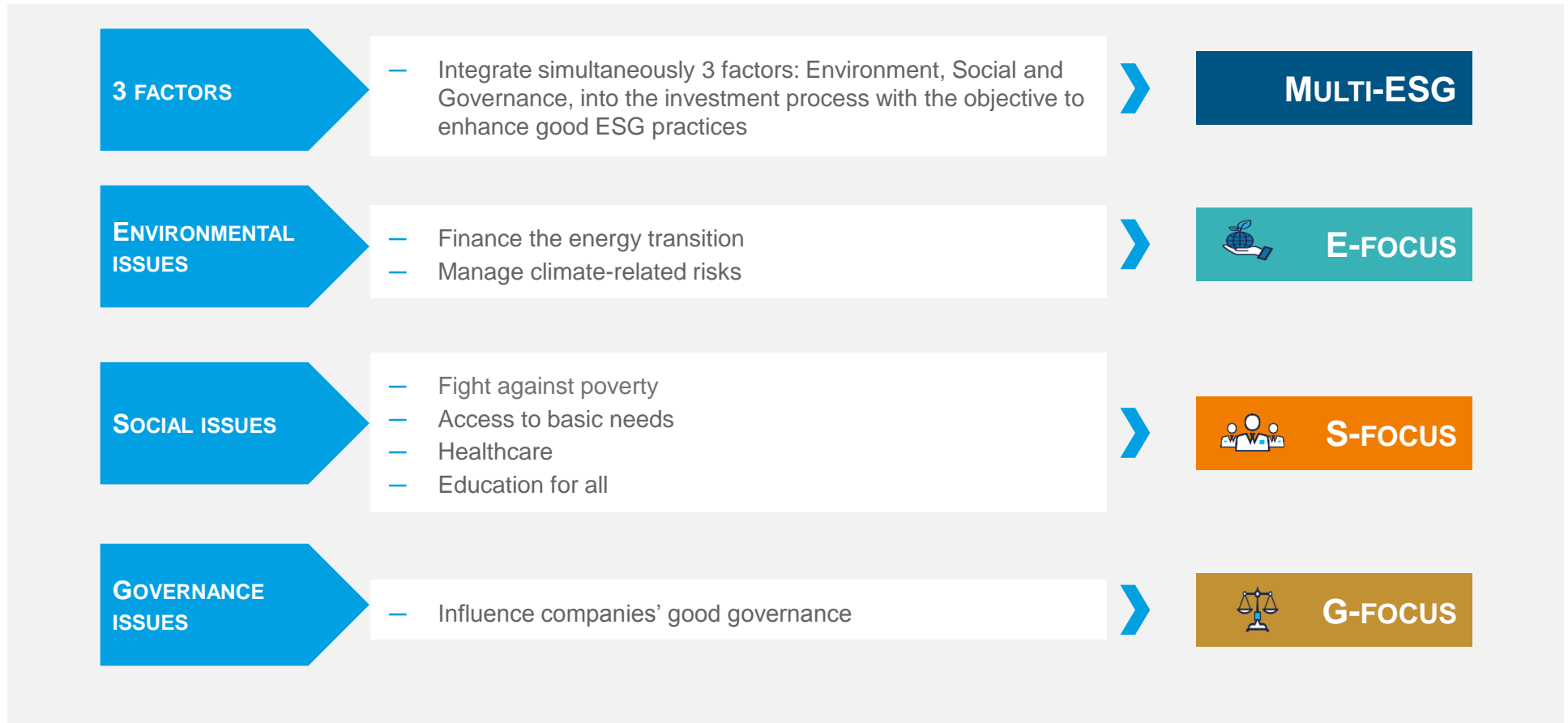
- Reduce climate change
- Increase social impact
- Meet Sustainable Development Goals

ACHIEVE SUSTAINABLE PERFORMANCE

- ESG investing begins to be rewarded by the market
- Moving toward ESG factor investing?

Source: Amundi, as of December 2018. Given for illustrative purposes only, may be changed without prior notice.

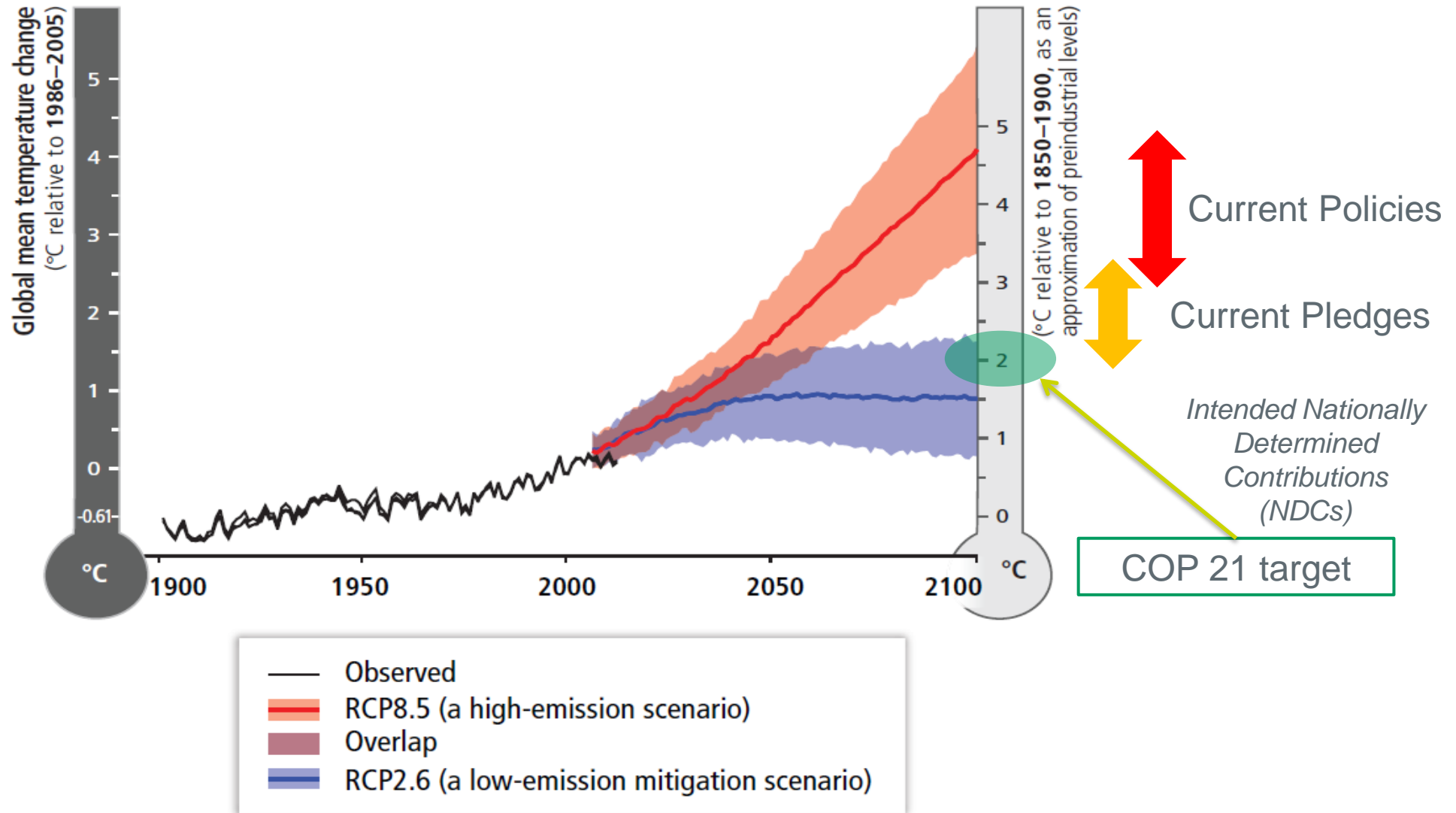
...and various focuses



Source: Amundi, as of December 2018. Given for illustrative purposes only, may be changed without prior notice.

Increased Importance and Awareness of Sustainability Issues

Addressing Climate Change



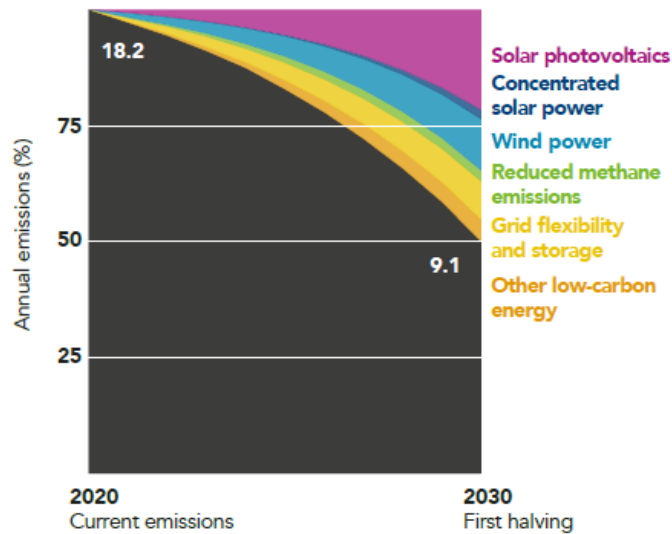
Source: 5th IPCC report

Increased Importance and Awareness of Sustainability Issues

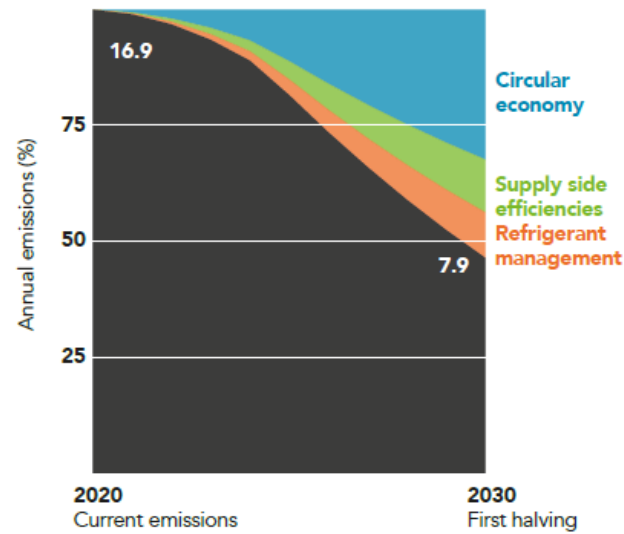
2030: Halving Emissions in Key Sectors



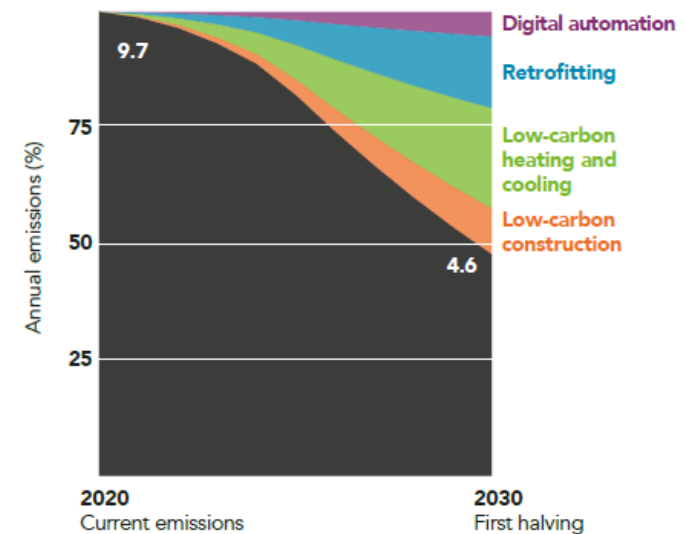
ENERGY SUPPLY



INDUSTRY



BUILDINGS



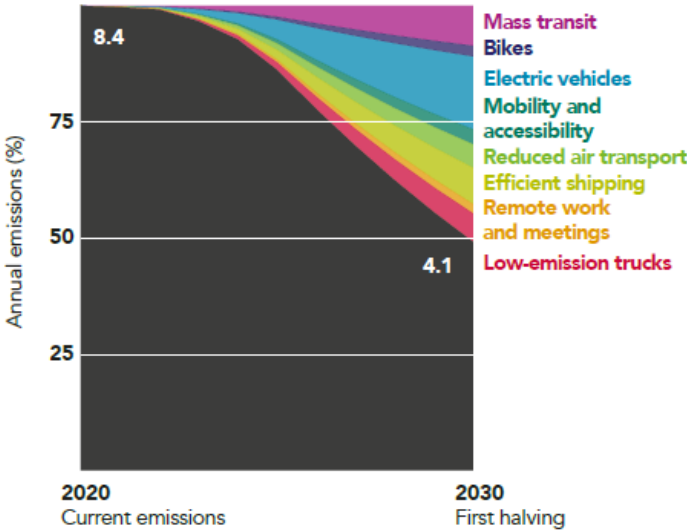
Source: The Exponential Climate Action Roadmap. GLOBAL CLIMATE ACTION SUMMIT 2018

Increased Importance and Awareness of Sustainability Issues

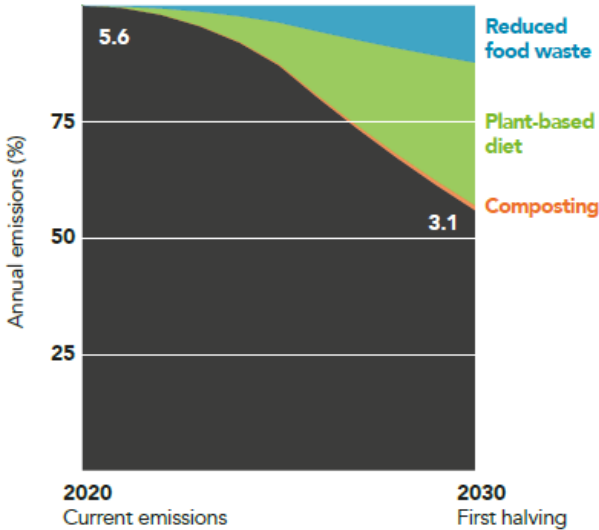
2030: Halving Emissions in Key Sectors



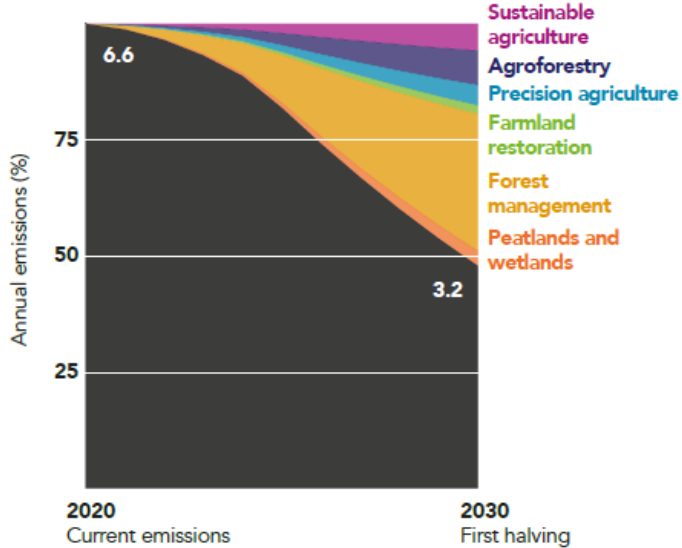
TRANSPORT



FOOD CONSUMPTION



AGRICULTURE AND FORESTRY



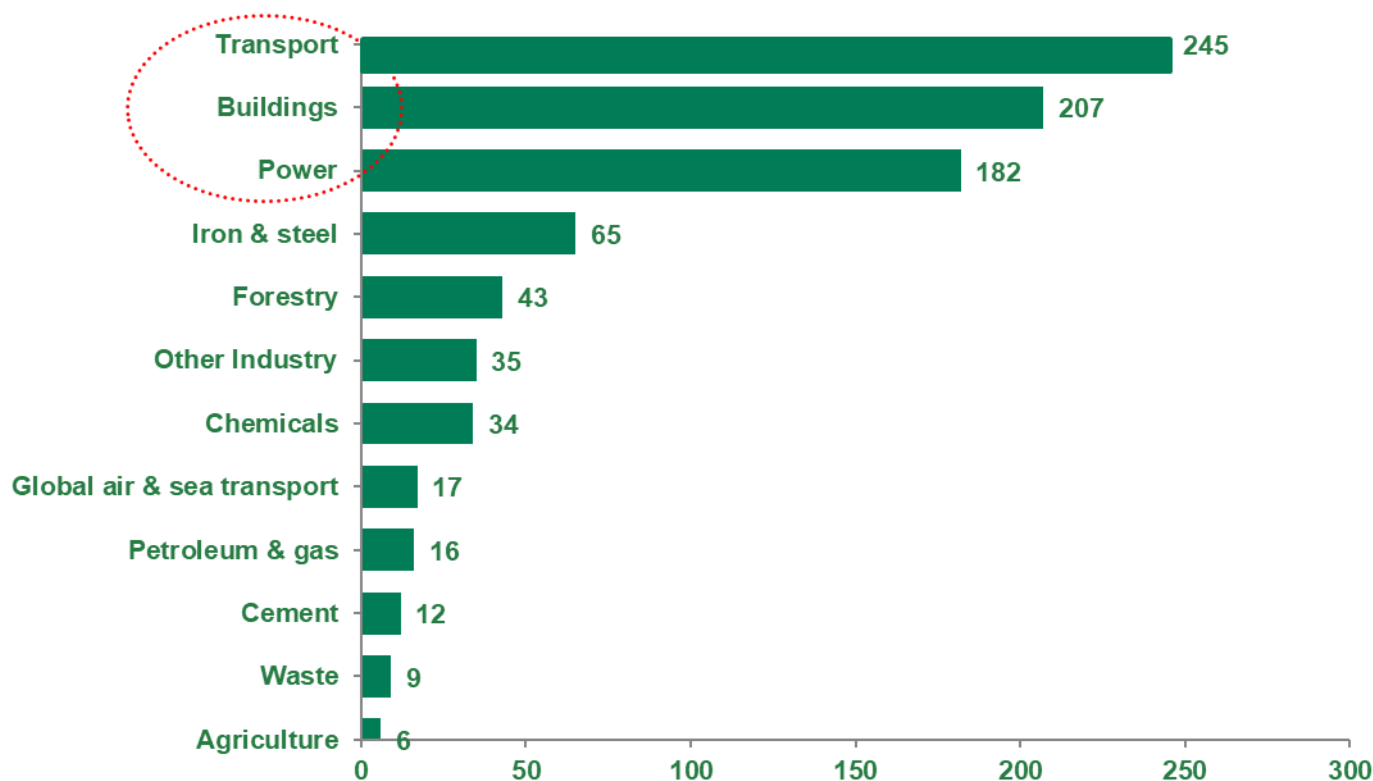
Source: The Exponential Climate Action Roadmap. GLOBAL CLIMATE ACTION SUMMIT 2018

Importance and Increased Awareness of Sustainability Issues

Green Bonds and the low-carbon transition

- €18 trillion¹ in investments needed to halve emissions by 2030
- €865 billion increase in annual global investments from 2009 levels
- Investments required mainly concern infrastructure principally financed by debt

Investment requirements
to abate CO₂ € billion
per year in 2030



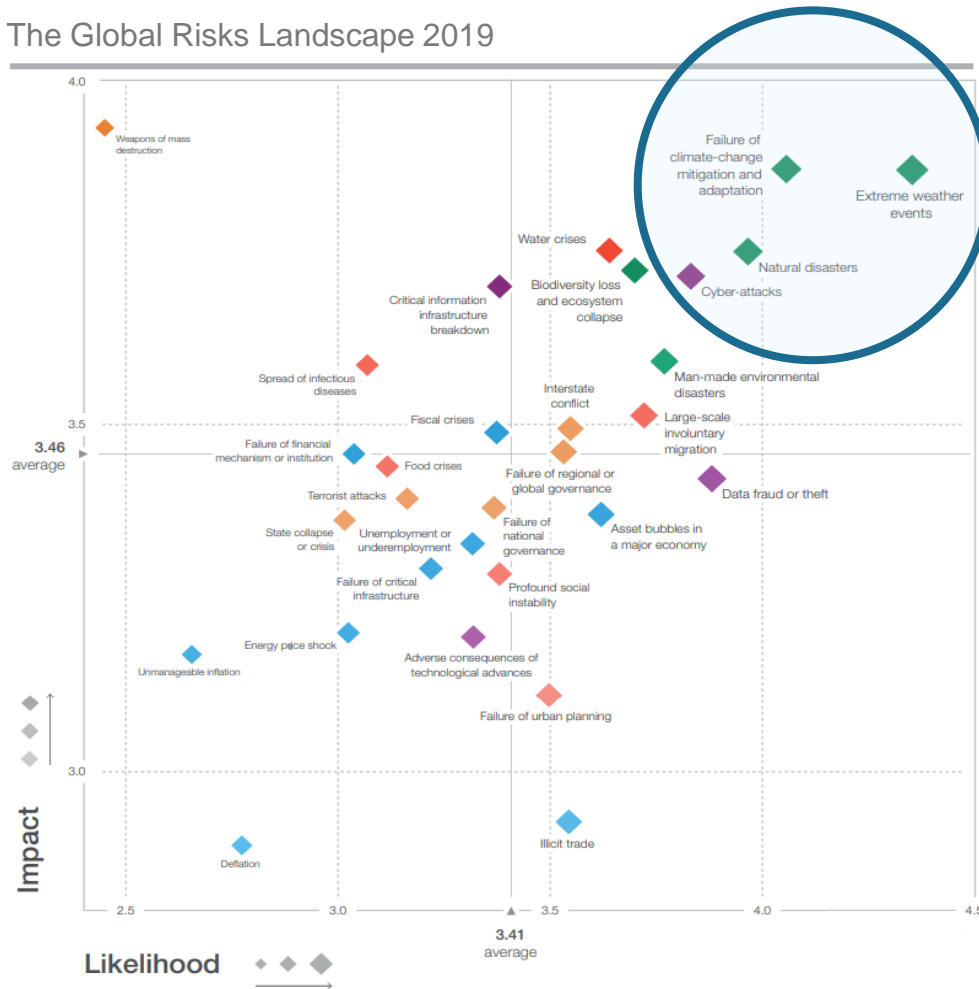
⁽¹⁾ McKinsey (2010), *Global GHG abatement cost curve*

€865 billion are required to capture the potential abatement of 38 GtCO₂ emissions in 2030

Source: McKinsey (2010), *Global GHG abatement cost curve*

Recognition of Climate change as the Biggest Risk

The Global Risks Landscape 2019



HIGH CLIMATE CHANGE RELATED RISKS

- Now the biggest risk at Davos in terms of impacts and likelihood.
- A clear trend just after the financial crisis.

Source: World Economic Forum, « The Global Risks Report 2019 »

A Tipping Point

BEFORE 3 to 5 years ago

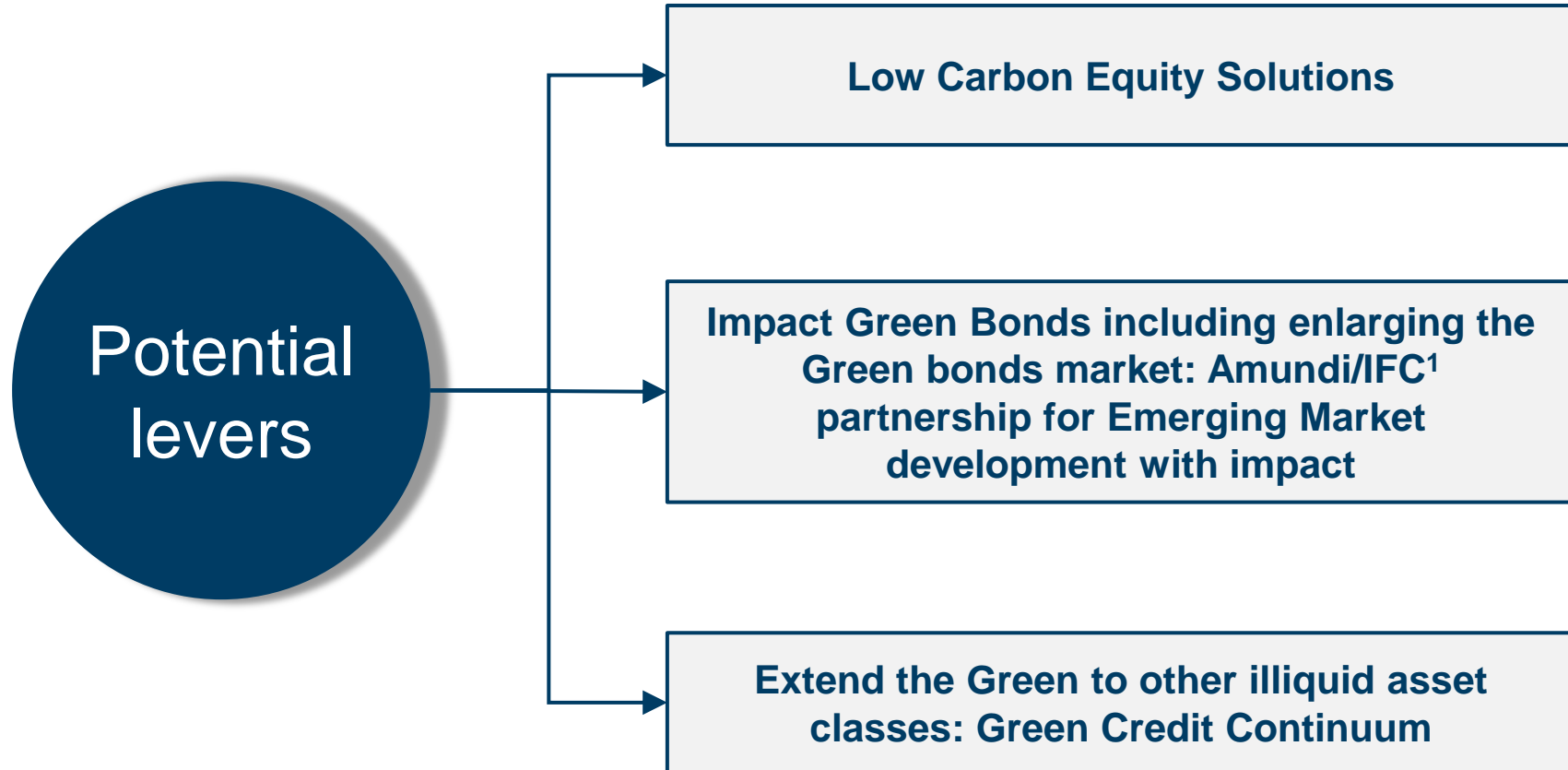
- 1 Deniers
- 2 One of many risks
- 3 Limited regulations
- 4 No global agreement
- 5 China blocking
- 6 Limited interest within populations
- 7 Economics only
- 8 « Abstract » topic
- 9 Cost of renewables
- 10 Few European investors



TODAY

- 1 Acceptance of climate change
- 2 Biggest risk
- 3 Multiple regulations
- 4 COP 21
- 5 China leading
- 6 Millennials
- 7 Impacts on health
- 8 Observations in day to day lives
- 9 Competitive pricing
- 10 Major world investors

Examples of concrete initiatives to help close the gap



¹ International Financial Corporation

Low Carbon Equity Solutions

Example of MSCI low carbon indice to hedge carbon exposure



Index co-developed by AP4, FRR and Amundi

Key metrics 2010-2018	MSCI World	MSCI World Low Carbon Leaders
Total Return ¹	10.01%	10.37%
Volatility ²	10.14%	10.20%
Tracking Error ¹	-	0.53%
Securities excluded		345
CO ₂ <i>Emission</i> intensity reduction (tCO ₂ /m\$) ³		- 50%
CO ₂ <i>Reserves</i> intensity reduction (tCO ₂ /m\$) ³		- 55%

Source: MSCI

¹ Net Total returns annualized in USD – From November 2010 to May 2018.

² Volatility based on monthly net returns data over 5 years

³ Data as of end December 2017

The cumulative index performance is from MSCI . Past performance does not prejudice future results, nor is a guarantee of future returns

Green, Social and sustainability Bond Markets

The Green, Social and Sustainability Bond Market

What is a Green, Social or Sustainability Bond?

A standard Bond

Dedicated Use of Proceeds for Green/ Social Eligible Projects

MITIGATION



ADAPTATION

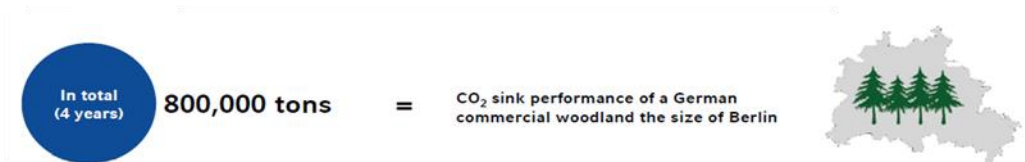


SOCIAL



Clear Selection Process and Management of Proceeds

Reporting on the Use of Proceeds and when feasible on the environmental and/or social impact



Green Bonds – Made by KfW



The Green, Social and Sustainability Bond Market

Example of Eligible Assets

Funds raised by Green, Social and Sustainability Bonds are earmarked for green and / or social projects:

Examples of eligible assets

MITIGATION

- Renewable Energies (Wind, Solar, Biomass, Hydro, etc.)
- Energy Efficiency (optimization of processes)
- Smart Grids, Smart Cities
- Public and Green Transport

ADAPTATION

- Climate-related infrastructure
- Sustainable water and wastewater management
- Waste Management, Waste Water Treatment
- Forestry and Sustainable Agriculture
- Biodiversity conservation

SOCIAL

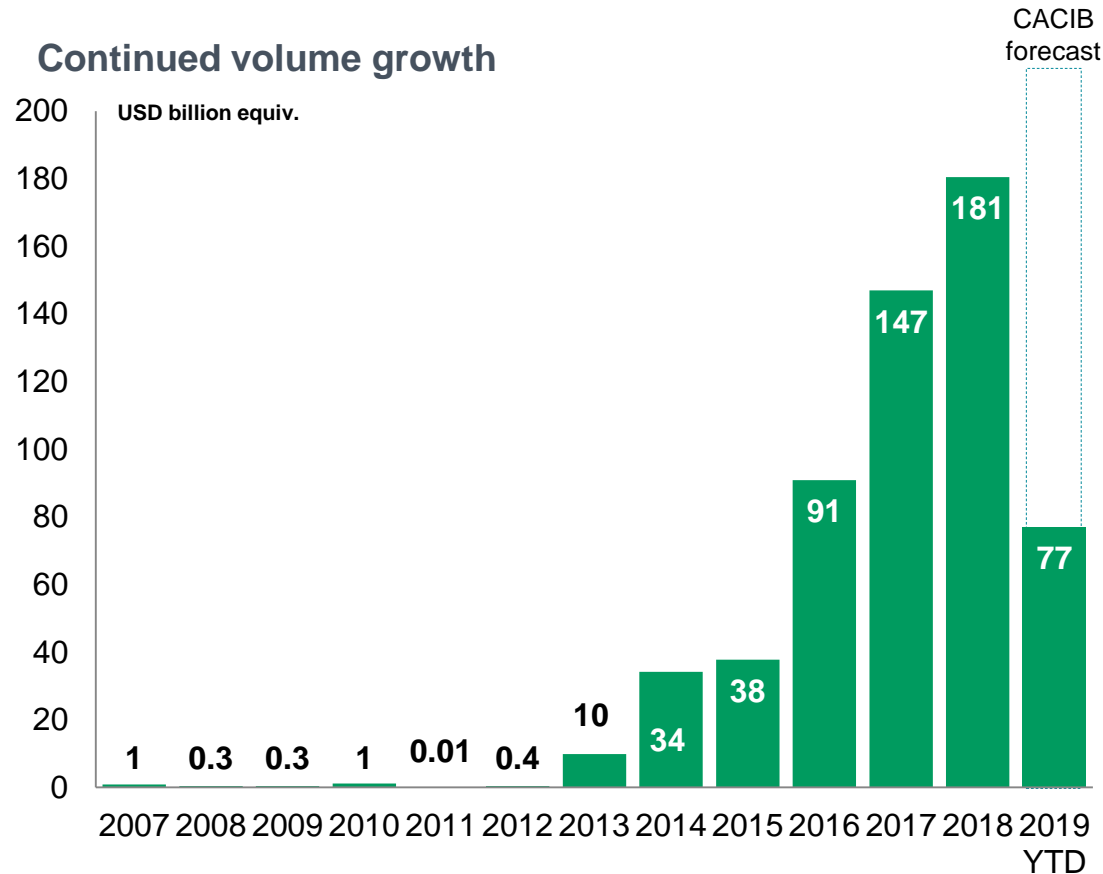
- Education
- Health and Food security
- Reduction of inequalities (Poverty reduction)
- Addressing unemployment
- Gender equality
- Affordable basic infrastructure and housing

The Green, Social and Sustainability Bond Market

Market growth and diversification



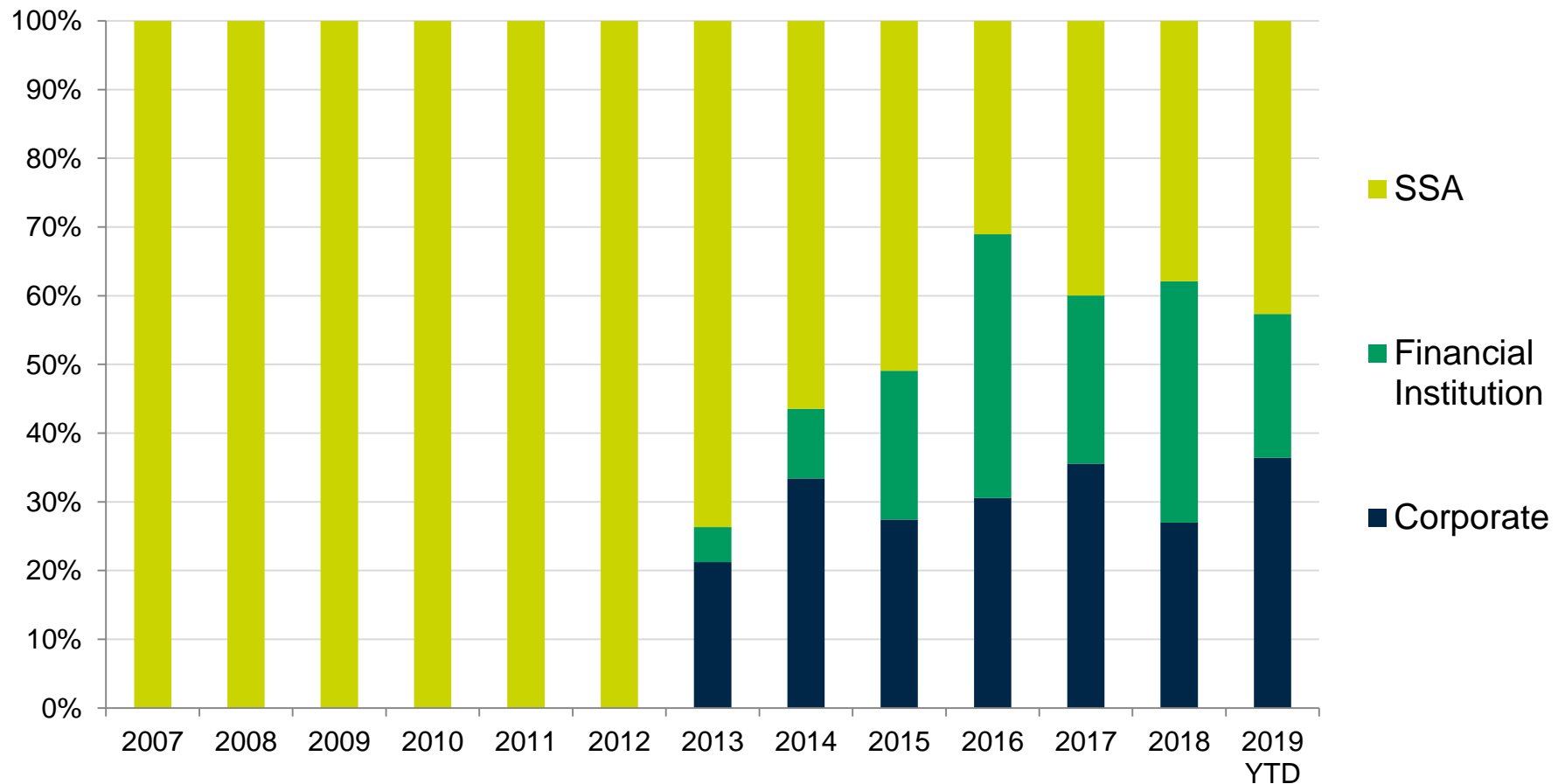
Continued volume growth



- 2018 hit record levels with 181bn USD in green social and sustainability bond issuance globally
- New issuer contribution was higher than expected contributing 41% of total supply
- The CACIB 2019 forecast is USD 205bn in issuance
- This forecast relies on increased sector and geographic diversification

The Green, Social and Sustainability Bond Market

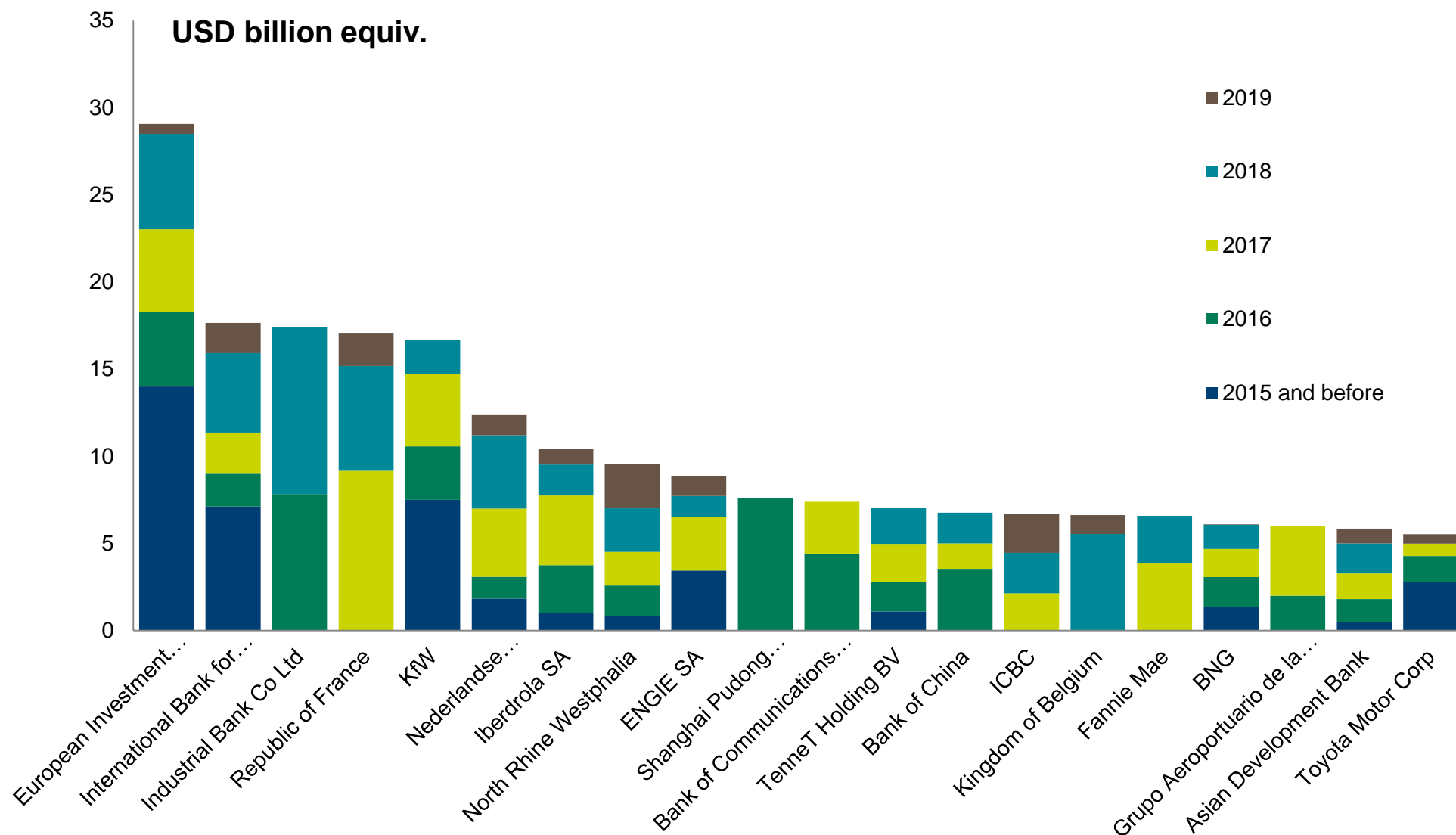
Market growth and diversification: issuer diversification



Source all charts: Dealogic, Crédit Agricole CIB Sustainable Banking (As of 17th April 2019)

The Green, Social and Sustainability Bond Market

Market growth and diversification: Largest issuers



Source all charts: Dealogic, Crédit Agricole CIB Sustainable Banking (As of 17th April 2019)

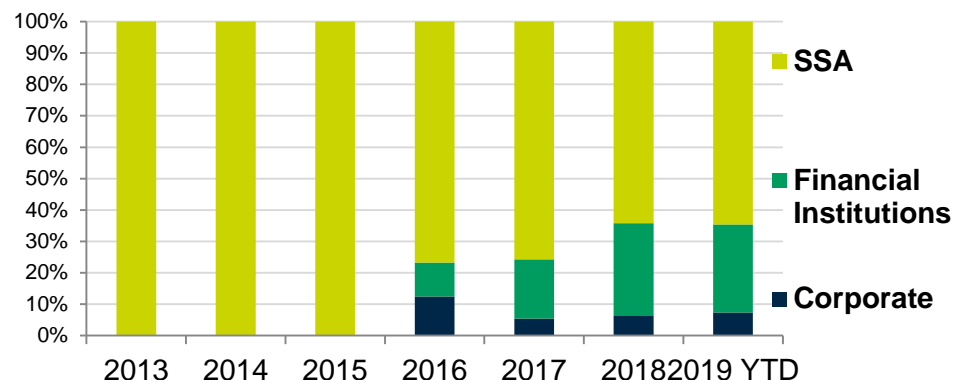
The Green, Social and Sustainability Bond Market

Social and Sustainability issuance

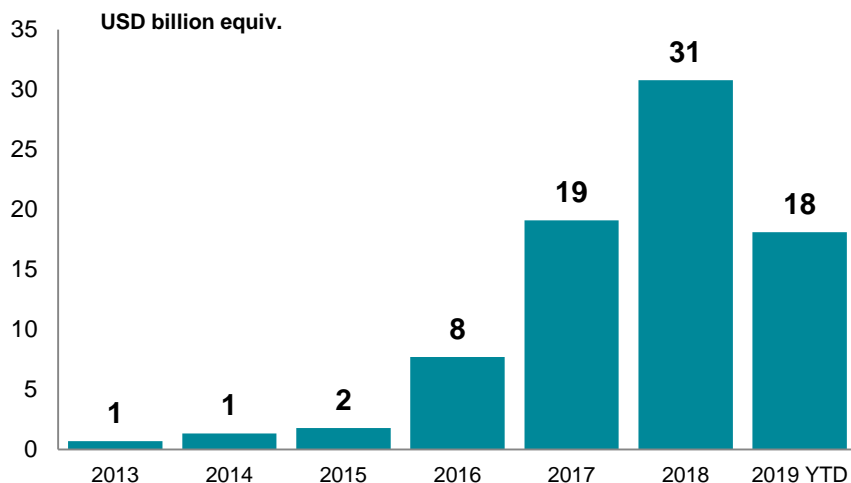
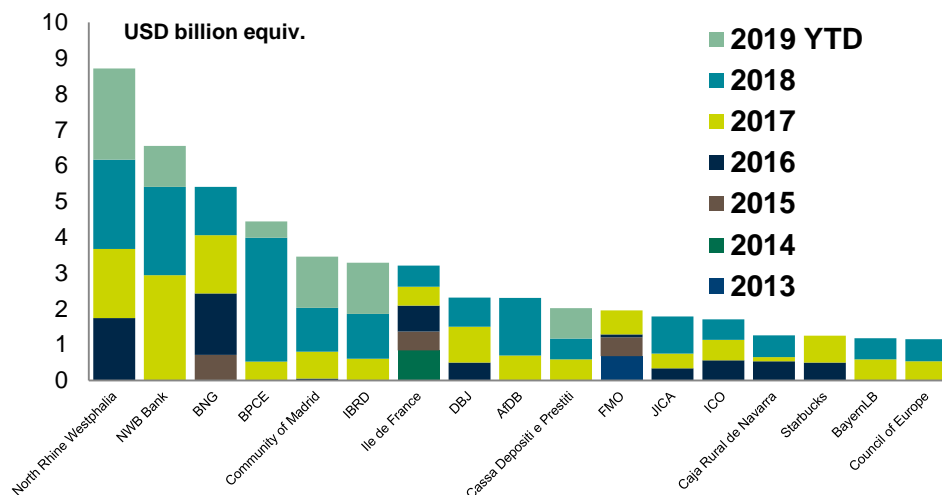
- Social Bonds are a sub-segment of Sustainability Bonds market.
- Funds for Social Bonds are invested in social-related activities, generally linked to improving access to basic goods or services for low-income people or projects supporting inclusive growth: social housing, SME financing, hospitals, microfinance, etc.

Diversification of issuers

- A growing market



Largest issuers



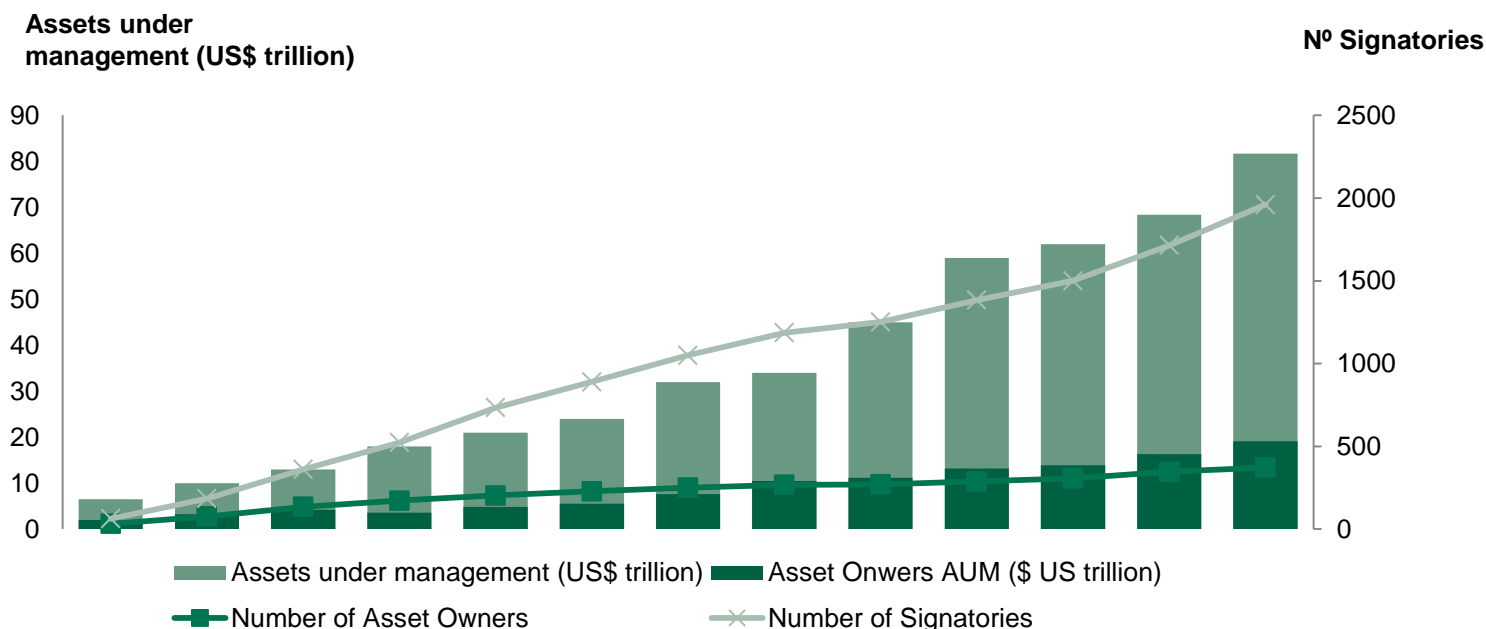
Source all charts: Dealogic, Crédit Agricole CIB Sustainable Banking (As of 25th March 2019)

The Socially Responsible Investor Base: Strategy and Expectations

The growth of the SRI investor base in the bond markets

- SRI (Socially Responsible Investment) is a generic term encompassing investment strategies combining financial objectives with Environmental(E), Social (S) and Governance(G) considerations (ESG).
- Fixed-income a major segment of SRI assets under management. Fixed-Income investors holding SRI mandates are increasingly interested in investment products enabling them to take into account their ESG objectives, such as **Green and Social Bonds**.

Growth of PRI signatories and assets under management from 2006 to 2018



- Over **2,250 investment organizations**, representing over **US\$85 trillion**, have signed up to the PRI.
- 22 of the world's 50 largest private debt investors are PRI signatories.

From Structuring to Investing in Green Bonds

An Overview of the Green and Social Bond Principles

Structuring a Green, Social or Sustainability Bond

The Four Core Pillars of the Green and Social Bond Principles



Use of Proceeds



Process for Project
Evaluation and Selection



Management of Proceeds



Reporting



Sustainability Bond Guidelines
June 2018

An Overview of the Green and Social Bond Principles

Four Pillars

From the Green and Social Bond Principles ...

1. Criteria for projects

Clearly define eligible green projects or assets
Eligibility criteria shall make sure that the projects contribute to climate change mitigation and/or sustainable development.
Potential Eligible Assets should be tangible assets if possible, with a clear positive environmental impact and documented in a way that shall facilitate the reporting.

2. Evaluation and Selection

Internal process to select green projects or assets that promote a transition to a climate-resilient and sustainable growth.

3. Management of Proceeds

Tracking of proceeds and the temporary use of funds (until their disbursement for green projects)
Nominal correspondence: green investments on one side and bond proceeds on the other side with list of projects and social and environmental impacts.

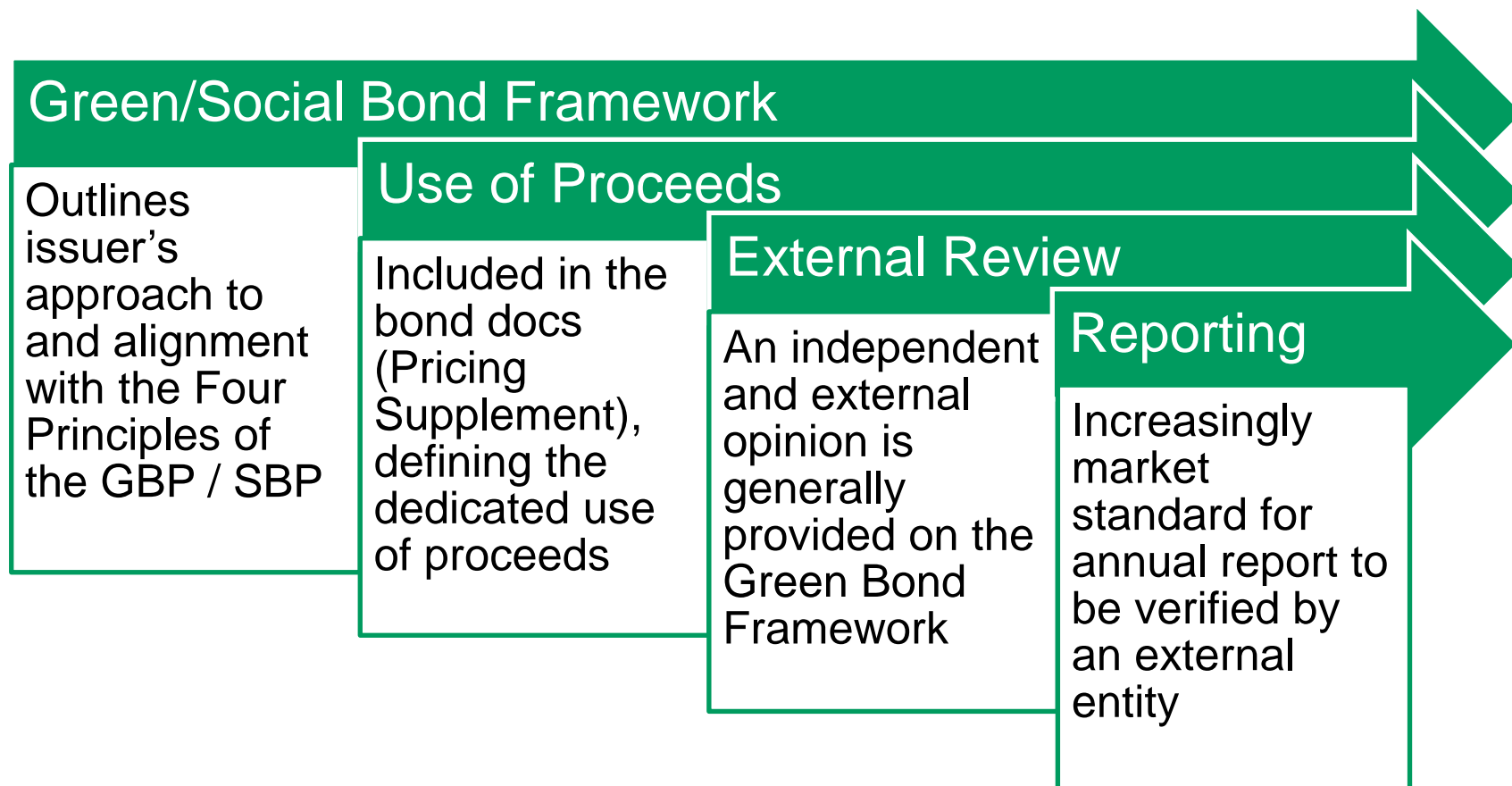
4. Reporting

Periodical reporting should be provided with information on projects or assets which have been financed with environmental and/or social impacts
Reporting shall be publicly available and produced at least annually.

An Overview of the Green and Social Bond Principles

Key Documentation

... to the transaction documentation



An Overview of the Green and Social Bond Principles

External verifier – overview of main providers



- Provides an independent review of the issuer, its ESG strategy and the context of the Green Bond. It also confirms that the framework is aligned with the GBP principles.
- SPO are strongly recommended by the Green Bond Principles and have been provided by a vast majority of Green Bonds buyers



- Verification may speak to alignment of the Green, Social or Sustainability Bond framework or process with internal or external standards. It can also attest the issuer's internal tracking method for Use of Proceeds, allocation of funds.



- The Climate Bonds Standard and Certification provides clear, sector-specific eligibility criteria for assets and projects that can be used for Climate Bonds and Green Bonds



- Moody's Green Bond Assessment (GBA) provides an opinion on the relative effectiveness of the issuer's approach for managing and allocating the proceeds and for reporting on projects financed by Green Bonds. Each bond is rated on a scale from [A to G]
- S&P's Green Bond Evaluation (GBE) is based on the alignment to the Green Bond Principles. The transparency, the governance, and the nature of the assets to address climate mitigation or adaptation is analyzed to produce a Green evaluation scoring

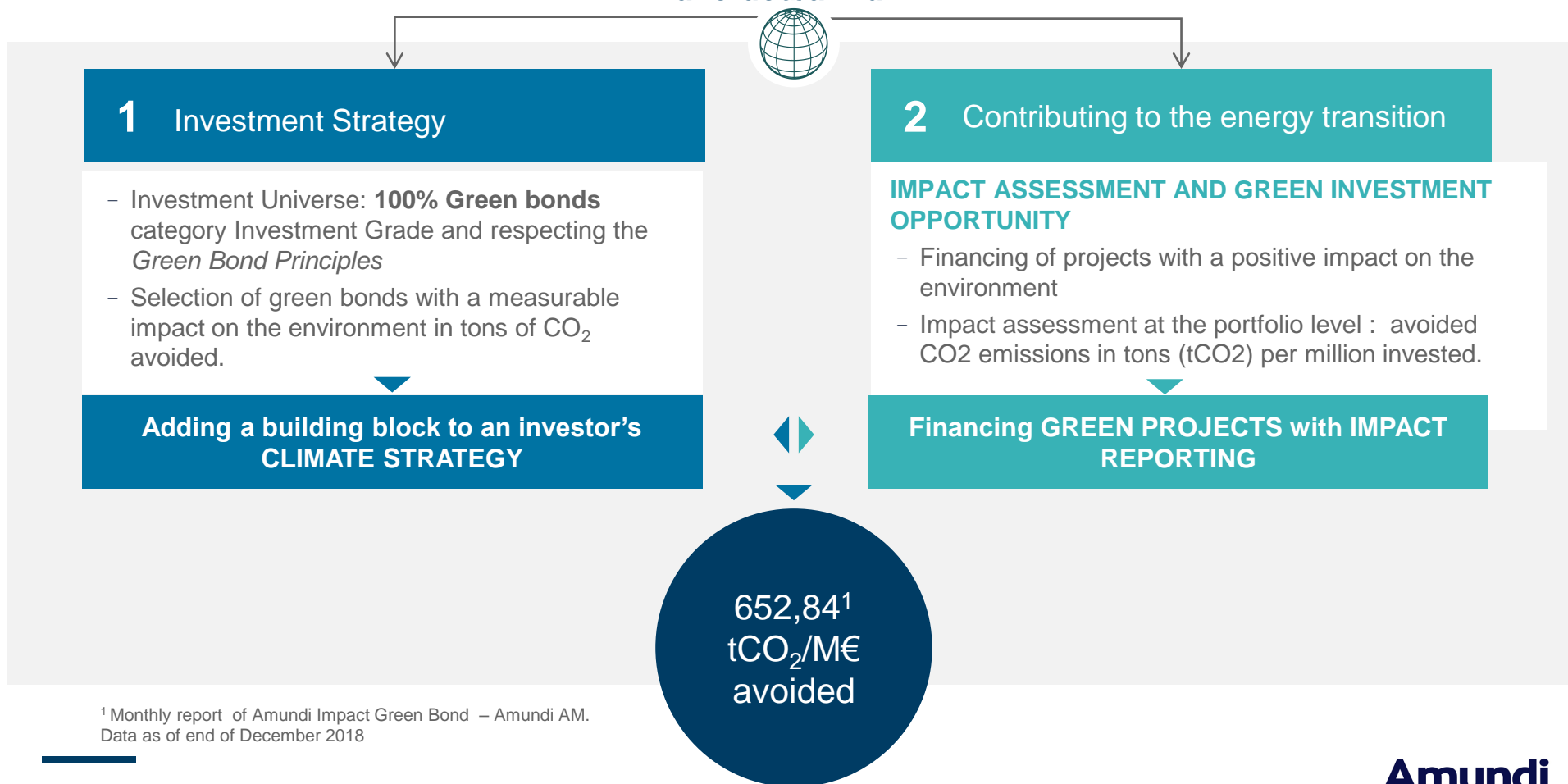
An Overview of the Green and Social Bond Principles

Climate Bond Initiative Certification

	Can be certified now	Criteria in development	TWGs launching soon
Energy	 WIND  SOLAR  GEOTHERMAL  MARINE	 HYDROPOWER  BIOENERGY	 ELECTRICAL GRIDS
Transport	 RAIL  VEHICLES  BUS/RAPID TRANSIT	 WATER TRANSPORT	
Utilities	 WATER	 RECYCLING & REUSE  DISPOSAL	 IT  COMMUNICATIONS
Buildings	 RESIDENTIAL  COMMERCIAL		
Natural Resources	 FORESTRY	 AGRICULTURE  FISHERIES	
Industry			 CEMENT  STEEL  MANUFACTURING & PROCESSING

Impact Green Bonds

Financing green projects with a measurable impact on the environment & engaging green bond issuers on environmental disclosure with a run rate of 136 kT avoided/annum



¹ Monthly report of Amundi Impact Green Bond – Amundi AM.
Data as of end of December 2018

Impact Green Bonds

Project's category

Renewable Energy



Wind Farm
Solar Power
Hydro Power
Transmission network

Energy Efficiency



Smart grid
Certified Green Buildings
Clean Transportation

Geographical Exposure

Global financing




Fighting climate change
all over the world

Portfolio exposure :
50% in Europe *



* As of December 31st 2018

Emerging Green Bond partnership with the IFC¹

The Challenge	Lack of solutions in emerging markets	<ul style="list-style-type: none">– Green bonds have become an effective way to channel capital toward the energy transition.– Emerging market green bond issuance is growing but still represents a small proportion (22%) of all outstanding green bonds²– Potential \$23tn climate-smart investment opportunity in emerging markets between now and 2030³.
Combined Expertise	Catalyst for sustainable finance	<ul style="list-style-type: none">– IFC: Fostering sustainable finance and creating new market. Mobilizing financial institutions.– Amundi: Emerging market debt capabilities with an expertise in green finance innovation. 
Meeting Investors Demand	Yield with impact	<ul style="list-style-type: none">– Yields associated with emerging markets debt.– Credit enhancement through first-loss absorption mechanism by IFC.– Diversified exposure at institutional scale.– Generate impact through green bonds.

¹ International Financial Corporation

² Source: Climate Bonds Initiative database as of 14/03/2018

³ Source: IFC, « Climate Investment Opportunities in Emerging Markets – An IFC Analysis », 2016.

Emerging Green Bond partnership with the IFC¹

Amundi/IFC Partnership for Emerging Market Development with Impact

Development of local capital markets

- Leverage IFC expertise in catalyzing emerging market development
- Focus on financial institutions to finance the real economy

With impact benefits

- Target 100% portfolio of green bonds issued by financial institutions in emerging markets
- Spread green bond issuance and reporting best practices

Unique PPP Capital markets

New business model for Developing Banks

- Use of the balance sheet to mobilize capital markets

GCB Strategy

Selected green bonds



Green bond issuance

Emerging market financial institutions

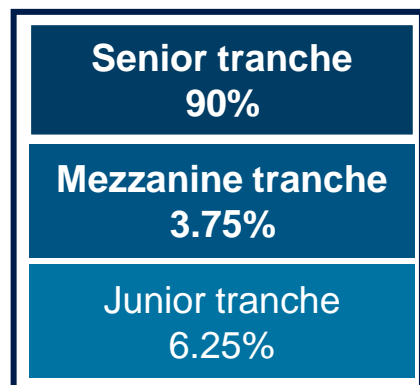


¹ International Financial Corporation

EM Green Bonds fund structure

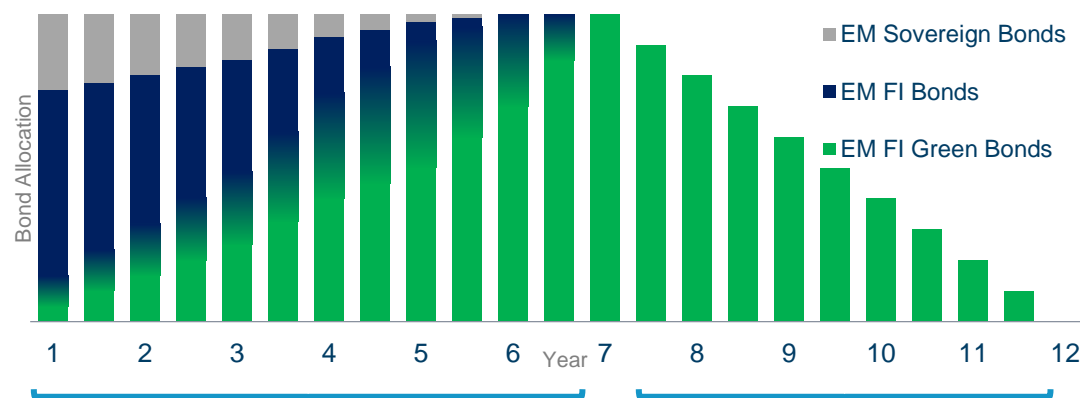
Financing the energy transition in Emerging Markets

Structure



1,4
bn\$

Portfolio



Pooled vehicle

- Luxembourg Specialized Investment Fund (SIF)
- European AIF
- Shares to be listed
- 12yr legal maturity

Fin. features:

- EMD Hard Currency
- Portfolio target gross yield > [5.0%]
- Indicative rating: [BB+/BB]

Investment period

- From 100% EM bonds (with systematic ESG screening)
- To target 100% FI green bond⁽¹⁾
- Capture yield premiums
- Finance the energy transition

Run-off period

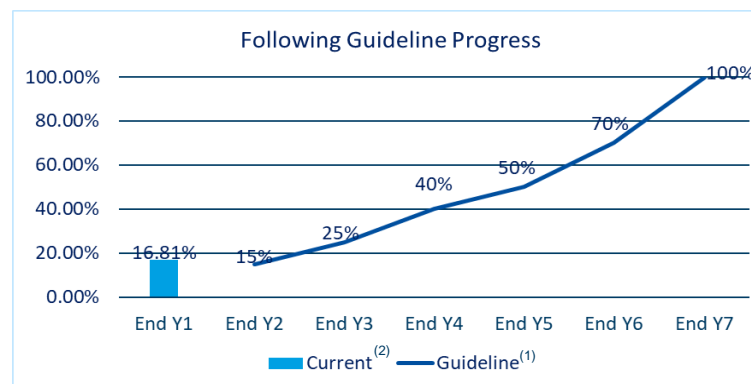
- FI green bond portfolio matures
- Other bonds—if any—to be divested⁽²⁾
- Distributions of proceeds to investors

For professional investors only. (1) There is no assurance that the portfolio will reach the green bonds investment targets as indicated in the chart above. (2) Within a period of 6 months subject to normal market conditions.

Fund progressing in line with the plan

Amundi Planet – Emerging Green One's portfolio is fully in line with expectations⁽¹⁾

- Portfolio yield in USD (gross of fees): 6.59%⁽²⁾
- Diversified portfolio (111 issuers) with BB+ average rating



Issuer	Size (€mn) (10)	% held by Fund (11)	% of portfolio	Project description	GHG emission avoided (tCO ₂ e/year)
Agricultural Bank of China	458	0.2%	0.4%	RE ⁽¹²⁾ ; Green transport.	1,748,995
Axis Bank	458	1.2%	3%	RE; Low-carbon transport; EE ⁽¹⁴⁾ buildings.	1,000,000
Banco Nacional de Costa Rica	429	4.9%	11.9%	RE (such as wind, solar or hydro projects that are less than or equal to 50 megawatt (MW)).	N/A
Beijing Capital Polaris Invest	406	1.8%	4.5%	Sustainable waste management; Air pollution control; Sustainable water management; Low-carbon transportation; Sustainable agriculture; Green buildings.	Promised
Brazilian Development Bank	858	7.8%	19.1%	Eight wind power projects with a total of 1,323 MW new installed capacity.	421,608

For professional investors only.

Source: AMUNDI. (1) Projected performance is not indicative of future results and there can be no assurance that any fund or other vehicle managed or advised by any Amundi fund or any of its affiliates will achieve comparable results. (2) As of 31/12/2018. The past performance of investments does not prejudice future returns.

Reporting and Impact Measurement

An Overview of the Green and Social Bond Principles

The Importance of Reporting



- By investing in Green Bonds, investors seek more transparency on the assets financed with their funds as well as the social and environmental impact of their investment.
- The reporting of Green Bond is the ultimate tool enabling them to get access to this information. As such, reporting analysis is part of the analysis of the Green Bond framework with a strong focus on those two pillars:

Transparency

- Investors like to see a list of projects financed by the bond.
- Some investors ask for an external auditor to check allocation of proceeds. This attestation is a quasi-prerequisite for private issuers and became a feature for public issuers (KfW, FMO).

Impact reporting

- Reporting on the environmental and/or social impacts of Green Bonds is increasingly demanded by Green Bond investors and by market observers. As a result, issuers are increasingly providing investors with at least indication of GHG emissions reduction as a main KPI of environmental impact
- A few issuers use an external consultant establishing the methodology for the calculation of the CO₂ impact of their program.

Emerging Green Bond partnership with the IFC¹

Annual Impact Report

1st report published on the 29th of April, 2019.

1. Status report on the implementation of the ESG policy
2. Portfolio ESG characteristics
3. Update on the development of E&S systems in EM banks.
4. Green bond ramp up status
5. Green bond project exposures
6. Green bond impact recorded
7. Activity report on IFC's GB-TAP supply side initiatives
8. Market research on green bond investment universe (Market sizing and policy tracking)

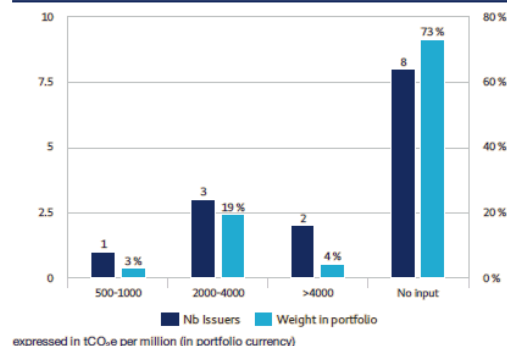
Impact Reporting

Avoided emissions *

Avoided emissions per €1Mn invested per Year
* Calculation limited to green bond portfolio, based on available data

tCO₂e
145.04

Breakdown of avoided emissions* per bond



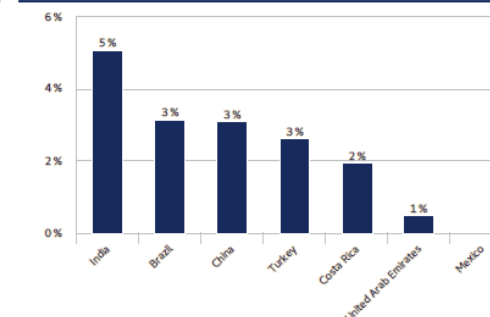
Green Bonds

	Issuer (Original)	% asset
BND5 4.75% 05/24 REGS	BND5-BCO NAC DESVOL ECO SOC	18.94%
INRCIN 3.835% 12/27	INDIAN RAILWAY FINANCE	18.33%
TSKBTI 4.875% 18/05/21	TURKIYE SINAI KALKINMA BANKASI	15.83%
BNALCR 5.875% 25/04/21 REGS	BANCO NACIONAL DE COSTA RICA	11.72%
STATE BANK OF INDIA L 4.75% 25/09/23 USD	STATE BANK INDIA LONDON	9.33%
ICBCAS 2.875% 10/22	INDUS & COMAL BANK CHINA/LUX	5.30%
BEICAP 4.25% 03/21	BEIJING CAPITAL POLARIS INVEST	4.52%
ICBCAS FRN 06/23	INDUS & COMAL BANK CHINA/LONDON	3.59%
INDUBK FRN 11/21	INDUSTRIAL BANK CO LTD/HK	3.16%
NBADUH 3% 03/22	FIRST ABU DHABI BANK	3.09%
AXSBIN 2.875% 6/21	AXIS BANK/DUBAI	3.07%
SDBC 2.75% 11/22	CHINA DEVELOPMENT BANK CORP	1.77%
NAPIN 3.375% 05/11/20	NACIONAL FINANCIERA SNC	0.90%
AGRICULTURAL BANK OF CHINA	AGRICULTURAL BANK OF CHINA	0.45%

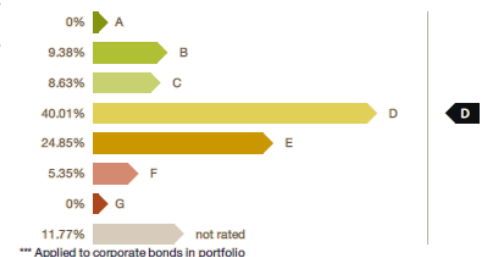
Green Bonds

Green Bonds
Weight in portfolio
16.54%

Green bond portfolio breakdown by country



Portfolio ESG rating breakdown ***



Disclaimer



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CRÉDIT AGRICOLE CORPORATE AND INVESTMENT BANK is incorporated in France with limited liability and registered in England & Wales. Registered number: FC008194. Branch No. BR 1975. Registered office: Broadwalk House, 5 Appold Street, London, EC2A 2DA.

Appendix



Crédit Agricole CIB has **won every IFR SRI Bond House Award** since its inception in 2015



For the **5th year** running Crédit Agricole CIB wins the Overall Most Impressive Bank for Green/SRI Capital Markets award by this market survey

Other Sustainable Banking Awards



CACIB Green Bond Research



Amundi, a rewarded & certified ESG company

Our awards

Rated A+ by PRI



PRI annual assessment: **Amundi rated A+ in 2018 for the fourth consecutive year** for its responsible investment approach funds..

Best Asset Manager for SRI /ESG



1st place in the SRI & Sustainability ranking published by **Extel and UKSIF**, in 2015, 2016, 2017 and 2018 in the Asset Management Best Firms category for SRI/ESG.

SRI Award for the quality of its Responsible approach



Investor Awards 2017: Amundi won the SRI award among 40 companies in the running.

Best SRI Analysts & Corporate Governance



Top 3 in 2014, 2015 and 2016 of **the IRRI ranking** which rewards the best governance and SRI analysts.

Our certifications

First asset management company **certified by AFNOR** for its **SRI approach**.



Amundi is also the first company to obtain the **SRI Label created by the Ministry of Finance and Public Accounts** for several funds.



PRI: Principles for Responsible Investment supported by the United Nations. 2018. **EXTEL:** European Independent firm in survey and evaluation of quality across the European investment industry (2015 to 2018). **Boursorama** - Investor Awards 2017. **IRRI:** Independent Research In Responsible Investment - Survey 2016. **AFNOR:** recognized independent certification organization supervised by the French Ministry of Industry, a member of ISO. 2013 & 2016. **ISR Label:** in 2016, Amundi obtained the French SRI Label for several funds

ESG IS WHO WE ARE

Amundi, a responsible investment DOER & ENABLER.

1	AMUNDI, A RESPONSIBLE INVESTMENT DOER	<ul style="list-style-type: none">— An Avant-garde expertise: founding pillar at the creation of Amundi & 10 year track-record ESG methodology.— An Evolutive approach, from tools to methodologies, to integrate new ESG concerns.— A Comprehensive ESG one-stop-shop for analysis, off-the-shelf investment solutions, engagement & tailor-made design.— A Concrete solutions provider, across asset classes and financial markets.
2	AMUNDI, YOUR RESPONSIBLE INVESTMENT ENABLER	<ul style="list-style-type: none">— Spreading the word through pro-active engagement to promote your beliefs in your portfolios.— Expanding your reach through innovation by supporting supply & demand and creating new markets.— Tailoring our know-how to your ESG journey through Amundi's multi-experts house, from active to passive management, across the whole asset spectrum.— Fostering meaningful changes thanks to our size.

Source : Amundi

Meeting the Sustainable Development Goals (SDGs) with Amundi

Origin and Concept



“This is the people’s agenda, a plan of action for ending poverty in all its dimensions, irreversibly, everywhere, and leaving no one behind”

Ban Ki-moon, former UN secretary general (August 2015)

- 17 Sustainable Development Goals*, part of the 2030 Agenda for Sustainable Development created by the United Nations
- Adopted by 193 countries to end poverty, protect the planet and ensure prosperity for all by 2030
- Designed for Governments, but also for civil society and private sector



Amundi meets the SDGs through 3 main areas:

ESG Analysis

- More than 5,500 issuers rated
- 36 criteria of analysis
- Strict exclusion policy

Engagement Policy

- Ongoing dialogue with companies
- Thematic Engagement for influence
- Active support to collective initiatives

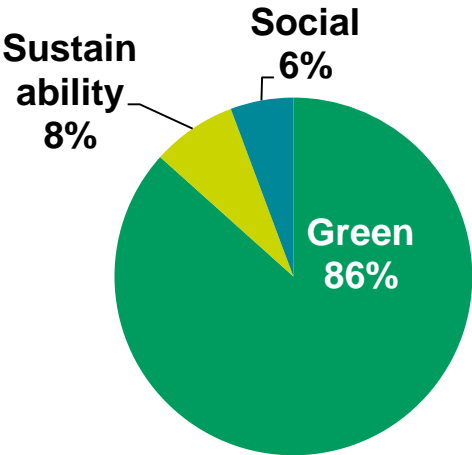
Responsible Investments

- Sustainable & Responsible Investment
- Energy transition
- Social & environmental impact

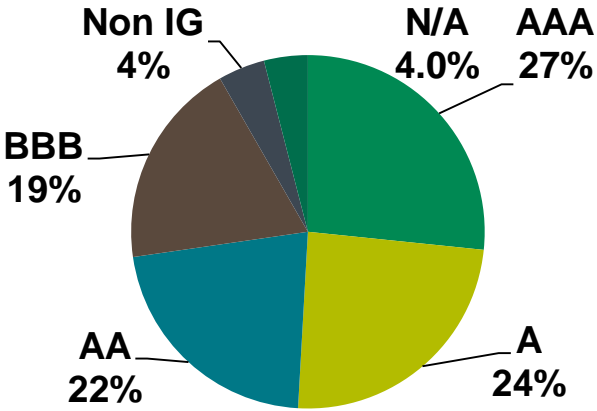
The Green, Social and Sustainability Bond Market

Analysis of the Green Bond Market

Use of proceeds

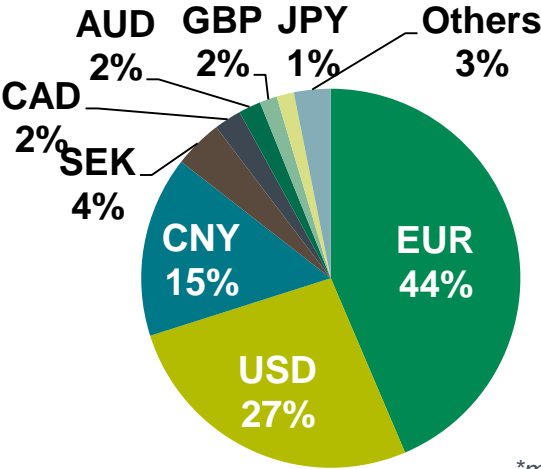


Rating



**Based on Dealogic
"effective rating"*

Currencies



**main currencies in percentage of total amount issued*

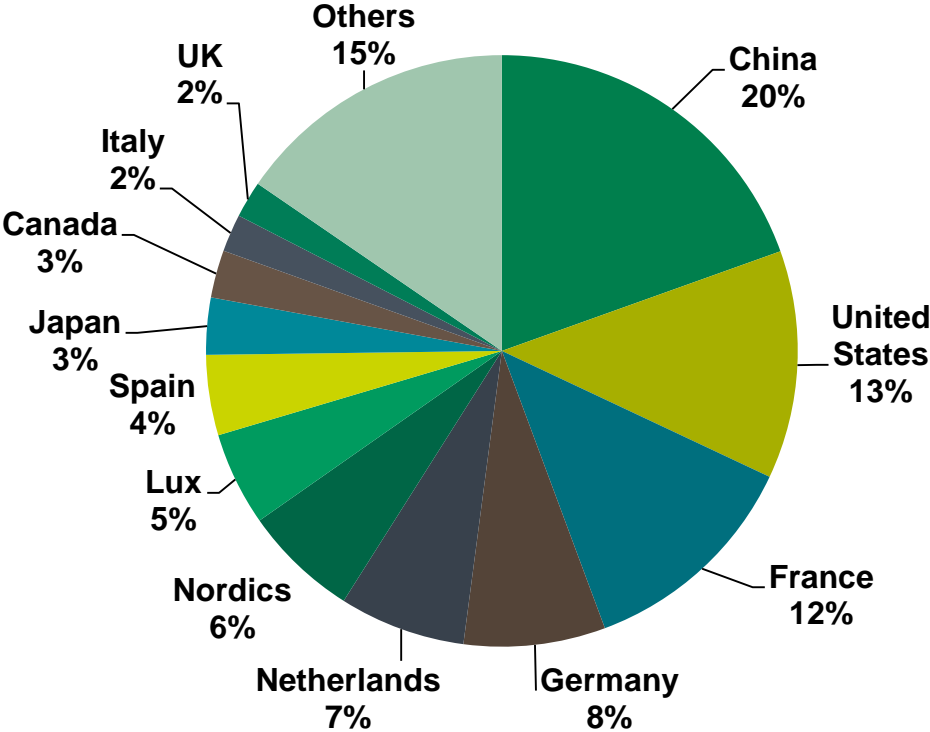
Source all charts: Dealogic, Crédit Agricole CIB Sustainable Banking (As of 25th March 2019)

The Green, Social and Sustainability Bond Market

Analysis of the Green Bond Market

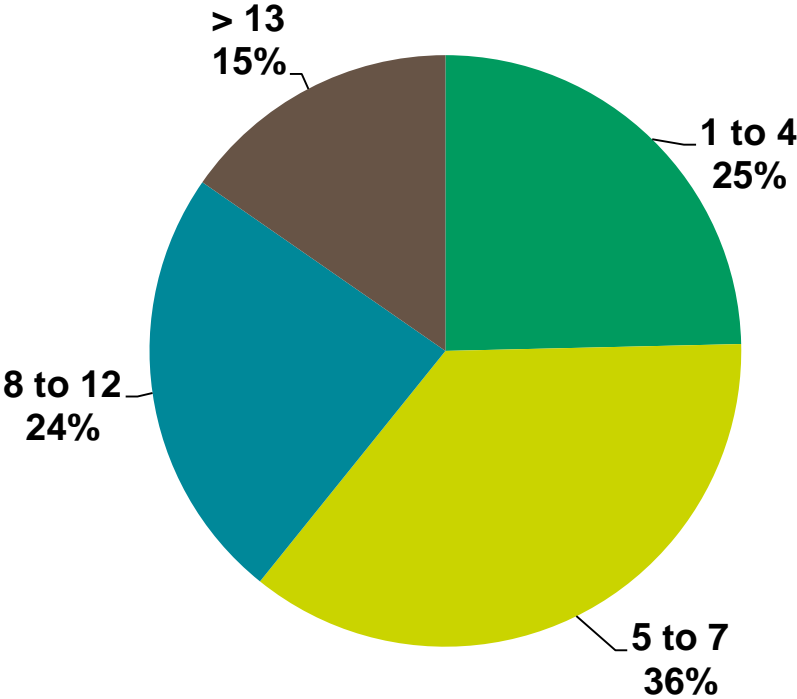


Issuer nationality



**biggest issuer's nationalities in percentage of total amount issued*

Tenor





Source all charts: Dealogic, Crédit Agricole CIB Sustainable Banking (As of 25th March 2019)

An Overview of the Green and Social Bond Principles

Sample categories of eligible green projects (1/2)






Green Bond Category	Sub-Category	Examples of MSCI Metrics
Renewable Energy 	Wind Solar Geothermal Biomass Waste Energy Wave Tidal Small Hydro (<25MW), Biogas, Bio-fuels (first and second generation)	<ul style="list-style-type: none"> ■ MW renewable capacity added ■ Annual GHG emissions avoided in tons of CO2e
Energy Efficiency 	Demand-Side Management Battery, Fuel Cells/Hydrogen Systems Smart Grid Other Energy Storage Superconductors Combined Heat & Power LED Lighting Compact Fluorescent Lighting Insulation Hybrid/Electric Vehicles Clean Transportation Infrastructure Industrial Automation IT Optimization Service & Infrastructure	<ul style="list-style-type: none"> ■ Annual energy savings in MWh or GJ ■ % annual energy efficiency gain relative to an established baseline ■ Annual GHG emissions avoided in tons of CO2e

An Overview of the Green and Social Bond Principles

Sample categories of eligible green projects (2/2)






Green Bond Category	Sub-Category	Examples of MSCI Metrics
Pollution Prevention & Control 	Environmental Remediation, Waste Treatment, Reuse & Recycling of Waste, Low, Conventional Pollution Control	<ul style="list-style-type: none"> ■ Annual reduction in waste to landfill ■ Measureable improvement in air quality ■ Project-specific targets and results
Sustainable Water 	Water Infrastructure & Distribution, Rainwater Harvesting, Smart Metering, Desalinization, Waste Water Treatment, Water Recycling Equipment & Services,	<ul style="list-style-type: none"> ■ Annual reduction in water consumption ■ Measureable improvement in water quality ■ Project-specific targets and results
Green Building 	<p>Green certified properties based on local or global environmental performance standards (eg Energy Star, NABERS >3, etc.) or environmental design standards (eg LEED Certified, BREEAM, etc.)</p> <p>Uncertified Green Property Investments (top 15% energy efficiency within local market)</p>	<ul style="list-style-type: none"> ■ Level of certification by property ■ Energy efficiency gains in MWh or % vs. baseline ■ Annual GHG emissions avoided in tons of CO2e ■ Annual reduction in water consumption

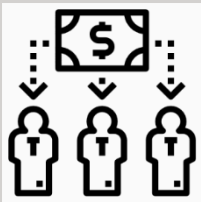

Source: MSCI

An Overview of the Green and Social Bond Principles

Overview of eligible social projects (1/2)

Social Bond Category	Social Sub-Category	Target population	Examples of potential metrics
Affordable basic infrastructure 	Clean drinking water, Sewers, Sanitation, Transport, Energy, Urban Development; Water Supply and Access, Rural electrification	Underserved, owing to a lack of quality access to essential goods and services	<ul style="list-style-type: none"> ■ Number of infrastructure built ■ People that benefitted from new construction
Access to essential services 	Health, Education infrastructure construction/ expansion and refurbishment, Medical equipment funding, People training, Vaccination campaign, Sports facilities, Digital inclusion	Excluded and/or marginalized populations and /or communities, People with disabilities, Undereducated, Living below the poverty line	<ul style="list-style-type: none"> ■ Number of infrastructure built ■ Decrease in disease/death rate ■ School dropout
Affordable housing 	Housing renovation and construction , Building, Loan, Rental housing creation	Living below the poverty line	<ul style="list-style-type: none"> ■ Number of loan granted ■ New housing built or renovated



Social Bond Category	Social Sub-Category	Target population	Examples of potential metrics
Employment generation 	Loans for small, medium or microenterprise, Job training Educational project Vocational training	Unemployed, Living below the poverty line	<ul style="list-style-type: none"> ■ Annual reduction of unemployment ■ Number of job seeker that benefitted from support
Food security 	Medical nutrition, Agriculture development	Vulnerable groups, including as a result of natural disasters , Living below the poverty line	<ul style="list-style-type: none"> ■ Number of beneficiaries ■ Unit of water/food saved or produced ■ Hectares of new cultivable land

An Overview of the Green and Social Bond Principles

Green Bond Use of Proceeds Examples



- Investments in equipment, systems and services which result in a reduced use of energy per unit of product or service generated, such as waste heat recovery, cogeneration, building insulation, energy loss reduction in transmission and distribution;
- Investments in equipment, systems and services which enable the productive use of energy from renewable resources such as wind, hydro, solar and geothermal production;
- Investments in manufacturing of components used in energy efficiency, renewable energy or cleaner production, such as solar photovoltaics, manufacture of turbines, building insulation materials;
- Investments in sustainable forestry; and
- Lending to financial intermediaries with the requirement that the IFC's investments be on-lent to specific climate projects that fit the IFC's green bond eligibility criteria.

An Overview of the Green and Social Bond Principles

Social Bond Use of Proceeds Examples



- Proceeds raised through the AfDB's Social Bond Program will be exclusively applied to finance or re-finance, in part or in full, new and/or existing eligible projects with positive social outcomes.
- In line with the SBPs, "eligible projects" for the Bank's Social Bond portfolio should be projects that:
 - I. Are approved by the Board of Directors of the African Development Bank⁵, and
 - II. Provide and/or promote the following social outcomes, including, but not limited to:
 - Affordable basic infrastructure (e.g. clean drinking water, sanitation, transportation);
 - Access to essential services (e.g. education, health and healthcare);
 - Access to financing and financial services
 - Affordable housing;
 - Employment generation;
 - Food security (agriculture value chain, employment in agri-business);
 - Socio-economic advancement and empowerment;
 - III. And target African populations, including, but not limited to:
 - Living below the poverty line;
 - Excluded and/or marginalized populations and/or communities;
 - Vulnerable groups, including as a result of natural disasters;
 - People with disabilities;
 - Migrants and/or displaced persons;

Green, Social & Sustainability Bond market update

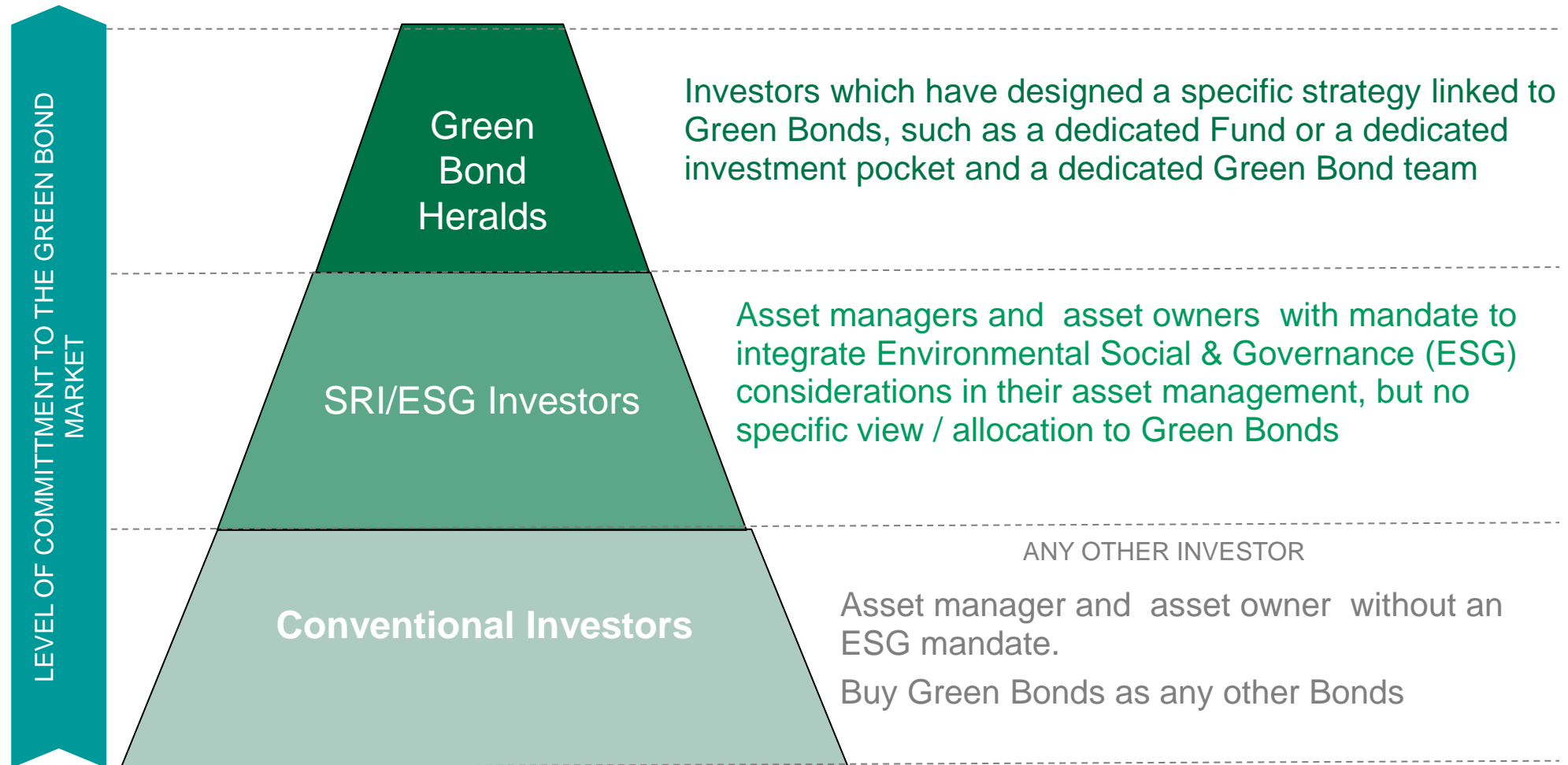
Overview of different issuance strategies

	Green Bonds	Social Bonds	Sustainability Bonds	Thematic Bonds
Supra-nationals, Sovereigns & Agencies	     	     	     	  
Financial Institutions	     	   	  	 
Corporates	     		  	

The Socially Responsible Investor Base: Strategy and Expectations

Segmentation of Investors

- Some conventional investors are developing specific Green Bond strategies or Green Bond funds without having previously created any “SRI” or “ethical” Fixed Income Funds



The Socially Responsible Investor Base: Strategy and Expectations

Sustainable and Responsible Investors - Americas

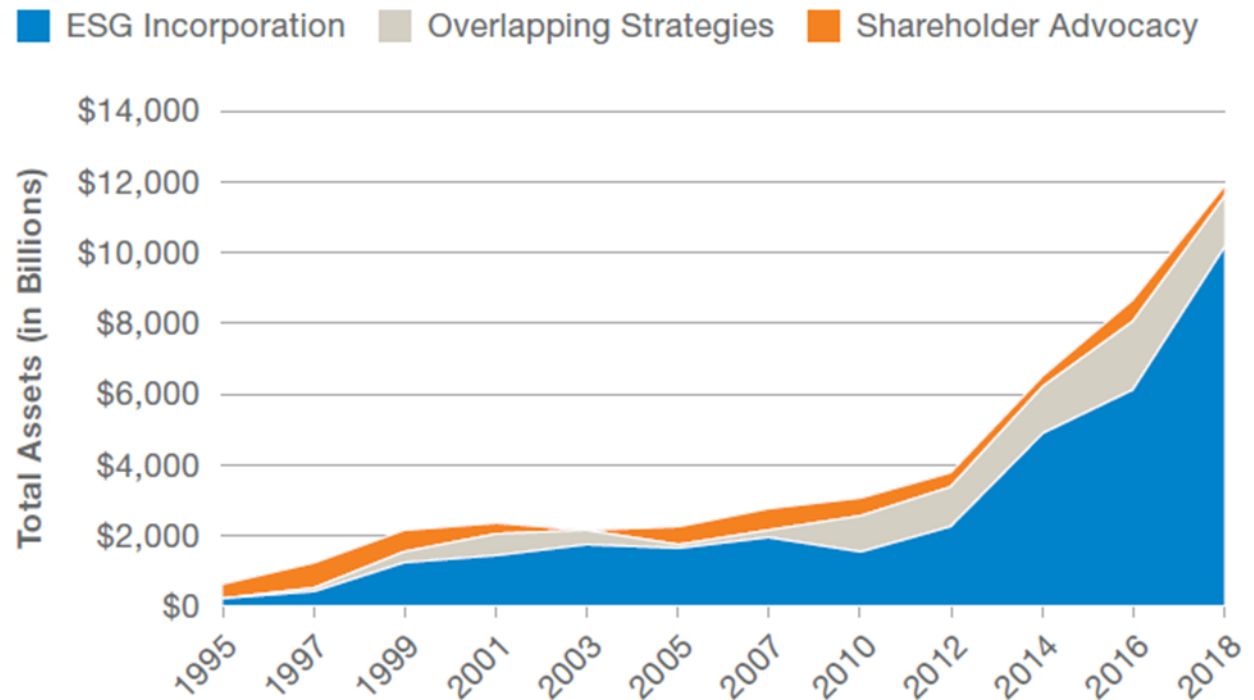


US SIF: The Forum for Sustainable and Responsible Investment works to advance sustainable, responsible and impact investing across all asset classes.

2018 Trends Report found:

- **\$11.6 trillion** in US-domiciled assets are managed by ESG criteria in
- **44% increase** since 2016.
- Social factors considered slightly more often than environmental and governance criteria.

Sustainable and Responsible Investing in the United States 1995–2018

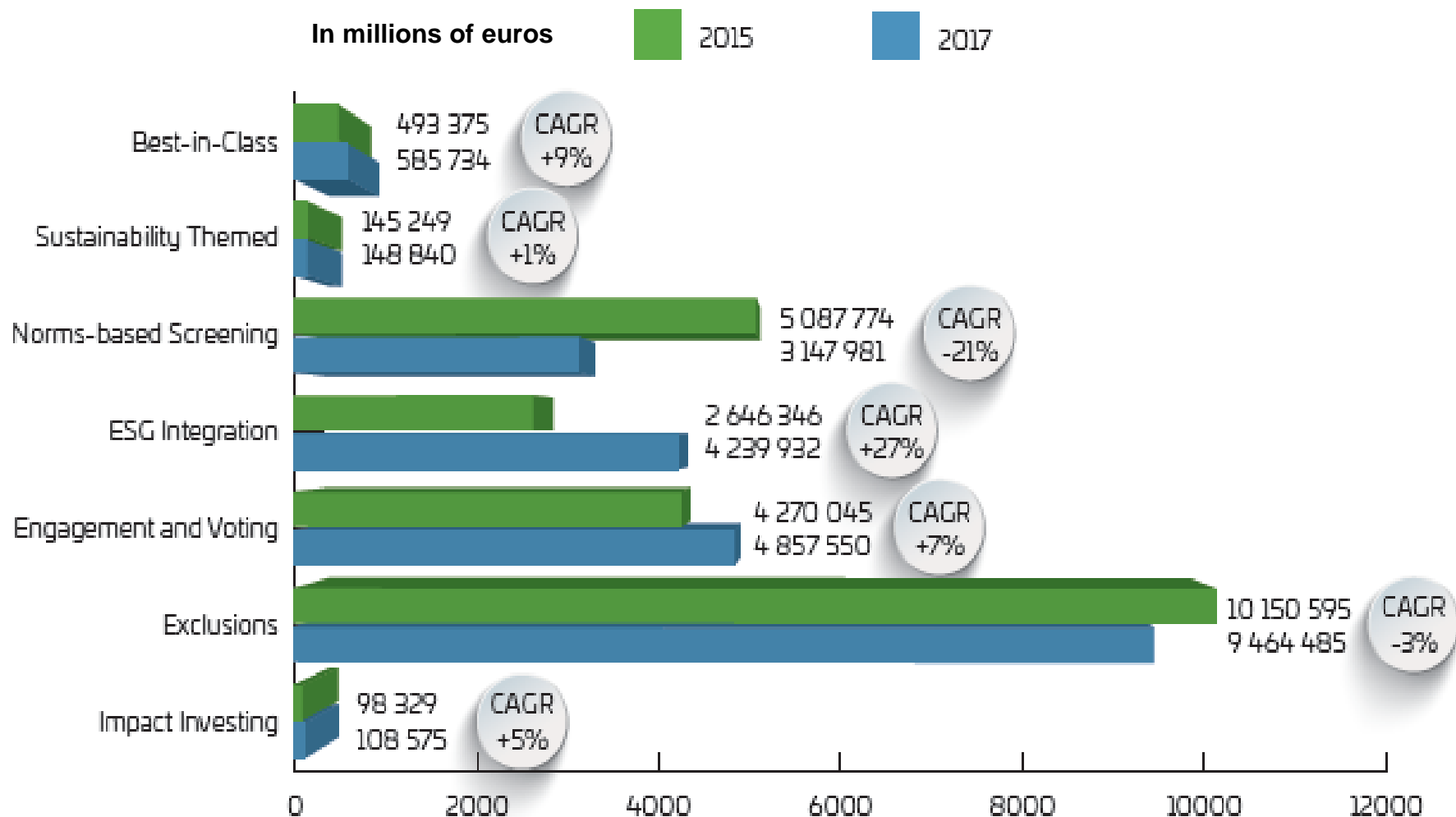


SOURCE: US SIF Foundation.

The Socially Responsible Investor Base: Strategy and Expectations

Sustainable and Responsible Investors - Europe

Overview of SRI strategies in Europe



Source: Eurosif 2018

An Overview of the Green and Social Bond Principles

Mapping of Eligible categories to the UN SDGs

- In June 2018, along with the latest updates of the Green Bond Principles (GBP), the Social Bond Principles (SBP) and the Sustainability Bond Guidelines (SBG), a Mapping to the Sustainable Development Goals was published.
- The document presents a correspondence between the GBP and SBP categories and the SDGs, and also suggests some correspondent KPIs.



An Overview of the Green and Social Bond Principles

Mapping of Eligible categories to the UN SDGs

- The document ***Green and Social Bonds: a high-level mapping to the sustainable development goals*** aims to provide a broad frame of reference by which issuers, investors and other green bond market participants can evaluate the financing objectives of a given Green, Social or Sustainability Bond against the Sustainable Development Goals (SDGs).
- Example of frameworks and reporting aligned to SDGs, include:.

NWB Bank Affordable Housing Bond

A bond aligned with 7 of the 17 UN's Sustainable Development Goals (SDGs)



Extract of KFW Green Bond Impact Report



Looking Forward

Green Bonds 2019 Roadmap

Source: 2018: Crédit Agricole Crédit Research, 11 December 2018 Erwan Créhalet
<https://catalystresearch.ca-cib.com>.



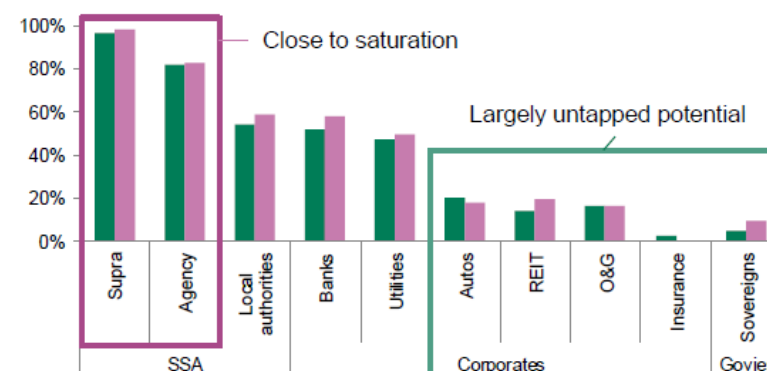
Erwan Créhalet
 Green Bonds Analyst
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 erwan.crehalet@ca-cib.com

Towards USD 205bn in 2019

■ Sector diversification:

- Contraction from the **agency sector, supra and agency** sectors with lowest contribution from new entrants
- Strong potential in the **sub-sovereign sector** (Canadian provinces, Australian states, Germany lander, Spanish regions)
- **Banks:** US banks have yet to enter the market. Some remaining potential in Europe (UK, Swiss and peripheral European banks notably)
- Some largely untapped potential in the **corporate segment** (Autos, O&G, REIT, Insurance) while other **new sectors** are willing to test the market (e.g. telecom)

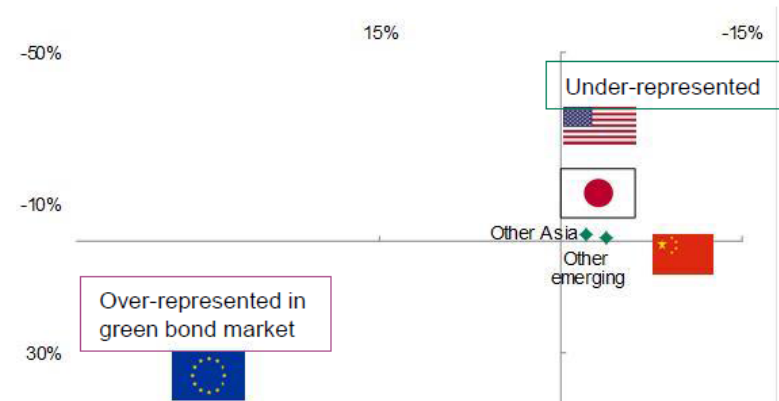
Our sector saturation indices



■ Geographical diversification:

- As **Europe** gradually matures, new growth needed
- **US, Japan, and China** underrepresented in the green bond market given either (1) their weight in total outstanding debt, and/or (2) their weight in global green investments:
 - Recent pick-up in activity in China and in the US - debut green bonds from US Utilities & REITs encouraging
 - Japanese issuers with small deals considering benchmark issues?

Weight in green bond market relative to (1) global clean investments (x axis), and (2) global outstanding debt (y axis)



Active engagement in many collective initiatives

Broad-based Initiatives

- PRI - Principles For Responsible Investment
- Finance for Tomorrow
- EFAMA and AFG Responsible investment working groups
- Pensions For Purpose
- The Embankment Project for Inclusive Capitalism



Environmental Initiatives

- IIGCC – Institutional Investors Group on Climate Change
- CDP – Carbon Disclosure Project
- Montréal Carbon Pledge
- Water Disclosure Project
- PDC - Portfolio Decarbonization Coalition
- Green Bonds Principles
- Climate Bonds Initiative
- Climate Action 100+
- TCFD – Task Force on Climate-related Financial Disclosures
- The Shell AGM Statement
- Act4nature



Social Initiatives

- Access to Medicine Index
- Access to Nutrition Index
- Clinical Trials Transparency
- Human Rights Reporting and Assurance Frameworks Initiative
- Platform Living Wage Financials
- PRI Human Rights Engagement
- WDI – Workforce Disclosure Initiative
- Finansol



Governance Initiatives

- ICGN – International Corporate Governance network
- ACGA – Asian Corporate Governance Association

