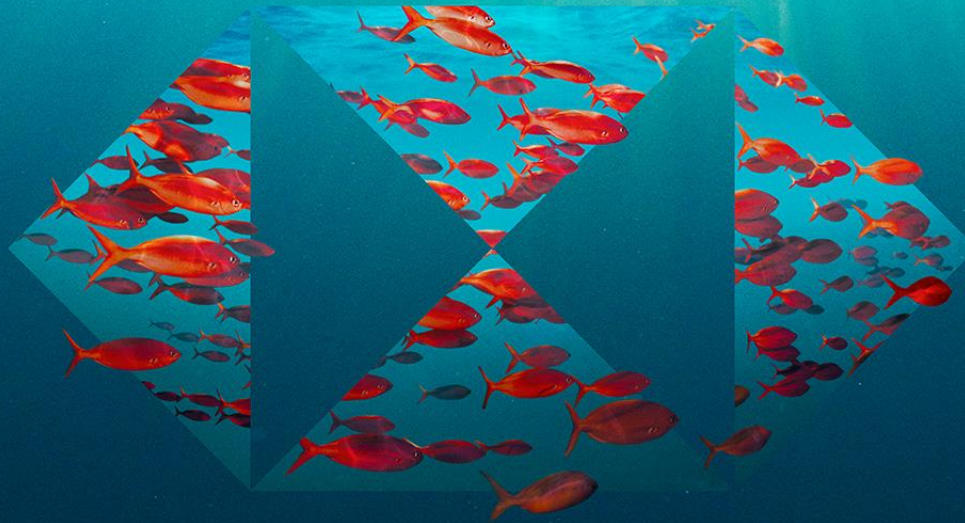


PASS Seminar

Understanding Green Finance and ESG

Green Bonds and Green Loans



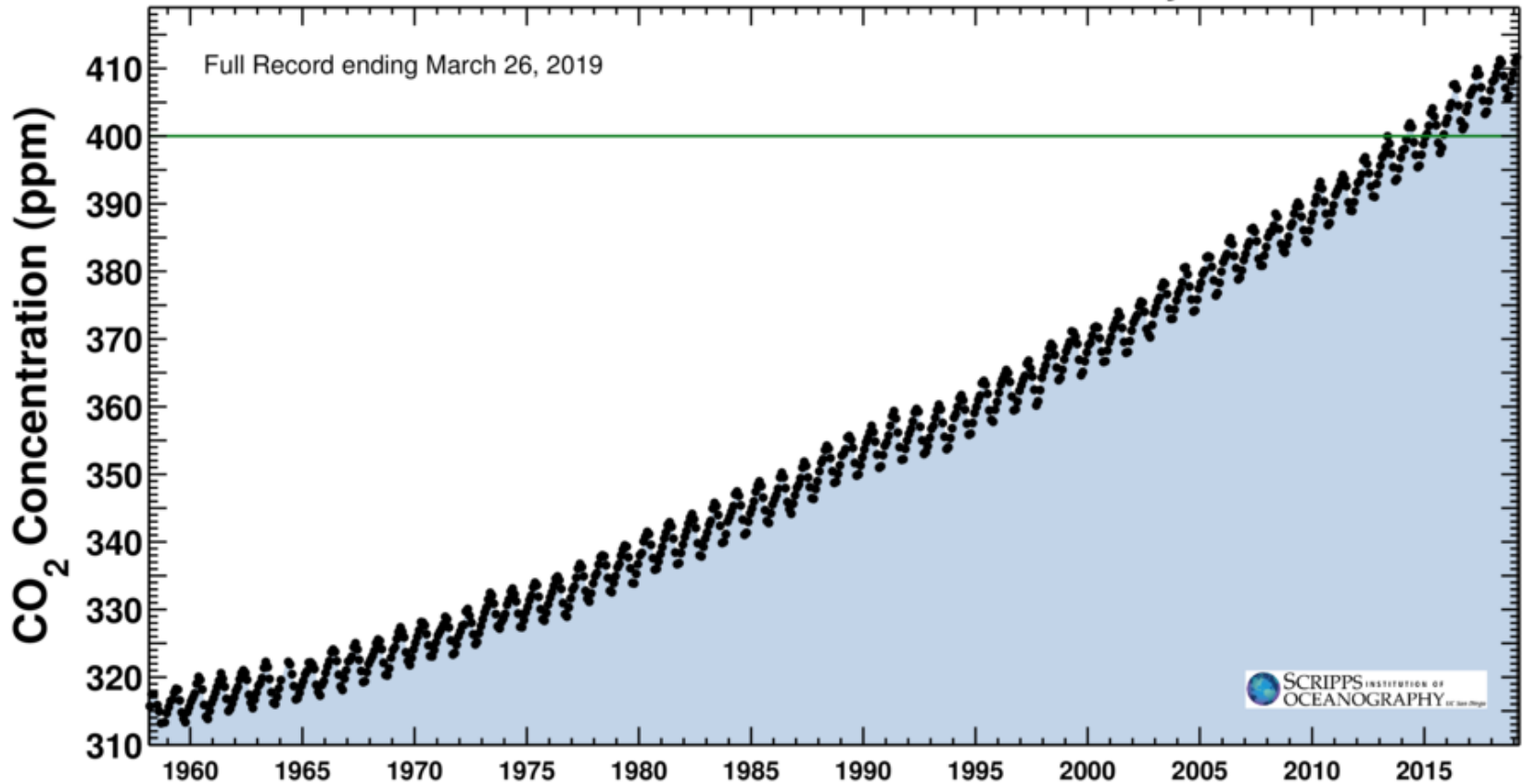
why?

Keeling Curve

Latest CO₂ reading
March 26, 2019

410.58 ppm

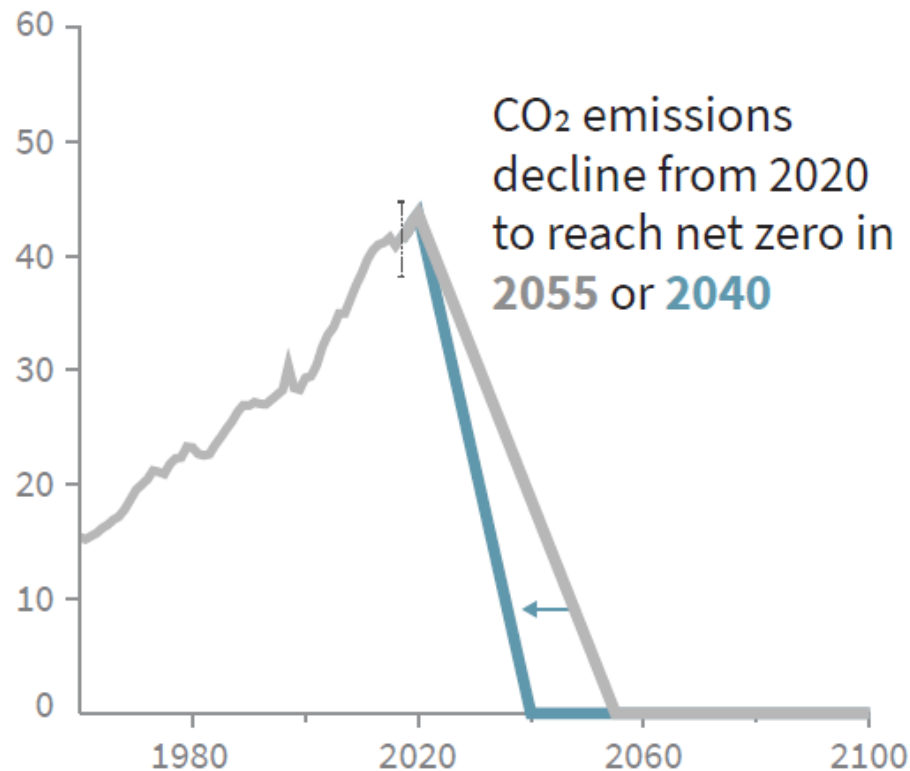
Carbon dioxide concentration at Mauna Loa Observatory



Transition or Disruption?

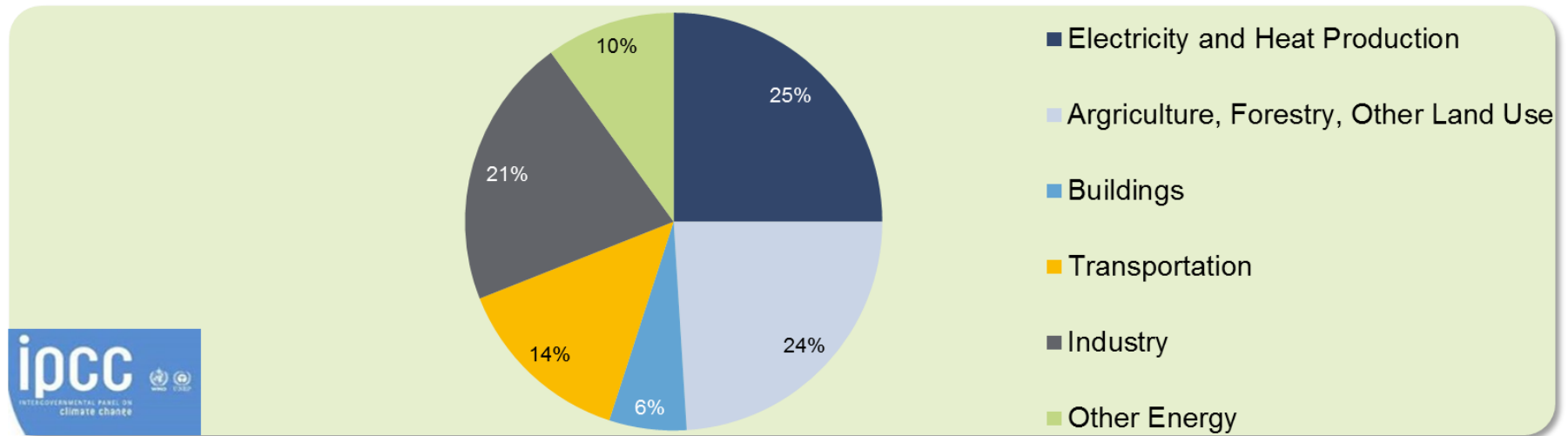
b) Stylized net global CO₂ emission pathways

Billion tonnes CO₂ per year (GtCO₂/yr)



IPCC SR1.5, Issued Post IPCC 48, 6 October 2018

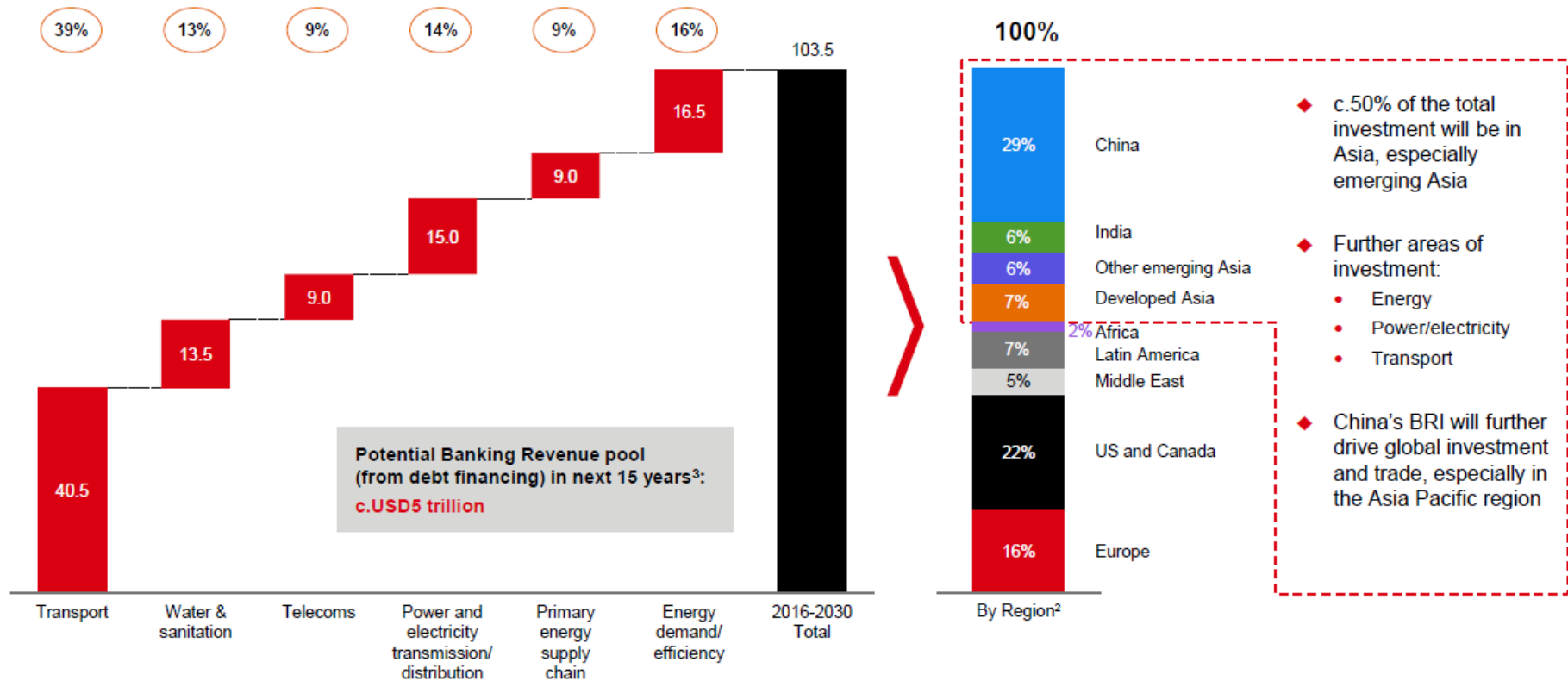
Greenhouse Gas Emissions



4 Levers

$$\mathbf{Carbon}(T) = \mathbf{Popn} \times \frac{\mathbf{GDP} \ (\$)}{\mathbf{Popn}} \times \frac{\mathbf{Energy} \ (kwhr)}{\mathbf{GDP} \ (\$)} \times \frac{\mathbf{Carbon}(T)}{\mathbf{Energy} \ (kwhr)}$$

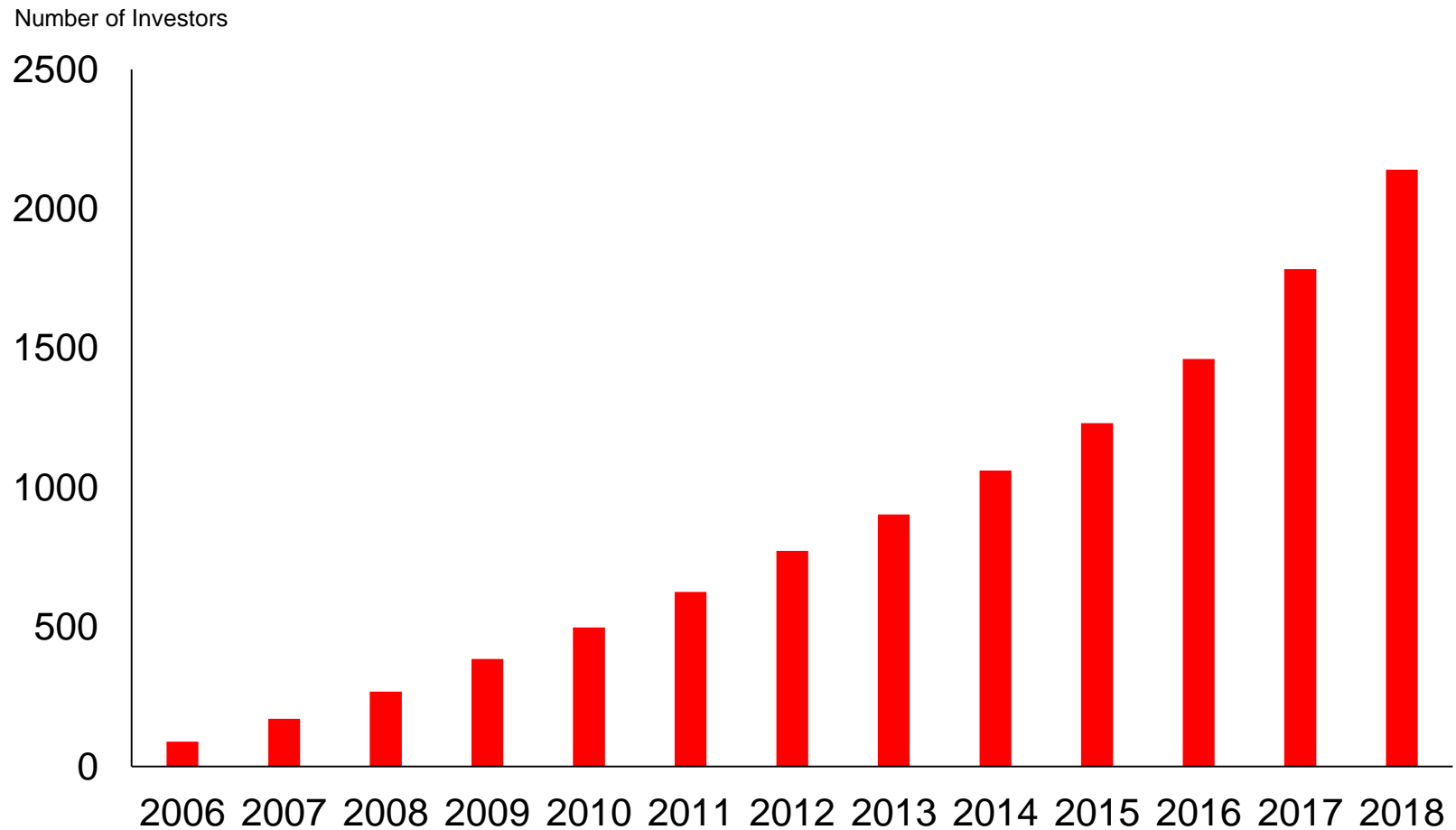
\$100 trillion spend required



Notes:

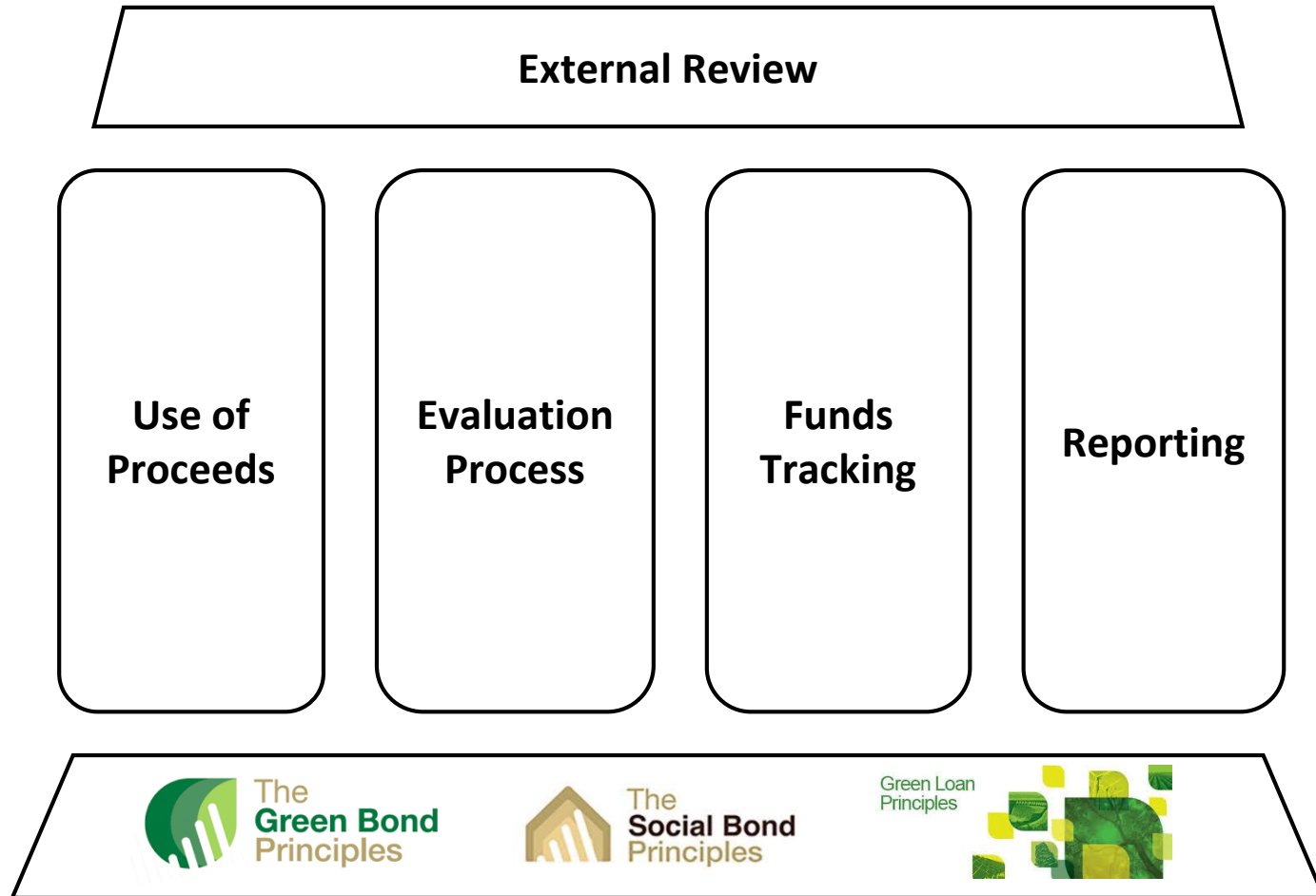
1. OECD, IEA, Investing in Climate, Investment in Growth, July 2017; The OECD estimates that for infrastructure to be consistent with a 2°C 66% scenario, investment needs to amount to USD6.9 trillion per year in the next 15 years, an increase of about 10% in total infrastructure investment from the reference estimate of USD6.3 trillion
2. McKinsey, "Bridging Global Infrastructure Gaps" June 2016
3. HSBC estimation

Number of Signatories to the Principles for Responsible Investment



Source: UNPRI Database, 14th October 2018

Sustainable Bonds and Green Loans



Definitions

“Green” (GBP / GLP)

Renewable energy
Low carbon transport
Digital product / services
Energy efficiency / buildings
Environmental services
Agriculture
Natural resource protection
Climate adaptation

“Climate friendly” “Transition”

Efficient hydrocarbons

- **Natural gas for energy**
- **Fugitive avoidance**
- **Production, transport, processing, burning (refining, chemicals, materials, transport)**

Nuclear
Sustainable palm
Circular plastic

Green, Social & Sustainability Bond Market Snapshot

2019 issuance stands at USD42bn YTD

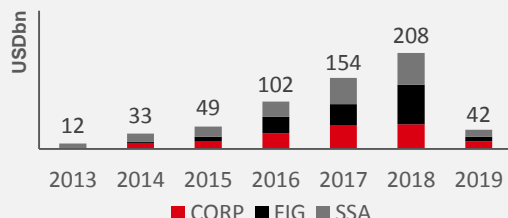
Green/Social/Sustainability Bond issuance for FY18 reached over USD208bn (647 deals) vs USD154bn (435 deals) in FY2017, representing a YoY increase of 49% in terms of number of deals, and 35% increase in terms of value

2019YTD sector split is:
Corp(40%), FIG(24%), SSA(36%)

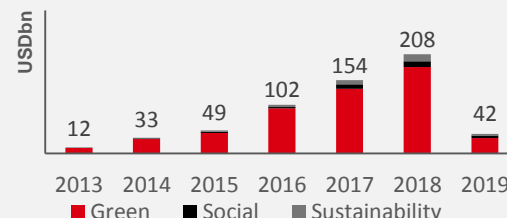
All years predominant currencies are: EUR(41%), USD(31%), CNY(14%), SEK(4%),
And issuance has been seen from institutions across 48 different countries in FY2017-2018

Approximately 26% of the green bonds issued have a 'AAA' weighted average rating, followed by 'AA'(16%), 'A'(16%), 'BBB'(7%), 'BB'(1%), 'B'(1%), 'CCC'(<0.5%)

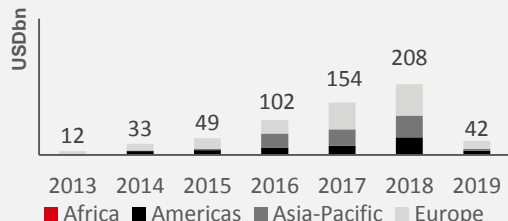
Issuance by Sector



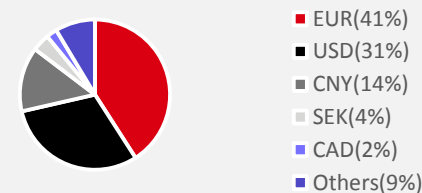
Issuance by Bond Classification



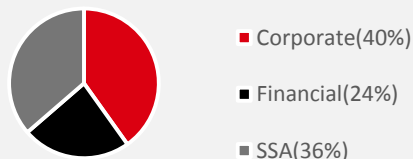
Issuance by Region



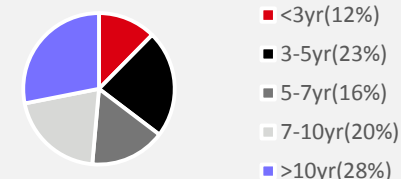
Issuance by Currency (all year GSS bonds)



Issuance by Sector (2019YTD)



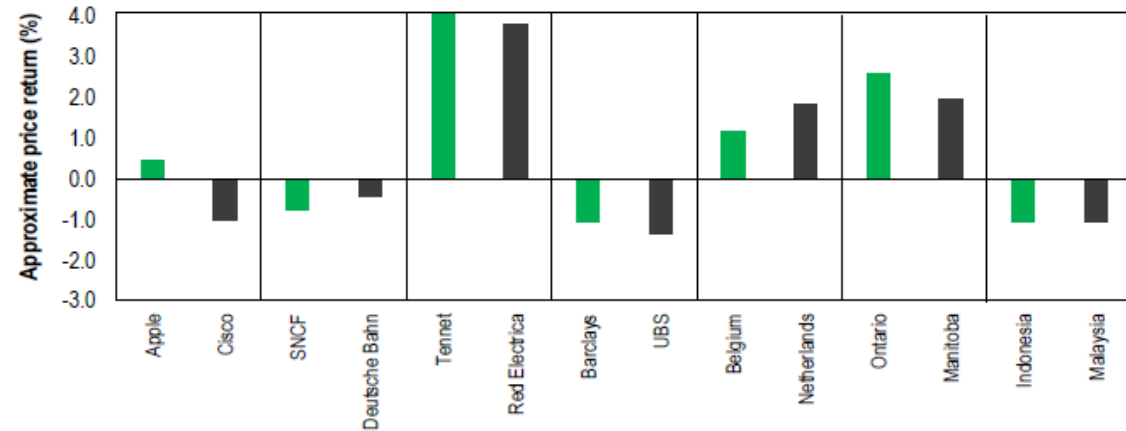
Issuance by Tenor (2019YTD)



Pricing Impacts

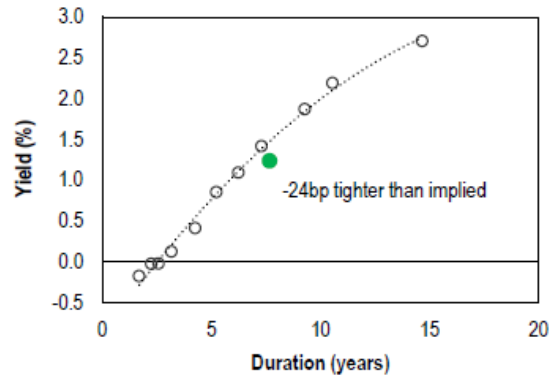
Green Issuers Outperform

Outperformance of Green Bond (Green) Issuers Vs Non-Green (Black)

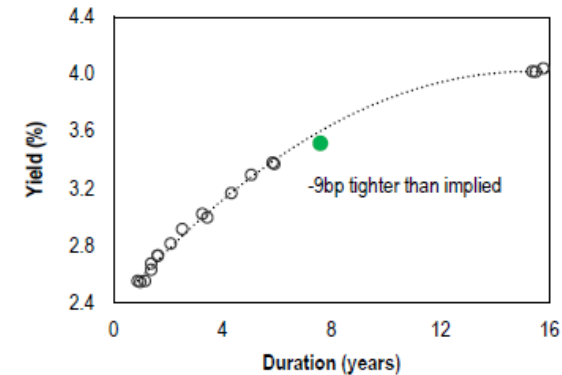


Green Bonds Higher Price, Less Volatile

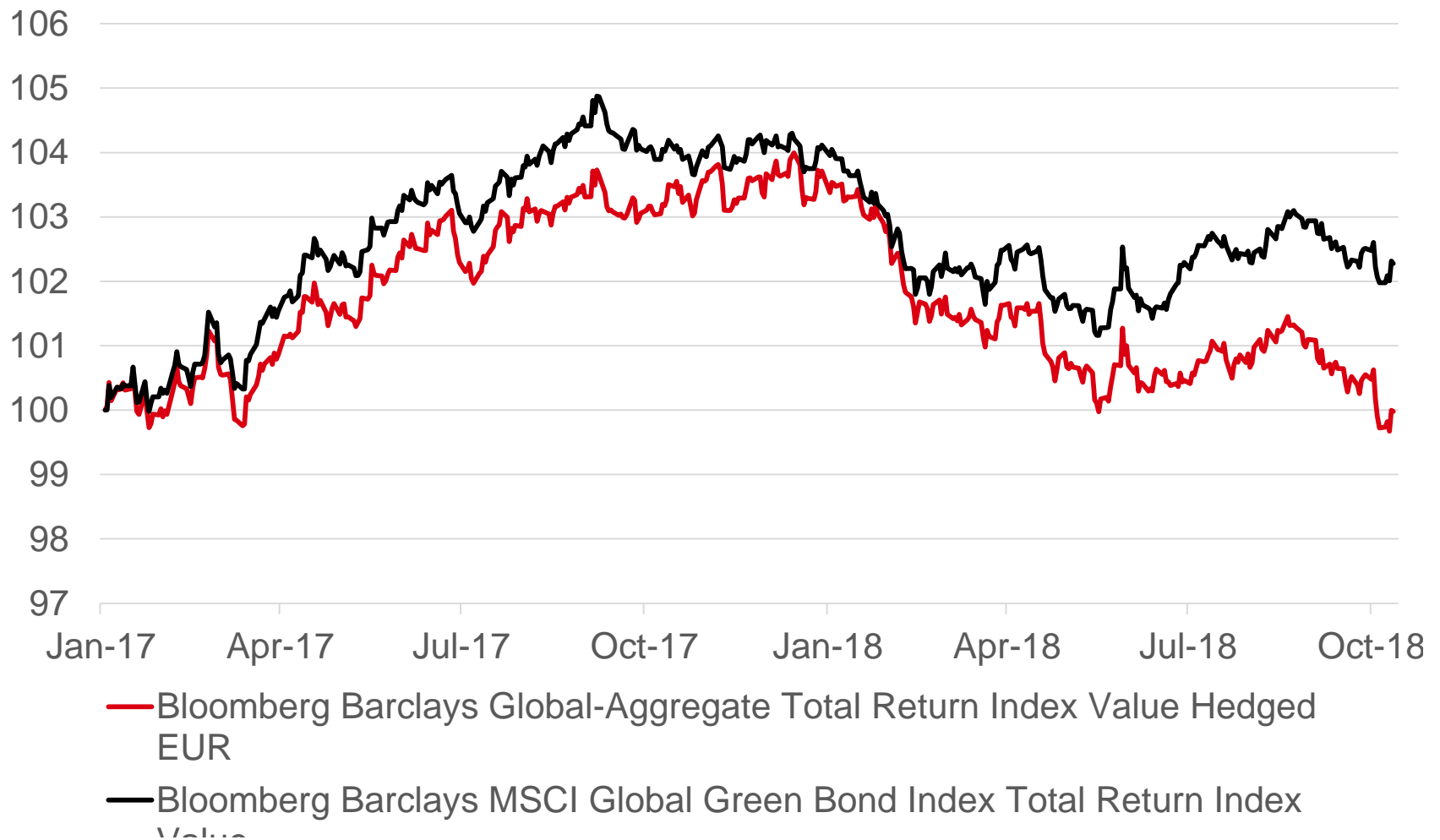
EDF EUR1.75bn 1% 2026



AAPL USD1bn 3% 2027



Outperformance of Green Indices



中国绿色债券市场 2018



规模为2826亿人民币
的中国绿色债券市场

Climate Bonds

中央國庫券登記結算有限公司
CHINA CENTRAL DEPOSITORY & CLEARING CO., LTD.

UK Government

HSBC

GOLD PARTNER

本报告由气候债券倡议组织和中央國庫券登記結算有限公司于2019年2月联合发布
本报告由英国政府Partnering for Accelerated Climate Transition项目资助
汇丰银行是本报告的支持机构

Climate Bonds INITIATIVE

Hong Kong

Green bond market briefing
February 2019

Green bonds from Hong Kong issuers: USD4.9bn overall; USD2.3bn in 2018, or 4.6x 2017 volume
Green bonds arranged and issued in Hong Kong: USD16bn overall; USD11bn in 2018 *
Growth expected particularly from government and non-financial corporates

A burgeoning green bond market underpinned by government's push and incentives

Real estate investment trust Link REIT issued the first green bond from Hong Kong in 2016: a USD500m benchmark-size deal. But it wasn't until 2018 that the market started to pick up speed with private sector companies issuing debut green bonds.

The turning point came when a series of policy signals and measures were announced by the Hong Kong government in late 2017. They aim to promote green finance development by creating liquidity, supporting integrity and providing incentives for green bonds.

In October 2017, the Chief Executive of the Hong Kong government included green finance agenda in the Policy Address, followed by the government's announcement in early 2018 to issue sovereign green bonds. The HKD100bn (USD12.8bn) Hong Kong Government Green Bond Programme is one of the world's largest.

The launch of the Green Finance Certification Scheme, which references international standards, by the government-backed Hong Kong Quality Assurance Agency (HKQAA) and the rolling out of the Green Bond Grant Scheme by the government to help issuers offset the administrative costs of green bond issuance, are also measures that lay the groundwork for robust market growth.

The private sector drove 2018 issuance

MTR, the owner and operator of the metro system, is the largest Hong Kong issuer, with 8 labelled green bonds issued since 2016. In 2017, Hong Kong & China Gas joined the market with two green bonds financing for waste-to-energy projects.

In 2018, there were 9 Hong Kong issuers. They brought USD2.3bn worth of green bonds and green loans to market, 4.6 times higher than 2017 issuance (USD501m). Eight of the issuers are private sector companies, all of which are non-financial corporates. MTR also continued to tap the market with green bonds, but it only accounted for a very small fraction (c.3%) in terms of market share.

MTR is the largest and most frequent green bond issuer with eight green bond deals since 2016, for a total of USD1.1bn. Property entities Link REIT and Swire Properties are also among the top issuers, and both have issued benchmark-sized deal of USD500m.

Green loans became a strong feature in the Hong Kong market in 2018, making up 22% of the annual issuance. Green loans made to Leo Paper Group Finance and New World Development. Both received external reviews from HKQAA.

Allocations to buildings dominate at 37%

In addition to property companies such as Hong Lung Properties, Landsea Green Group and New World Development, MTR - a pioneer of financing public transit through real estate and the value capture model - has also contributed to the green building sector through its

Climate Bonds approach to determining a bond's country

Climate Bonds uses the country of risk to determine how to assign a country to each bond.

For unsecured bonds, the country of risk is determined by the domicile of the issuer. If it is a fully owned subsidiary, then the domicile of the parent or group.

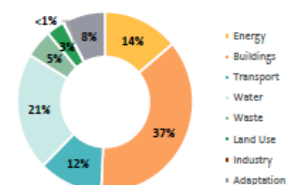
For secured bonds, the country where the assets used as security are located is taken into account and typically drives the decision. However, a parent guarantee or other recourse to a parent company in another domicile would influence the determination.

We do not take denomination currency of the issue, venue of listing or similar factors into account.

Hong Kong issuers have issued USD4.9bn since 2016



37% of proceeds allocated to low-carbon buildings











































* Note: HKMA figures capture green bonds, for which a majority of bond arranging activities take place in Hong Kong. See p. 3.

Hong Kong green bond market briefing Climate Bonds Initiative

1

2018 HSBC Sustainable Finance

<p>December 2018</p>  <p>Modern Land (China)</p> <p>USD150m 15.50% Notes due July 2020</p> <p>Joint Lead Manager</p>	<p>December 2018</p>  <p>Korea Land and Housing Corporation</p> <p>HKD1.25bn private placement due Dec 2021</p> <p>Sole Lead Manager</p>	<p>November 2018</p>  <p>Wuhan Metro</p> <p>USD400m 6.08% PerpNC3</p> <p>Joint Lead Manager</p>	<p>November 2018</p>  <p>New World China</p> <p>USD310m 4.75% Notes due Nov-23</p> <p>Joint Green Structuring Advisor, Joint Global Coordinators, Joint Lead Manager</p>	<p>November 2018</p>  <p>Industrial Bank</p> <p>USD600m/EUR300m Notes due Nov-21, Nov-21</p> <p>Joint Lead Manager</p>	<p>November 2018</p>  <p>Agricultural Development Bank of China</p> <p>EUR500m 3mL+0.48% Notes due Sep 2023</p> <p>Joint Lead Manager</p>	<p>October 2018</p>  <p>Kookmin Bank</p> <p>USD300m 3.763% Notes due Oct 2021</p> <p>Joint Lead Manager</p>	<p>September 2018</p>  <p>HSBC Malaysia</p> <p>MYR500m 4.30% Notes due Sep 2023</p> <p>Sole Sustainability Structuring Advisor, Joint Lead Manager, Joint Bookrunner</p>	<p>September 2018</p>  <p>Asian Development Bank</p> <p>USD750m 3.125% Notes due Sep 2028</p> <p>Joint Lead Manager</p>	<p>September 2018</p>  <p>State Bank of India</p> <p>USD650m 4.50% Notes due Sep 2023</p> <p>Joint Lead Manager</p>
<p>September 2018</p>  <p>China Construction Bank</p> <p>EUR500m 3mL+0.60% Notes due Sep 2021</p> <p>Joint Green Structuring Advisor, Joint Global Coordinator, Joint Lead Manager</p>	<p>September 2018</p>  <p>China Construction Bank</p> <p>USD1,000m 3mL+0.75% Notes due Sep 2021</p> <p>Joint Sustainability Structuring Advisor, Joint Global Coordinator, Joint Lead Manager</p>	<p>September 2018</p>  <p>Leo Paper Group</p> <p>HKD350 4-year Green Revolving Credit & Term Loan Facility</p> <p>Joint Green Loan Framework Advisor, Joint Mandated Lead Arrangers</p>	<p>August 2018</p>  <p>Macquarie University</p> <p>AUD200m, AUD50m due Sep-28, Sep-43 (2 tranches)</p> <p>Joint Sustainability Structuring Advisor, Joint Bookrunner</p>	<p>August 2018</p>  <p>Ho Bee Land</p> <p>GBP200m Bridged Green Loan</p> <p>Green Structuring Advisor, Joint Mandated Lead Arrangers</p>	<p>July 2018</p>  <p>Industrial Bank of Korea</p> <p>USD500m 3mL+0.6% Notes due Aug 2021</p> <p>Joint Lead Manager, Sole Social Structuring Advisor</p>	<p>July 2018</p>  <p>State Bank of India</p> <p>USD50m 5-year Green Bond due July 2023</p> <p>Joint Lead Manager</p>	<p>July 2018</p>  <p>Korea Land and Housing Corporation</p> <p>CHF100m 0.22% Notes due July 2023</p> <p>Sole Bookrunner, Social Structuring Advisor</p>	<p>July 2018</p>  <p>Korea Hydro & Nuclear Power</p> <p>USD600m 3.75% Notes due June 2025</p> <p>Joint Bookrunner, Joint Lead Manager, Sole Green Structuring Advisor</p>	<p>June 2018</p>  <p>Beijing Jingneng Clean Energy</p> <p>HKD1,720m 3 year Syndicated Green Term Loan Facility</p> <p>Green Structuring Advisor, Sole Mandated Lead Arranger, Underwriter, Bookrunner</p>
<p>June 2018</p>  <p>ICBC Asia</p> <p>USD200m, USD200m, HKD2,600m due Jun-21, Jun-23, Jun-20 (3 tranches)</p> <p>Joint Global Coordinator, Joint Lead Manager</p>	<p>June 2018</p>  <p>Macquarie Group</p> <p>GBP250m 3yr, GBP250m 5yr (2-tranches) Green Loan Facility</p> <p>Joint Green Structuring Advisor, Joint Bookrunner</p>	<p>June 2018</p>  <p>Industrial and Commercial Bank of China</p> <p>USD500m, USD500m due Jun-21, Jun-23 (2 tranches)</p> <p>Joint Green Structuring Advisor, Joint Lead Manager</p>	<p>June 2018</p>  <p>Japan International Cooperation Agency</p> <p>USD500m 3.375% SA Notes due June 2028</p> <p>Joint Lead Manager and B&D bank</p>	<p>June 2018</p>  <p>Bank of China</p> <p>HKD3,000m 2.850% SA Notes due June 2020</p> <p>Joint Lead Manager, B&D Bank</p>	<p>June 2018</p>  <p>Bank of China</p> <p>USD500m, USD500m due Jun-21, Jun-23 (2 tranches)</p> <p>Joint Global Coordinator, Joint Lead Manager</p>	<p>April 2018</p>  <p>Landsea Green Group</p> <p>USD150m 9.625% Notes due April 2020</p> <p>Sole Green Structuring Advisor, Joint Lead Manager</p>	<p>April 2018</p>  <p>Envision Energy Overseas Capital Co</p> <p>USD300m 7.5% Notes due April 2021</p> <p>Joint Lead Manager</p>	<p>April 2018</p>  <p>Int'l Bank for Reconstruction and Development</p> <p>HKD1,000m 2.14% Notes due April 2020</p> <p>Joint Lead Manager</p>	<p>March 2018</p>  <p>Olam International</p> <p>USD500m 3 year Club Loan</p> <p>Joint Mandated Lead Arrangers</p>
<p>March 2018</p>  <p>New World Development</p> <p>HKD3,600m 5 year Syndicated Loan</p> <p>Sole Green Finance Advisor, Joint Mandated Lead Arrangers</p>	<p>March 2018</p>  <p>Beijing Capital Group</p> <p>USD500m/RMB6,300m due Mar-21/Mar-20</p> <p>Sole Arranger, Joint Green Structuring Advisor, Lead Left Joint Global Coordinator, Joint Lead Manager, Joint Bookrunner, and Sole Rating Adviser</p>	<p>March 2018</p>  <p>Tianjin Rail Transit</p> <p>EUR400m 1.625% Notes due Jun 2022</p> <p>Sole Green Structuring Advisor, Joint Global Coordinator, Joint Lead Manager and Joint Bookrunner</p>	<p>March 2018</p>  <p>Modern Land</p> <p>USD350m 7.95% Notes due Mar 2021</p> <p>Joint Green Structuring Advisor and Lead Manager</p>	<p>February 2018</p>  <p>Republic of Indonesia</p> <p>USD1.25bn 3.75% Notes due Feb 2023</p> <p>Sole Green Structuring Advisor, Joint Bookrunner, Joint Lead Manager</p>	<p>February 2018</p>  <p>Australia and New Zealand Banking Group Limited</p> <p>EUR750m 0.625% Notes due Feb 2023</p> <p>Joint Bookrunner</p>	<p>February 2018</p>  <p>Indiabulls Housing Finance Limited</p> <p>INR3,150m 7.80% Notes due Feb 2021</p> <p>Sole Lead Manager</p>	<p>January 2018</p>  <p>Swire Properties</p> <p>USD500m 3.500% Notes due Jan 2028</p> <p>Joint Green Advisor, Joint Bookrunner, Joint Lead Manager</p>	<p>December 2017</p>  <p>Indian Railway Finance Corporation (IRFC)</p> <p>USD500m 3.835% Notes due Dec 2027</p> <p>Joint Lead Manager</p>	<p>November 2017</p>  <p>Bank of China</p> <p>USD500m/EUR700m/CNY1bn due Nov-22, Nov-20, Nov-20 (3 tranches)</p> <p>Joint Lead Manager</p>

■ Green bond
 ■ Social bond
 ■ Sustainability bond
 Green/ESG Linked Loan

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